Academic Libraries in the US and China

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Academic Libraries in the US and China

Comparative studies of instruction, government documents, and outreach

Edited by
Hanrong Wang and Bethany Latham

With Contributions by
Charlcie Pettway Vann, Zhengjun Wang, Xuan Xu, and Shaorong Liu

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About the authors

Hanrong Wang is a Professor and the Law and Technology Librarian at Jacksonville State University's Houston Cole Library in Alabama, US. She has more than 11 years of experience in library instruction and reference services, and has published scholarly articles on a wide range of topics in librarianship in academic journals such as the *Journal of Academic Librarianship*, *Journal of Library and Information Science*, and *International Information and Library Review*. She is responsible for various book chapters, and many of her publications have been selected for presentation at a variety of international conferences.

Bethany Latham is an Associate Professor and Electronic Resources/ Documents Librarian at Jacksonville State University's Houston Cole Library in Alabama, US. In her capacity as Federal Depository Coordinator she has over eight years of experience in government documents librarianship, and her scholarly output includes articles in such publications as *Reference Services Review*, *Information Outlook Quarterly*, *Library Journal*, *OCLC Systems and Services*, and *Collection Building*. She currently serves on the editorial board and as a regular reviewer for *Reference Reviews*, as well as managing editor of the *Historical Novels Review*. She has authored numerous book chapters on library and information studies as well as a work of nonfiction, *Elizabeth I in Film and Television*, and she presents locally, regionally, and nationally on government documents and other topics related to library and information studies.

Charlcie Pettway Vann is an Assistant Professor, Reference and General Instruction Librarian at Jacksonville State University's Houston Cole Library, in Alabama, US. She has 20 years of library experience and received her MLS from North Carolina Central University in 1996. Public service and outreach is not just her job – it is her life mission. She was instrumental in starting the first Multicultural Information

Roundtable in the Alabama Library Association, and has presented at Montana, Georgia, and Alabama library conferences. In addition to her presentations, she has published in *Reference Services Review*, the *Reference Librarian*, and the *Alabama Librarian*.

Zhengjun Wang is the Head of Reference Services at Qingdao Agricultural University Library in China. He has more than ten years of experience in teaching and coordinating library instruction sessions, and has published several scholarly articles.

Xuan Xu is a Reference Librarian at Fudan University Library in Shanghai, China. She graduated from Wuhan University with a bachelor's and master's degree in library science in 2004 and 2006, respectively. She has more than six years of experience in the fields of library instruction, reference services, and library marketing. She has published several scholarly articles in Chinese academic journals. In 2011, she studied at Appalachian State University as a visiting scholar under the FUDAN-ASU library exchange program.

Shaorong Liu is an Associate Professor and the Deputy Chief Librarian of Hebei Normal University, China. She has worked in the library of Hebei Normal University and at Fudan University Library for 18 years, and has published nearly 20 scholarly articles. Her primary responsibilities are in user services and library technology. She is committed to enhancing library services through innovative new technologies.

Introduction

Purpose

There are a variety of reasons why current, comparative studies of academic libraries in China and the US are beneficial to the literature of library and information science in both countries. Perhaps the most important is that there are very few of them, and new additions fill a gap in the literature, especially as regards specific areas of library services. China and the US are both major players in an international environment, and they have widely disparate governmental, socioeconomic, and cultural structures, which cannot help but influence respective practices in their academic libraries. By examining and comparing these practices, ideologies in both countries are illuminated, which is valuable as an educational tool for library professionals, and also provides a global perspective, which can broaden a sometimes insular domestic view of library services. In addition, library professionals may find that, in familiarizing themselves with theories and practices beyond their borders, they learn much that can improve services and methods in their own libraries.

Audience, focus, and organization

This work is aimed primarily at practicing professionals within library and information studies, and specifically academic library professionals. Its secondary audience is library and information studies students and library professionals from all other types of libraries, such as public and special libraries. This book focuses on three specific areas within library and information studies: instruction, government documents, and outreach. These areas were chosen because they provide clear indications of both the similarities and the differences in library practices between China and the US. This book is organized into three sections corresponding

to these areas, and each section contains two separate treatments of the topic: the first focusing on American academic libraries and the second on Chinese academic libraries. Each of these sections contains information on the historical development of library theory and practice in these areas, as well as their ideological underpinnings. Each section also examines the contemporary practices within these fields, spotlighting current trends and predicting anticipated futures. In this way, an overview of the history, current state, and future of library instruction, government documents, and outreach services in the US and China is provided. Lastly, the conclusion summarizes each of these three areas, comparing and contrasting the state of instruction, government documents, and outreach services in the two countries.

Translation

In order to provide appropriate and authoritative perspectives, each section on US libraries was written in English by a professional practicing in that particular field of library and information studies in an American library. Likewise, each section on Chinese libraries was written by a practicing professional in a Chinese academic library. The sections of this work that cover Chinese libraries were first written in Chinese, translated into English by their original authors, and then edited by the American contributors. In this way, it is hoped that the unique perspectives of the Chinese authors are maintained while still providing a grammatically correct and logically structured work.

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Instruction in American academic libraries

Hanrong Wang

Abstract: This chapter provides an overview of the historical development of library use and information literacy instruction in US academic libraries. It focuses on the theory and practices of library instruction from its origins during the colonial period, its true inception in the 1820s, up until the current day, with an emphasis on instructional methods and content, as well as how changes in formats and the advent of electronic resources has affected instruction. Programmed instruction, individualized instruction, competency-based instruction, the library–college movement, and online versus face-to-face instruction are covered. Finally, trends and anticipated futures are enumerated, with recommendations for future library instruction services in US academic libraries.

Key words: library use instruction, information literacy, bibliographic instruction, library instruction history, library instruction ideology, library instruction theory, library instruction practices.

Every reputable college owes it to its students to give them not only experience in a laboratory library, but also instruction in the use of bibliographical apparatus.

Melvil Dewey

More information will not in itself create a more informed citizenry unless people know how to use information effectively to solve problems.

Nancy Kranich, President of the Am 2000–1

Introduction to instruction in US academic libraries

Though there is more than a 100-year time difference between the two quotes above, they present the same idea: time and effort are needed for accurate information searching and retrieval, and it is critical to teach and learn the skills necessary to use information effectively. As information centers, most libraries in America have established various services to help users locate the information they need. Library use instruction is one of those essential services.

Think about creating a library use instruction session from scratch for an academic library. From where does the ideological foundation for instruction come? What is the main purpose of instruction? Before one can create an effective library use instruction session, one must first familiarize oneself with the university and library missions to determine how library instruction fits in with them. One must work out how the instruction will be organized, who should give the instruction and who is eligible to receive the instruction. Also, one must determine what the impact for budget and staffing will be during the instructional process. One has to consider the hardware and software needed for an instruction session. One has to think about how to promote an instruction program across the campus and even to the local community. As an instruction librarian, one must consider the goals and objectives, content, materials, facilities, and methods involved in library instruction, and the ways in which students' progress can be evaluated.

Fortunately, it is not necessary to create a library use instruction program from scratch as library instruction is one of the oldest programs to be found in American academic libraries. Defined as course-related or course-integrated instructional programs designed to teach library users how to locate the information they need quickly and effectively, library use instruction (also called "information literacy," "bibliographic instruction," or "library instruction") in American academic libraries has flourished for almost 200 years. Existing to support the higher education curriculum and research in particular, the library instruction program in American academic libraries has been created, developed, expanded, and advanced to reflect American educational values, experiences, and commitments.

The path from the early conceptualization of library use instruction to its current form has not been a straight one. Why library instruction exists in its present form and how such conditions came to be can be

more clearly seen in the light of historical examination. A look at the history of the American higher education system and the development of the American publishing industry and of academic libraries and academic librarianship show that the library has evolved as the priorities of the institutions have evolved. Library use instruction, as an important component of academic librarianship, mirrors the values and trends in American higher education; it also reflects the American belief in the importance of library and information skills and library support for academic success.

The beginning: from inception to the 1880s

Emerging higher education

American higher education originated with private colleges. The first American institution of higher education was Harvard College, founded in 1636. Between that time and the Civil War, there were 182 colleges established in America, including the College of William and Mary, Yale, Princeton (founded as the College of New Jersey), the College of Philadelphia (later the University of Pennsylvania), and King's College (now Columbia University). Institutional purpose and educational mission were limited. The principal function of most of these institutions was to educate future ministers, although some colleges began to expand their liberal arts offerings. The purpose of Harvard College as defined in 1650 was "the advancement of all good literature, arts, and sciences; the advancement and education of youth in all manner of good literature, arts, and sciences; and all other necessary provisions that may conduce to the education of the . . . youth of this country" (Lewis, 1997, para. 3). King's College described its mission as being to provide to "future colonial leaders an education that would enlarge the Mind, improve the Understanding, polish the whole Man, and qualify them to support the brightest Characters in all the elevated stations in life" (Columbia University, 2007, para. 3).

Enrollments were modest and male-only, and colonial colleges seldom enrolled more than 100 students in a single year. The number of students usually varied from single to double digits since, at the time, most occupations, including the professions, required little formal certification or training. By 1707, Yale College had conferred bachelor's

degrees on a grand total of 18 students. Even as late as 1880, only 26 institutions had enrollments that surpassed 200 (Thelin, 2004).

Bachelor's degrees were conferred on coursework completed, but graduate studies, especially PhD programs, were at best a subsidiary part of university offerings in the late nineteenth century. Curricula were directly influenced by English, Scottish, and German models, so the focus was on the traditional subjects of classical languages, ancient authors, and mathematics. Occasionally this would be extended to include medicine, law, engineering, military science, commerce, theology, and agriculture. In the mid- to late-eighteenth century, undergraduate studies in mathematics, history, natural sciences, political economy, and moral philosophy began to be a required part of the curriculum, and great emphasis was placed on the ability to analyze and express oneself articulately. The pervasive mode of instruction was classroom recitation, but "normal schools" and "teachers' colleges" operated on a different model, conferring a certificate or a license of instruction rather than a bachelor's degree.

A limited publishing industry

Publishing in early America was mainly run by private, family-owned companies. British models shaped virtually every aspect of American publishing for this period, and publishing companies and publications were limited in the colonies. Local presses produced materials such as pamphlets, school texts, newspapers, and business or legal forms. The Boston-Cambridge area became a center of publishing when the area's first printing press was imported to Massachusetts from England late in 1638 or early in 1639 (Martin III, 2007). Philadelphia was another publishing center with origins dating to the colonial period, and Benjamin Franklin was its best-known publisher, having opened his print shop in 1728. By 1850, New York City had surpassed Boston and Philadelphia to become the center of the publishing industry in the US (Gross, 2007). Religious works were the main category of publication, but other offerings such as popular almanacs, English novels, and law titles were also published to meet market demands. The number of copies of each publication was limited; 10,000 copies of a publication (such as Franklin's *Poor Richard's Almanack*) was considered to be remarkable. Perhaps the largest impact the nascent publishing industry had on college libraries came with the increase in publication of the book catalogs of colleges, which helped provide information on authors, titles, and ideas.

Academic libraries: incidental beginnings and restricted access

The library was almost an incidental feature of early American colleges. Small and inadequate college library collections, limited hours, and restrictive policies were the norm. In most academic libraries of this period, no specific funding was allocated from their parent institutions for the purchase of materials to support the college's programs. Because of the limited collections in these libraries, the best information for research was often found not in the academic library, but through private societies, museum groups, and other related groups.

The creation of the first academic library can be traced back to Harvard University, when John Harvard donated approximately 300 of his books to the college. In addition, seven other college libraries were established in the colonial period, including the library of William and Mary College (1693), the library of the College of New Jersey (1746), the library of King's College (1754), the University of Pennsylvania Library (1765), Brown University Library (1767), Dartmouth (1769), and Queen's College (later Rutgers) Library (1792) (Kent, Lancour, and Nasri, 1968).

The number of books being added to library collections could vary from tens to thousands annually. More than half the collection was usually theological in nature. History, science, literature, philosophy, geography and law were the next largest groups. The Harvard College Library's first printed catalog, *Catalogus Librorum Bibliothecae College Harvardini quod est Cantabrigiae in Nova Anglia*, listing 3500 volumes, was published in 1723. Only the libraries at Harvard, Yale and Brown contained 20,000 or more volumes. Most other individual colleges in New England held less than 7500 volumes. In the south, the library of the University of Virginia was the largest, having 18,378 volumes. Eighteen college libraries in the states of North Carolina, Georgia, Alabama, Mississippi, Louisiana, and Tennessee averaged 3140 volumes. In 1885, 126 college libraries in 32 states held a total of 586,912 volumes of books (Carlton, 1907).

In 1667, the first recorded appointment of a college librarian in America, Samuel Stoddard, took place. In the same year, the first code of "Library Laws" was adopted by those overseeing the Harvard College Library. The code indicated that books could be borrowed and returned between 11 a.m. and 1 p.m., and that the normal loan period was one month. This law was revised and expanded in 1736 (Kent, Lancour, and Nasri, 1968). Though the collections, personnel, and operating hours

were limited, colleges still took great pride in their book collections. Despite this, collections remained small and were not intended to be libraries in the modern sense, with volumes circulating to undergraduates.

Library use instruction programs: fundamental ideas and limited practice

Higher education during this early period required no instruction given by librarians as there was no demand for regular and systematic instruction in the use of the library. The only extant reports of instruction are those that were offered on the library's most rare and valuable works, and this dates from the 1820s (Hardesty, Schmitt, and Tucker, 1986). Library use instruction in this early era was often called "bibliographic instruction," which usually covers

> the library's system of organizing materials, the structure of the literature of the field, research methodologies appropriate to the discipline, and specific resources and finding tools (catalogs, indexes and abstracting services, bibliographies, etc.). "Biblio" comes from the Greek work [*sic*] biblion, meaning "book", used in combination to form a host of terms (bibliography, bibliomania, bibliophile, bibliophobia, bibliotherapy) pertaining to books and libraries (Reitz, 2004, p. 69).

The idea of providing library use instruction originated with librarians and teaching faculty based on their observations of the students using the library. In the performance of his duties in the reading room in 1847, Dr William Frederick Poole observed that most of his patrons were at a disadvantage. Their knowledge of books of common reference on general subjects was limited, and few were aware of the existence of special bibliographies and indexes to serial publications and periodicals, which could allow them to access the most current research and literature effectively. Poole pointed out that the study of bibliography and scientific methods for research and using books should have a place in the university curriculum. He also postulated that every university faculty should include a knowledgeable and professional bibliographer tasked with the training of all students in these bibliographic research methods (Chicago Literary Club, 1894). As early as 1858, Ralph Waldo Emerson urged colleges to appoint a "professor of books" who could provide direction on searching and investigating the printed record (Wiegand, 1986). In

1876, after analyzing the relationship between books and readers, Perkins pointed out that training students and all those seeking knowledge in the evaluation of books could result in a beneficial social influence, fostering a demand for better books and the emergence of better authors (Perkins, 1876). Library use instruction in American academic libraries materialized as a result of these pioneering ideas.

Otis Hall Robinson, the Librarian and a professor of mathematics at the University of Rochester, stated that successful library instruction depended on librarians with high standards of scholarship who were able to command respect within the academic community (Robinson, 1876). He found that a man of average intelligence was nearly helpless when presented with the mass of books which made up even a minor library's collection. He realized that the question of how to use a library was of growing importance to nearly every college in the country, and advised that special instruction should be given on libraries and methods of using them, since the range of knowledge was rapidly increasing. One of the three primary tasks he listed for college library administration was to provide instruction to students on how to use the library.

As first president of the American Library Association, Justin Winsor provided leadership in library use, user instruction, and open stack arrangement. Winsor's conceptualization put the librarian in the role of educator, and he viewed the library as the central agency in any college. He realized that, with librarians assuming the role of educators, creating and launching library use instruction in academic libraries would become one of the major purposes and missions of college and university libraries in the US (Winsor, 1880). As the creator of the Dewey Decimal Classification system and the founder of the first library school in America in 1887, Melvil Dewey also valued librarians as educators. He viewed the purpose of a college education as a means to provide tools for further study, and the most essential of these tools would be the ability to use libraries effectively (Dewey, 1876).

In this nascent stage of library use instruction, there was no established structure or even generally accepted method for providing effective instruction. The quality and style of approaches varied widely, and library instruction was completely lacking in standardization. Instruction could be given inside the library or by professors during their regular classroom lectures. Some professors might bring their students to the library to conduct research, pursuing any subject rather than a specific topic or question. Other professors assigned a particular subject to the students to help them explore the related references at the library. Formal instruction was also offered by librarians. These instructions often consisted of a

brief course, a series of lectures on books, and how to obtain and use them. As an example, Raymond C. Davis at the University of Michigan prepared library instruction sessions that consisted of three distinct parts: the historical bibliography (including descriptions of the writing materials of the different ages and preservation of ancient literature); the material bibliography (covering references to the physical characteristics of books, editions, catalogs, and buying and caring for books); and the intellectual bibliography (the classification of literature and the contents of books) (Davis, 1886). Robinson gave lectures at the University of Rochester to freshman and sophomore classes on the advantages of library use, explaining the nature of the research process and the tools to execute it effectively, as well as how students would benefit from careful reading of relevant authors and subjects. Robinson also used these instruction lectures to promote the library, awakening students' interest in library work (Robinson, 1876).

With limited collections and operating hours, it was not easy for librarians to persuade faculty members to bring their classes to the library for research. However, Robinson succeeded in getting at least half his faculty, a large part of the students, and sometimes even the university president into the library with his lectures. His lectures were designed to help students and faculty use collections effectively by explaining in basic terms the best manner in which to search for information, then giving students "hands-on" experience with bibliographical tools, as well as convincing professors to incorporate library searching into the content of their courses. The hands-on component of Robinson's instruction sessions resulted in many students finding that their library experiences were some of the most beneficial of all their college coursework, and that these sessions inculcated skills of great use both during college and after graduation.

Structure and concept development: from the late 1800s to World War II

The expansion of higher education

Many college campuses suffered physical damage from battle and shelling and/or were transformed into shelters and hospitals during the US Civil War (1861–5), and this monumentally devastating conflict resulted in many colleges, especially in the south, abandoning instruction. However,

federal legislation soon established a complex partnership in which the federal government provided incentives for each state to sell land in the West, and the states that participated in this program were required to use the proceeds to fund advanced instructional programs. This included establishing collegiate programs in such "useful arts as agriculture, mechanics, mining, and military instruction – hence the 'A&M' in the name of many land-grant colleges" (Ellis, 2011, p. 111). This legislation stimulated affordable, practical higher education offered by state colleges and universities and it helped expand the state college into this "university" model of federated units. In 1896, King's College became Columbia University after the establishment of its graduate education programs. Other universities incorporated around this time included Duke, Emory, and Pittsburg. At the same time, other institutional types were developing, including new technical institutes, junior colleges, teachers' colleges, business schools, municipal colleges, women's colleges, labor colleges, Catholic colleges, and regional state colleges. Between 1910 and 1940 the number of institutions of higher education increased from 951 to 1708 (Snyder, 1993). The expansion of programs brought with it an evolution and expansion of the missions of colleges and universities.

Universities varied in size and mission, but higher education as a whole had become more inclusive; no longer was it limited solely to future ministers. The idea had taken root that every citizen, regardless of birth, race, sex, or physical condition, should have the opportunity to pursue a post-secondary education. The philosophy of Emory University reflected university aims, to "nurture moral imagination as well as critical intellect and aesthetic judgment" (Hauk, 2010, para. 3). By contrast, the primary goal for most land-grant colleges was less theoretical and more practical, to provide "liberal and practical education of the industrial classes in the several professions of life" (Department of Animal Science, 1995, section 5). As the first land-grant college in the south, the Alabama Polytechnic Institute's (now Auburn University) mission was defined by its land-grant traditions of service and access. Other colleges, such as teachers' colleges, had a different and very specifically defined purpose: the training of teachers for occupation in the public school system.

The involvement of the federal government as well as private foundations both promoted and enhanced the popularity of the public higher education system in America. Private foundations by Gilded Age captains of industry such as John D. Rockefeller and Andrew Carnegie involved themselves in higher education by providing financial support for various programs, including libraries. Furthermore, the establishment

of the Association of American Universities (AAU) and the founding of the College Entrance Examination Board in the early 1900s signaled the beginning of the standardization of American higher education.

College attendance continued to rise in popularity for a number of reasons. Education had long been seen as a means of socioeconomic mobility, but during this time period in particular, it was perceived as a way in which scions of nouveau riche families could increase their social standing with the established American aristocracy. By the end of nineteenth century, student enrollment based on head counts for all programs, including summer sessions, was 6232 at Columbia, the university with the largest enrollment in the US. By the 1930s, universities were opening their doors to students from various ethnic and religious backgrounds, and the university model evolved – the University of California abandoned the example of the older east coast universities and instead transformed itself into an extended, multipurpose university with numerous campuses. The college campus also played a major role during World War I, serving as a site for the training of military personnel. The result was that between World War I and World War II, enrollment in colleges and universities increased from 250,000 to 1.3 million (Thelin, 2004).

With the change in numbers and student backgrounds, teaching methods also began to evolve. Traditional recitation was replaced by class discussions or seminars, and the learning experience could take place in other venues besides the formal classroom – in libraries, museums, and observatories, through fieldwork and research expeditions.

Library professional publications emerge

In the late nineteenth century there was a proliferation of higher education, and a growth in accompanying literature, including the literature of library science. The US Bureau of Education published a variety of library-related materials, and the first issue of *Library Journal* was published in 1876. Advanced subject bibliographies also began to gain prominence.

Another phenomenon in American publishing in this period was the ascendance of the periodical – it superseded the book as the dominant medium of intellectual exchange, social commentary, and entertainment. This is primarily because of its currency; periodicals provide recent, ephemeral information on a much more cost-effective scale than can be achieved with monographs. The American publishing industry soon

supplanted that of Europe to become the largest in the world (Wald, 2007). All of this would affect not just library acquisitions, but also how patrons were taught to use those acquisitions and the library collection.

Librarians' role defined and librarianship established

In the realm of US higher education, the role of the librarian was firmly established and defined by the curriculum of most institutions. For example, the 1896–7 catalog of the University of Colorado included the following statement:

> The librarian offers all new students of every department instruction in the use of the library, which enriches and facilitates the mastery of the other regular work of the curriculum. He gives familiar talks and practical drill under personal supervision, in the details of the use and purpose of classification, shelving, catalog, indices, manuals, books of reference and bibliography (1897, p. 217).

Stephens College, a junior college for women in Columbia, Missouri, defined the librarian's role in its curriculum thus: "First, to make the library contribute as effectively as possible to the instructional program of the college; second, to teach students how to use books effectively; and third, to lead students to love books and to read for pleasure" (Johnson, 1933, p. 205).

The last quarter of the nineteenth century in American librarianship was labeled "the age of use" (Tucker, 1980). Changes in universities and colleges were mirrored by changes in the profession of librarianship. The year 1876 was especially notable for being when the first annual conference of the American Library Association was held, and the first issue of *American Library Journal* and the US Bureau of Education's massive report *Public Libraries in the United States of America* were published. All of these events are of significance in the history of library and information studies, and the concept of the librarian as educator truly flowered as a result. Otis Hall Robinson began to refer to librarians as educators rather than keepers of books, and Melvil Dewey wrote that the time had arrived "when the library is a school, and the librarian is in the highest sense a teacher, and the visitor is a reader among the books as a workman among his tools" (Dewey, 1876, p. 6).

There was also massive growth of collections and services in US academic libraries in the late nineteenth century. Journal subscriptions, acquisitions budgets, rare-book rooms, archives, reference services, and study carrels transformed the library's physical spaces as well as the methods employed by its professional staff. Typical operating hours were extended from four hours a day, three days a week, to 16 hours a day, seven days a week (Wiegand, 2007). In 1929, the Carnegie Corporation initiated its program to support library collections and acquisitions, distributing grants of $5000–25,000 to 81 institutions to assist with their book-buying budgets (Thelin, 2004). This increase in collections brought with it an expectation of an increase in services. University presidents and trustees were impressed enough to give the library a more central role in American higher education. From 1912 to 1937, the combined collections of 14 leading research libraries increased from approximately 5 million volumes to 14 million volumes, a gain of nearly 285 percent. Since the number of books held was viewed as the primary indicator of library efficacy, several associations of colleges and universities adopted minimum standards for libraries (8000 volumes excluding public documents) (Tucker, 1980).

Library use instruction: significant growth in theory and practice

The changes that occurred in higher education during the late nineteenth century naturally necessitated significant growth in library instruction. Professional interest in using libraries and in teaching students how to use libraries gave rise to many librarians teaching classroom courses, by lecture or other methods, in library use. Both theory and practice for methods of library instruction grew rapidly. More subject fields, especially in the realm of science and technology, were added, and librarians played a primary role in providing library use instruction, at times even cooperating with other academic departments to offer instruction.

During this period librarians sought ways to introduce library use techniques to students, ways which would engage as well as teach. Most instruction efforts at this time were designed and carried out in the library; there were relatively few programs that were classroom-based. As odd as it may seem, until the 1930s, it was rare for coursework to draw students or even faculty members into the library. Instead, they used the library for entertainment and recreational purposes, rather than to further their studies. Librarians attempted to supplement these recreational motivations by providing instruction in research methods, and this could take a variety

of forms: informal and formal library lectures, courses on library use (credit and non-credit bearing) and library handbooks and pamphlets that described bibliographic tools and resources. All these methods, almost without exception, were designed by librarians and conducted in the library; faculty were not involved (Tucker, 1980).

The concepts and practices of library use instruction continued to evolve and advance, and one of the major accomplishments was a clear definition of bibliography: the treatment "of books with reference in their contents, and their connection in a literary point of view" (Kellogg, 1902, p. 651). Several librarians advanced the precepts of bibliographic instruction: Georgia Harris at the Cornell Library viewed the US academic library as a laboratory for students in which they could become acquainted with numerous bibliographical aids (Harris, 1893), while the value of faculty–library cooperation was emphasized at Bowdoin College (Little, 1898). Joseph Schneider, the appointed library director at Catholic University of America, stated that bibliographic instruction was not only an important factor in research work, but also an essential element of liberal education (Schneider, 1912). William Bishop identified the objectives of instruction through his experiences at the University of Michigan, as well as bibliographical lectures in German universities; he pointed out that instruction on the use of books and libraries should be provided to students in order to save them from being overwhelmed by the sheer number of resources or misled by the fancy packaging or advertising of new but unauthoritative works (Bishop, 1912).

Louis Shores focused on the teaching function of academic libraries, and how the library's purpose and mission fit within the college and university structure. Based on his own observations, Shore concluded that every instructor should be library trained, and every college librarian was either a professional teacher in a particular subject field or a paraprofessional who performed the routine maintenance necessary to support library collections and library education (Shores, 1935). Others focused more on the collaborative aspect of library instruction, concluding that a stronger librarian–professor partnership was necessary and/or that librarians should serve as assistants to teaching faculty (Branscomb, 1940). Louis Round Wilson was, arguably, the most influential librarian of this time period, and he firmly believed, as did most librarians, that while the curriculum was influencing library use in a more positive way than in the past, more could be done to make the library a more effective educational instrument (Wilson, 1941).

Azariah Smith Root, the director of the Oberlin College Library, chose as his focus the audience for library instruction. While some believed that

instruction should center on those students pursuing a particular profession, Root believed that any student, no matter what profession he or she chose to pursue, should have a firm grounding in library science. He reasoned that bibliographic instruction should be a subject taught as part of the college curriculum, because it was beneficial for the educational development of all students (Rubin, 1977).

With all this development in theory also came an evolution in practice and methods. Librarians experimented with a variety of instruction methods, including credit-bearing courses, freshman orientation lectures, and library tours. The first ever documented library use instruction credit course was at the University of Michigan in 1881 (Davis, 1886), and in the following decades, many colleges and universities began to implement similar courses. These courses were most often taught by college librarians, and they stressed descriptive bibliography, the history of printing and books, and/or the history of libraries. Princeton's librarian summarized four methods usually used in such courses: individual assistance, lectures in the library, printed guides to reference books, and questions to induce the practical use of books (Richardson, 1896). In addition, these courses almost always contained a hands-on, library use component. This component was also evaluative: it taught students to distinguish the intellectual contents of books and other reference materials, and introduced them to some of the most common ones (e.g., indexes). Some of the most widely used reference titles (e.g., *Watt's Bibliotheca Britannica*, *Allibone's Critical Dictionary of English Literature*, *F.B. Perkins's Best Reading*, *Appleton's New American Cyclopedia*, *Poole's Index to Periodical Literature,* and the subject catalog of the Library of Congress) were also introduced. These courses gave assignments, which were designed to familiarize students with the library's physical spaces and organizational schema, to teach them about the card catalog and classification systems. A good example was the Library Methods course taught at State Teachers College, North Dakota. This one-hour credit course consisted of 11 lessons:

- Introduction to the Library, Library Etiquette, Principles of Classification
- Call Numbers and Shelf-list
- Card Catalog
- Periodicals and Periodical Indexes
- Encyclopedias
- Dictionaries

- Literature
- Biography, Geography, History
- Social Sciences
- Science, Useful Arts, Fine Arts
- Quiz (Reed, 1932).

The credit course was not the only method academic librarians utilized in their quest to educate. Book talks, bibliographical lectures, and orientation tours were also popular, as was advertising – librarians often placed book jackets and posters in the library and across campus, as well as putting selected mini-libraries of books in dormitories for recreational reading.

Increasing demand for library instruction resulted in full-time librarian positions dedicated to this pursuit, such as that at New York State Teachers College (Pritchard, 1930). There was also a push at this time to incorporate library instruction throughout the curriculum. An example is that implemented by Lamar Johnson, a college dean and library director, at Stephens College (Johnson, 1933). This was done in response to student demand – the students themselves indicated that they would like some form of education in the effective use of books. This education included regular assignments, which required students to prepare bibliographies using specific tools (e.g., the *Readers' Guide*) and also to discuss the process and value of bibliographic tools with their fellow students. Introductory courses in English and social science also made a point to expose students to basic bibliographic tools and familiarize them with the mechanical features of books during the first two months of the school year. In addition, the issue of plagiarism was addressed by a few librarians, who covered the appropriate use of quotation and citation during their bibliographic instruction (Tucker, 1980).

It is important to note that library use instruction methods varied, but the basics of the work being done and principles taught were fairly standard in institutions across the country. The freshman trip to the library at Vassar College was broken down into two parts:

> 1) Aid in knowledge of the library building, of its equipment, and of how to use its collection was given the student literally during first hours on the college campus. The new student was met by a member of the senior or the junior class and taken about the campus, and a copy of the Students' Handbook is given. In this the new student is urged to become acquainted with the library as soon as possible.

> Every new student was expected to come to the reference desk to be shown about the arrangement of the library and the use of the catalog and to receive a copy of the library handbook. When the new student first entered the library she was given a plan of the building showing the arrangement of the different sections and handbook explaining in full the library privileges. And then she was given a tour where she makes connections between the plan in her hand, the books on the shelves, the inanimate reference librarian, the card catalog. Then the student will meet their officers of the department. 2) The second day, an illustrated lecture on the library is given to the students. This included slides showing the catalog cards of a few of the books they would use most in their works, periodicals, and atlases, slides showing the difference between a "see" card and a "see also" card. Slides explained every variation that concerned their immediate work. The student would be issued a pamphlet giving detailed information for the preparation of the work, of all the works of references the class would presumably use. Then the student would meet their individual instructor for one or more question, students and the instructor will go to the library for additional and special help as they may need (Salmon, 1913, p. 302).

As can be seen, instruction to undergraduates in the use of the library was generally accepted by university administration as a necessity. In some institutions, it was still composed of a single lecture, but increasingly this was being extended to a semester or even a year-long elective or sometimes compulsory course (Gilchrist, 1926).

Debates on the best channels to use in the delivery of instruction were invariably raised. It was popular to have librarians conduct instruction sessions in most academic libraries, but questions remained. Was it better to offer instruction as an independent course, or in conjunction with regular coursework for the curriculum? And were librarians really the best educators to provide this instruction, or would it be better to have teaching faculty fill this role? At least one librarian concluded that teaching faculty should give library instruction themselves, but as an independent course. Her reasoning was that these professors had more in-depth subject knowledge than librarians, and they also knew their students better. She viewed the librarians' role as more environmental – providing an environment conducive to instruction in the library's physical space by the arrangement of open shelves and also an adequate collection (Salmon, 1913).

In both research and practice, the challenges and effectiveness of bibliographic instruction were raised. It was found that if the librarian prepared carefully and the professor was present to supplement perceived omissions during library instruction sessions, there was a much better outcome for students. Using a pretest, four lectures, and a post-test, Linda Clatworthy (1931) found that the result was a significant improvement in students' abilities in using the library. However, many librarians and other teaching faculty faced various challenges to effective instruction: students' poor study habits, lack of uniformity in students' previous experience with library instruction, and insufficient preparation for courses in the college curriculum (Lewis, 1923). All of this debate over who was best suited to deliver instruction, librarians or teaching faculty, also brought up the issue of status. It was hypothesized that one of the factors negatively affecting bibliographic instruction outcomes was the librarians' lack of faculty status. This perceived lack of status placed librarians in an inferior position where they were often not considered or adequately informed in planning and research processes. A change in the status of librarians to faculty was promoted as necessary for the library to function intelligently as part of the overall education program (Branscomb, 1940).

So it was that library instruction (educating the library user) and library education (educating the prospective librarian) developed simultaneously. Especially with the issue of faculty status looming, library schools, educational organizations, and professional organizations began to play a larger role in library use education. Library school students participated in experimental instruction methods courses (Elbridge, 1928), meetings addressing the topic were held at national ALA conferences, and standards were established by the National Education Association mandating at least 12 library use lessons as a requirement for all incoming students in any school which provided teacher training (National Education Association, 1922).

Library use instruction expands: post-World War II to the 1990s

Mass access to higher education

There was a boom in the post-World War II era in America in a variety of areas, and higher education was no exception. It blossomed after the

war, with US colleges and universities branching out into a plethora of different foci: vocational, business, engineering, technical, teaching, liberal arts. Some colleges emphasized one; others combined some or all of the above. The main point is that following the GI Bill of 1944 (the Servicemen's Readjustment Act of 1944, which provided funds for the benefit of servicemen returning from the War), and economic prosperity in the country at large, returning veterans and others flooded the higher education system. Colleges and universities added programs and expanded. They innovated, adding selective undergraduate admissions standards, enhancing their graduate and doctoral programs as well as professional schools, and placed an emphasis on medical centers (Thelin, 2004).

Changes occurred in the way higher education was structured. The multi-campus system became popular in states such as California, Texas, North Carolina, and Georgia. The US Government also involved itself more minutely in higher education, a role that had traditionally belonged to the states. The Commission of Higher Education was established in 1946, and it promoted college enrollment. Minorities, women, and non-traditional students had increased opportunities to pursue college degrees. Greater access to higher education for all was achieved, with the result that enrollment hit an all-time high of almost 9 million by 1970 (Thelin, 2004).

The federal government also became a research patron and contractor, launching a system for competitive grants to university scientists who submitted proposals and were selected by peer review to carry out government projects. The National Science Foundation, created in 1950, and the National Institute of Health, as well as the Departments of Defense, Energy, Agriculture, Transportation, and Health, increasingly funneled money to universities through competitions for research funding. The end result was that federal support became a major factor in the overall performance of many universities. Private foundations also provided incentive funding that colleges and universities could seek. Foundations such as Carnegie, Rockefeller, Rosenwald, and others provided incentive grants for everything from curricular innovation to the hiring of new faculty or building of new facilities (Thelin, 2004).

Public policy at state and federal level focused on curricular innovation for colleges and universities, especially incorporating scientific research and experimental and applied technical arts into the curriculum. In this period academic calendars were standardized and, of greater importance to academic librarianship, the criteria for promotion and tenure of faculty were codified.

Publishing and the proliferation of titles, format, and content

Beginning in the 1960s, a major trend in publishing was the merging of houses, as well as the consolidation of retail sales outlets. According to the 1962 *Bowker Annual of Library and Book Trade Information*, there were 3300 active publishers in the various fields of publishing (trade, text, subscription, law, medical, juvenile, and so on) (Steckler and Wright, 1964). While publishers merged and then organized into a variety of imprints under a single publishing house, the world book title production was rising; by 1970, it was 521,000 per annum (Finkelstein, 2007). In the US alone, the annual book title production in 1970 was 36,071 (Johnson and Schick, 1971), and had increased even more to 52,637 titles by 1986 (Simora, 1988). Book review media also proliferated to provide librarians with a way to select these titles.

Other formats also increased during this time period. The periodical was on the rise, especially in the sciences: there were 7888 biomedical journals in 1959 versus 19,316 in 1977, and 10,000 articles in physics abstracts in 1955 versus 146,500 in 1966 (Wald, 2007). The advent of microfilm as a medium for information storage for libraries occurred in 1935, and from the late 1950s, microfilm publishing grew rapidly (Chadwyck-Healey, 2007): 117,051 microfilms were collected by US libraries in 1956 alone (Wright, 1961). Microfilm was not the only media on the horizon: filmstrips, sound recordings, and photographs also began to play a major part in the collections of academic libraries.

Academic library growth

Other industries experienced growth during this period – there was substantial development in libraries, teaching departments, and research laboratories during the 1960s. Between 1959 and 1970 the number of college and university libraries grew from 1951 to 2535; their total book collections likewise increased from 176 million to 371 million volumes; and their expenditures rose from $137 million to $737 million per annum. Academic library collections were increasing because there had been an increase in funding and enrollment, as well as campus expansion. Libraries accommodated the larger number of students by expanding their facilities and collections to meet increased need. Staffing figures also rose: from 1959 to 1968, the number of students for each

academic librarian increased from 378 to 446, a 23 percent increase in the student-to-librarian ratio (Kent, Lancour, and Nasri, 1968).

College libraries and college librarians organized themselves through the College Library Section of the Association of College & Research Libraries (ACRL). In 1959, the ACRL adopted a set of standards, stressing that the most important intellectual resource of the academic community should be the college library (Kent, Lancour, and Daily, 1975), and in 1967 the Ohio College Library Center (OCLC) developed one of the seminal bibliographic tools still in use today by libraries – a computerized system that allowed the sharing of catalog records and other resources. In 1972, OCLC expanded to offer online cataloging data to all subscribing libraries, and this database, dubbed "WorldCat," now features the holdings of almost every library in the country, as well as those of a variety of international libraries.

Library use instruction: the integration of theory and practice

Academic libraries had evolved with the proliferation of formats and bibliographic tools, as well as massive increases in enrollment. This brought with it both opportunities and challenges for instruction in library use, and a variety of theories and practices were developed to meet these challenges and take advantage of these opportunities. A focus was placed on innovation, and on developing new courses and instruction programs. Advances were made in the literature of library and information studies, as well as standards and evaluation, the education of librarians, and the use of technology. Three methods of instruction in particular are representative of those developed during this period: programmed instruction, individualized instruction, and competence-based instruction. The library–college movement also developed during this period.

Programmed instruction

Library science was not immune to the advancement of educational theory. Programmed instruction for library use is an example of how new theories of behavior and learning were incorporated into bibliographic instruction. Programmed instruction was based on the theories of psychologist B.F. Skinner, and began to be used for library instruction in the early 1960s. In essence, it was a self-teaching method. It was structured to allow individual learners to proceed at their own pace, mastering a

body of knowledge through small steps. Using a specialized workbook, learners were given immediate feedback on the correctness of their answers. An example of programmed instruction in action can be found in the library use instruction developed by Miriam Dudley and her staff at the College Library of UCLA (Dudley, 1974). The model developed by Dudley allowed an institution, whether a large university or a small college with limited staff, to walk students through the process of searching for information in the library. This program included the *Library Instruction Workbook*, with 20 sections, an introduction, and accompanying assignments (Dudley, 1981). Using this workbook, students learned to locate tools such as the library catalog, indexes, and so on, and to utilize them effectively to answer questions. During the 1970s and early 1980s, a variety of academic libraries in the US and other countries adapted this model to construct their own programmed instruction for library use.

Programmed instruction usually had several main objectives, such as teaching students how to use books effectively, inculcating a love of books, and ensuring that the library functioned as the center of instructional programs for the college. These programs served to introduce students to basic library tools such as the card catalog, the *Reader's Guide*, encyclopedias, dictionaries, and other general reference tools (Johnson, 1933). These are all worthy goals and necessary tools for student research, and programmed instruction had the added benefit of allowing users to learn at their own pace. However, it came to be generally believed that while "PI can teach facts and skills rather quickly, the rate of learning is often the only thing under the control of the learner, and many programs are recognized as boring and meaningless" (Adams, 1980, p. 88).

Individualized instruction

Skinner was not the only psychologist to influence library instruction. Individualized instruction for learning in general but also library use in particular was another method which gained favor during the 1960s. Based on Swiss biologist and psychologist Jean Piaget's cognitive theory, individualized instruction stressed more consideration for the specific traits of individual learners. Instruction would no longer be one-size-fits-all, but rather would be adapted to individuals' needs. This type of instruction focused on an individualized approach, and included "small group instruction, teaching machines, programmed instruction, tutoring, project work, and independent study" (Adams, 1980, p. 84). Various

methods were employed to individualize instruction, including presenting the material at different rates for different learners, varying the presentation style based on student social preferences, and using materials and objectives tailored to particular students. For example, the course format at the University of Louisville included one lecture session per week as well as one self-paced library practicum with a specialized worksheet. Through this format, the student was provided with an overview of the research procedure, the particular library resource being taught, and specific critical thinking skills to support the research procedure and the use of that library resource (Blum and Spangehl, 1977).

SUNY-Oswego pursued an individualized instruction program it called PLUS (Personalized Library User Service). By filling out an appointment request form two days in advance, the student could be introduced to a librarian with the relevant subject background. This advance notice allowed students to be paired up with the proper subject librarian, and also allowed that librarian the time necessary to carry out preliminary searching and background work so as to be prepared for the meeting with the student. On meeting with the student, the librarian would then take about a half hour to outline search strategies and cover the requisite bibliographic tools and how to use them. PLUS averaged approximately 50 appointments per semester. The response from students was highly favorable, while the burden on the staff was minimal since the assigned librarian was already familiar with the subject area (Adams, 1980). Variants of this type of program began to be offered at academic libraries across the US.

Another variation of individualized library instruction was the development of learning packages, where a set of materials was compiled for a student and an instructional experience planned. For instance, a package for learning about the card catalog might be put together with a slide and audiotape presentation, a catalog card drawer with sample cards, and an answer sheet for questions posed by the tape. Or a package to provide instruction on periodicals might include an audiotape, sample index, and a copy of a periodical's holdings list. The program would then finish by having the student actually locate a periodical in the library. These types of individualized instruction were viewed to be more interesting for students than some programmed instruction, since they incorporated a variety of media and required student interaction (Adams, 1980).

Competency-based instruction

Widely implemented in secondary and post-secondary educational settings in the 1970s, competency-based education was an educational

system that emphasized the specification, learning, and demonstration of competencies deemed to be of central importance to a given task, activity, or career. By competencies, the system actually meant the knowledge, skills, and/or behaviors necessary to achieve a given objective, and a competency-based program had three major components: competency identification, criteria level, and assessment. As adapted for library use instruction, the methods of accessing and utilizing library collections in conducting research were incorporated into competencies for some higher education institutions. Basic competencies in this area were considered to be "the ability to use the appropriate resources and services of a university library to identify, select, and locate materials, both print and non-print, on a variety of subjects" (Stoffle and Pryor, 1980, p. 63).

As competency-based education gained in popularity, Carla J. Stoffle and Judith M. Pryor were asked to examine this teaching and learning technique as it applied to library use education. The resulting article describes competency-based programs at Alverno College, Doane College, Sangamon State University, the University of Louisville, Findlay College, and the University of Wisconsin-Parkside, and thus offers a variety of models (Stoffle and Pryor, 1980). At Doane College, competency-based library instruction included lectures by the librarian and a DEPTH (Doane's Educational Program for Teacher Humanization) packet entitled *Self-Instruction Guide to Resources in Education*. This packet was essentially a series of guided exercises arranged in search strategy order, designed to teach students about organization of information in education and also how to use the major sources (e.g., encyclopedias, books, periodicals, pamphlets, and government documents) in this field. To determine competency, the librarian would have an assessment interview with the student after he or she had completed these guided exercises. Students who failed to demonstrate the required level of competency, could repeat just the section of the packet they had failed, or in extreme cases, the entire course packet. At Alverno College, the program included skills necessary to identify, locate, and use information by pursuing proficiency with the card catalog, general indexes, and appropriate biographical reference sources. All of these skills were taught by librarians in a New Student Seminar. This was a beginner course coordinated by counselors who brought in various instructors to provide students with the learning experiences necessary to acquire these skills and achieve the basic competencies. The University of Louisville also pursued competency-based instruction, including library use instruction as one of the six core courses of the University's program for open-admission students. A three-credit course, called Research with

Printed Materials, was developed with the assistance of a university librarian in order to ensure students met the competencies for library use.

Library–college movement

The increase in enrollment along with other factors such as the growth in federal funding precipitated the advent of the library–college movement in the 1960s. A library–college is defined as a college in which the dominant learning mode is independent study by the student in the library. This independent study was facilitated and guided by the faculty. The library–college concept in America dates as far back as the 1930s, when Louis Shores hypothesized that undergraduates would benefit if the teaching–learning experience was moved from the classroom to the library, and problem-solving techniques within a liberal arts curriculum were emphasized (Shores, 1935). Problem solving was the key, and the library–college movement was designed to support both philosophical and practical means for using learning techniques (Terwikkiger, 1975) to solve individuals' potential problems by making the fullest and most effective use of library resources. The problem-solving skills were passed to the students via learner-centered methods, which were adopted by librarians in their library instruction as well. The result of this movement was that librarians played a more central role in the learning experience. They were needed for bibliographic counseling as well as to provide guidance for students in their studies, and this created an environment where the role of guiding and helping students was shared by professors and librarians.

New ground was broken in the library–college movement with the introduction of Patricia Knapp's Monteith Library Project. This project focused on the integration of library usage with courses and the classroom, and it emphasized the dual participation of the librarian and the teaching faculty. Knapp made several contributions to the theory of library use instruction and the library–college movement during the 1960s. She set up a social structure in which librarians could work with teaching faculty to develop a curriculum at Monteith College, and student use of the library was an integral element of this curriculum (Knapp, 1964). Knapp pursued a variety of educational concepts for her library instruction program, including problem solving. Knapp believed that the teaching faculty was essential to student use of the library, and her observation was that the true deciding factor in effective library instruction was the attitude of the instructor. From her observations, Knapp developed two main methods for modern library instruction: synchronous and

asynchronous. The first focused on in-depth integration of library instruction into the entire academic curriculum, every course, and this instruction was conducted in a real-time, face-to-face group method. The second was self-paced and hands-on, an approach that allowed students to pursue learning any time, any place (Knapp, 1956).

Others would build on the concepts generated by Knapp's Monteith College library experiment. The CLR-NEH College Library Program was one such outgrowth, providing 36 institutions with grant funding to explore innovative ways of enhancing the library's participation in the education process, a venture dubbed the Library Service Enhancement Program in 1975. Throughout the 1960s and 1970s, library–college associations were established and workshops, conferences, and literature on the library–college movement emerged. Monteith was joined in the library–college movement by other libraries, such as Antioch in Yellow Springs, Ohio; Stephens in Columbia, Missouri; and Palm Beach Junior College (Kent, Lancour, and Daily, 1975). All of these institutions believed the library–college movement offered "the only clear-cut philosophical statement of service with accompanying objectives of how academic libraries can support the educational trends of this century" (Breivik, 1977, p. 25). The library–college movement demonstrated that libraries could and were having a positive and lasting impact on the education process. This increased the status of academic libraries and academic librarians.

Other instruction programs

J.M. Tucker was instrumental in developing educational philosophies on library instruction in the US, and expounding on the necessity for users to understand libraries, how to use them, and their importance (Tucker, 1980). Along with the other instruction methods enumerated above, it was also popular to provide library use instruction to students during Freshman Week, or in a short orientation course, but it was observed that it was more efficient to deliver instruction in a more formal manner for groups and/or individuals within the library. Some instruction methods required students to use the library to solve problems by selecting resources from the college or university library collections, while others used course-related materials and questions to teach library skills. In the 1940s, 1950s, and early 1960s, most basic library use instruction programs simply helped students locate and use library materials for a particular project. In the late 1960s and 1970s library instruction was integrated more formally into the curriculum. Though there was a focus

on the traditional instruction resources, such as the library catalog, indexes, abstracts and other reference and bibliographic tools, as different formats began to be added to library collections, instruction expanded to include education in the use of microfilm and other non-traditionally formatted library resources.

During this period, librarians also began to assess and provide instruction based on students' perceived needs, an outgrowth of individualized instruction and the acknowledgement that different library users have different instructional needs. Earlham College provided four different levels of instruction based on student need: pre-freshmen with varying library knowledge (those coming from a high school environment), freshmen writing their first research paper, juniors beginning their majors, and seniors trying to consolidate the knowledge gained in their four years on campus (Kennedy, 1970). In tailoring to the individual user, a variety of tools were employed: signs, handbooks, guides, and pathfinders (a step-by-step instructional tool to introduce a library user to the information sources available in research libraries and give an overview). Additional tools began to accompany library lectures, such as transparencies, audio and video materials. Computer-assisted instruction was introduced in the 1960s. Computer terminals were placed in library lobbies, such as at the University of Denver, allowing students to complete an orientation program or learn how to use particular tools (Adams, 1980).

Those seeking to understand and quantify library use instruction began to focus on the service structure, as evidenced by the work of Kirk, Kennedy, and Zant (1980). They found that three conditions were essential for an effective bibliographic instruction program: the administrator of the bibliographic instruction program must be at a level equal to that of administrators of reference, circulation, cataloging, and acquisitions; there must be adequate communication among faculty, instruction librarians and reference librarians; and the instruction activities must be supported by faculty, instruction librarians and reference librarians. As these conditions gained general acceptance, a new specialty was created: the instructional services librarian. This faculty position first began to appear in college libraries in the US in the 1970s.

In order to compare disparate instructional methods, define goals and objectives, reinforce student learning, and identify student needs, measurement and evaluation of instruction was a necessity (Werking, 1980). Evaluating students' achievement involved assessing their knowledge of libraries and library materials after having been given library use instruction. The process used to reach instructional goals and the overall aspects of the instructional program (the management of the

program, its position in the library and its relation to library goals) were all aspects in need of evaluation (Beeler, 1975).

Professional training for librarians in library instruction became a priority to prepare new and incoming librarians for their careers adequately. Accordingly, library schools added instruction courses to their curricula. Of 55 accredited library schools surveyed in the US in 1975, only four offered courses specifically on library instruction, but four stated that mini-courses in instruction were planned for upcoming years (Galloway, 1976). Another survey of 63 accredited library schools found that library schools were broadening their curricula; 16 of them integrated library instruction into other courses such as reference, media, and type of library. The survey also noted that bibliographic instruction courses were offered at the University of Michigan, the University of Wisconsin-Milwaukee, the State University of New York-Albany, and Kent State University, all of which were new programs instituted since the 1975 survey (Dyer, 1978). In addition, eight accredited library schools offered courses in library instruction, and 11 accredited library schools offered library instruction as an identifiable segment of courses (Roberts and Blandy, 1989). Textbooks, such as *Library Instruction for Librarians* by Anne F. Roberts and Susan G. Blandy, were developed to complement these courses and provide librarians and students with a theoretical, practical, and historical framework for library instruction (Roberts and Blandy, 1989). These textbooks could also be used to fill the void for librarians already out of school or those attending graduate schools which did not yet offer courses in bibliographic instruction.

Many continuing education programs sponsored by national, state, regional, and local library associations and groups were active in promoting conferences, workshops, poster sessions, and lectures on library instruction and bibliographic instruction concerns. Library professional associations, especially the ACRL, the Southeastern Library Association, the Southwest Library Association, and the Community and Junior College Libraries Section Committee on Instruction and Use played an important role in providing guidance as well as continuing education workshops to aid librarians in developing their library instruction skills. An example of association support for library instruction programs during the 1970s was the development of a slide-tape program, which provided general information to students on the use of the library. The program was funded by the Council on Library Resources and was conducted at Mt San Antonio College in Walnut, California (Gwinn, 1980).

Keeping current with the literature on instruction was another method practicing librarians could use to learn about bibliographic instruction

techniques and trends. The amount of literature on the topic of instruction had increased exponentially, and showed the importance of and necessity for research on this topic. The literature and other related information on library instruction grew so much that in 1972, Project LOEX (Library Orientation/Instruction Exchange) was established. This would serve as a central clearing house agency to collect and loan sample materials and data on instructional program research and methods (Kirkendall, 1980).

With this rampant development in library use instruction, problems and challenges were invariably encountered. One perceived challenge was that, in 1975, the ratio of academic librarians to students in American colleges was 1 to 485 (Miller, 1978). This large number of students and relatively small number of librarians, when combined with a lack of professional training in instruction for many of those librarians, was certainly a barrier to effective library instruction. In her survey, Barbara Phipps found that librarians involved in user instruction were frustrated, disappointed, and demoralized because of "lack of staff, lack of time, lack of money for experimentation, lack of cooperation and interest from the faculty and the administration" (Phipps, 1968, p. 12). Furthermore, those involved with instruction observed that the faculty who taught subject courses were often reluctant to give up time to instruction in the use of the library; the faculty members often did not know how to use the library themselves; the library staff was already overworked without the additional burden of instruction; and librarians, as experts, often wanted to impart too much information to the students. All of these concerns aside, there was a great deal of uncertainty within the library profession about who should bear the responsibility for library instruction.

Library instruction in the digital age: from the 1990s to the present

The global perspective of American higher education

At the turn of the twenty-first century, a set of core values seemed to be falling into place at America's most distinguished universities: universalism, organized skepticism, the creation of new knowledge, free and open communication of ideas, free inquiry, and academic freedom (Cole, 2009). Columbia University, as one of the world's most important centers of research and education, personifies the current mission of higher education

as viewed by many US universities: to advance knowledge and learning at the highest level and to convey the products of those efforts to the world (Columbia University, 2007). The mission statements of other universities, such as Emory University, include sections on creating, teaching, and applying knowledge in the service of humanity (Emory University, 2012). Many of these universities have in common a focus on critical thinking skills and the emphasis on fostering lifelong learning skills.

According to the National Center for Education Statistics, there were more than 6500 institutions in the US offering post-secondary education as of the late 2000s, and almost 21 million students enrolled (Knapp, Kelly-Reid, and Ginder, 2009). Higher education has become essential for many jobs, and universities are striving to provide marketable skill sets to their graduates, giving them an advantage in a very difficult job market. If students are educated in the location, use, and evaluation of information, they can continue to educate themselves long after they have received their degrees, making them even more marketable.

Electronic publishing

For centuries, libraries had owned outright the books and journals on their shelves, and in the beginning in the 1980s, electronic publication was introduced,which has vastly affected the way most libraries allocate their budgets, manage their collections, and interact with their users. Digital publishing, in the beginning, still had a tangible aspect – the storage medium was a physical disk. Optical discs were introduced in the 1980s, and major publishers created multimedia departments to publish these CD-ROMs during the 1990s. In 1991, there were 1200 CD-ROM titles worldwide. By 1993–4, there were 18,000 titles (Chadwyck-Healey, 2007).

CD-ROM technology was quickly followed in the mid-1990s by web-based searching and databases, which greatly improved the way reference information could be searched and retrieved. The medium itself made enhancements available; sound, color images, and video could be incorporated into the multimedia of electronic publishing. The argument that began at this time and has continued to the present is that the printed book will soon be obsolete, overrun by online books or other e-book technologies, such as those offered on Kindles, Nooks, iPads, and a variety of other e-book reading devices. So far, these predictions have not been proved correct; print and electronic live a dual existence, but web-based technology has completely transformed the book publishing industry, and it is a transformation that is ongoing.

With the development of Hypertext Transfer Protocol (HTTP) and the World Wide Web, information delivery online became possible. The first digital texts were catalogs, bibliographies, and indexes. They were essentially metadata: information about books and resources, not the books and resources themselves. They served strictly as finding aids. However, this soon evolved into the actual content being offered online, rather than just search tools pointing to it in print. Journal articles, reference books, and bibliographic databases were the first to be delivered via the Internet, and this had enormous benefits for users. No longer were university students and staff tied to the library's physical space; they could connect to the Internet from their dormitories, offices, and homes, accessing information anywhere and everywhere they could find connectivity.

In the late 1990s, several new companies began to offer textbooks and academic books online. Ebrary, Safari Tech Books Online, Pearson, Books24×7, ProQuest, Thomson Gale, and NetLibrary (now an EBSCO product) all joined the electronic book publishing bandwagon. In the popular commercial sector, online booksellers began to supplant the brick and mortar bookstores of old, and companies such as Amazon and Barnes & Noble have had a profound effect on the way publishers market and sell books in the US (Finkelstein, 2007).

This explosion of electronic resources engendered a new model for libraries that favored access to, rather than ownership of, materials. It began in the early 1980s with publishers who maintained content in their databases and sold "access" to that content to libraries for a fee, and set the rules for its use in complicated licensing agreements. InfoTrac, a well-known aggregator in the US, offered access to the indexes of business, technical, and general interest magazines and newspapers. By 1986, it was in use in 300 academic and public libraries (Finkelstein, 2007). The convenience of use of electronic databases and their content ensured that they were welcomed and quickly adopted by US libraries.

Even more convenience was on the horizon for users. The introduction of Web 2.0 in the 2000s gave users the ability to request information and answers instantly, as well as a new level of social interactivity and new methods of communicating and searching for information.

Academic libraries: the information age

The digital revolution had a profound effect on library instruction. Librarianship quickly transformed from an "education" profession to an "information" profession. Though a master's degree from an ALA-accredited

program continues to be widely accepted as the appropriate professional degree for academic librarians, the focus of librarianship began to shift from teaching to technology. A content analysis of 220 job advertisements that appeared in *College & Research Libraries* between 1973 and 1998 demonstrated that by 1998 all academic library jobs routinely included competencies in computer technologies as job requirements. Instruction had been accepted as an integral part of reference work, and the communication skills necessary to perform it effectively were also added to the list of job qualifications for librarians (Lynch and Smith, 2001).

In the realm of academic libraries, user-centered approaches, outreach, and learning outcomes assessments, as well as other education and instructional technology skills, concepts, and techniques, became popular. The increase in technology had also resulted in informal "networks," which made use of email, listservs, news groups, chat, instant messaging, class discussions boards, and other Internet-based tools to further information development in academic libraries.

These tools are just a few of those available which drastically changed information technology in academic libraries. Interviews with over 3000 undergraduates, graduate students, and faculty members revealed that all had increasingly come to rely on electronic sources for information use in teaching, learning, and research (Friedlander, 2002). Another change for academic libraries has come in the form of their potential user population. As these populations have evolved (e.g., the introduction of distance education students), librarians have had to employ various approaches in order to open a dialogue with them and assess their needs. These methods include exhibits, press releases, complaint or suggestion boxes, library newsletters and other library publications, friends groups, publications from outside the library (campus and departmental newsletters, community newsletters, and so on), receptions, book sales, and special events (Nims, 1999). Utilizing what has been gleaned from this dialogue has allowed librarians to better understand user needs and offer services that adequately meet those needs. This has led academic libraries to implement longer operating hours and less restriction with regard to access to library resources.

Online and face-to-face: the hybrid instruction age

With the development of information technology and the explosion of information, all aspects of library instruction have been advanced in America. Locating the needed information from the right source is vital

to college students, and information literacy permeates the discourse in colleges and universities in the US. Accrediting bodies for these colleges and universities emphasize the need for information literacy, and academic libraries must assume additional duties to further concepts their professional associations originally brought to the attention of a nation seeking new results in higher education (Owusu-Ansah, 2004).

The continuous development of educational and instructional theories has built the necessary foundation for modern library instruction; both psychological and educational theories have been integrated into methods of instruction. The integration of these theories into the practices of library instruction programs has provided librarians with a better understanding of the importance of library instruction, and the result has been an improvement in the administration of instruction. Academic libraries have also experimented with creative ways to promote themselves and the products and services they make available. Instruction labs with computer workstations have been built in order to allow students hands-on experience with the databases and searching techniques being taught. Instruction calendars like that illustrated in Figure 1.1 are also

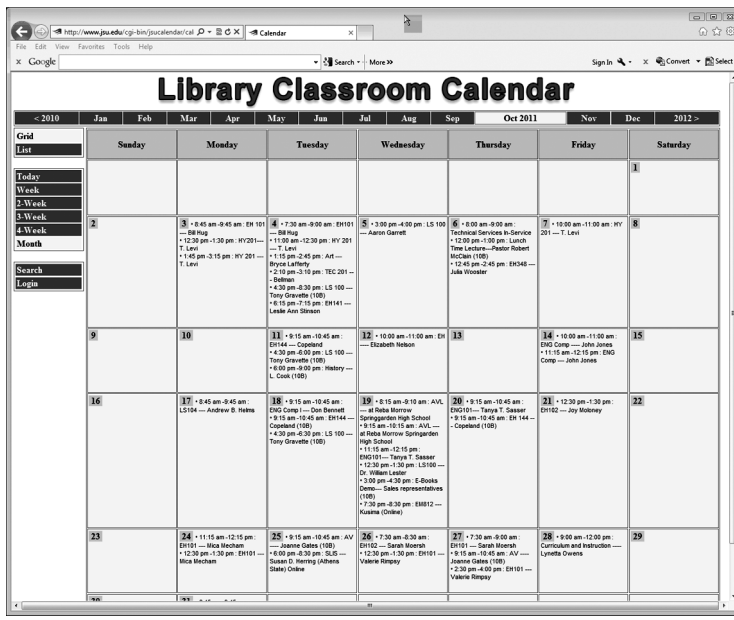

Figure 1.1 Library Classroom Calendar

Source: http://www.jsu.edu/cgi-bin/jsucalendar/calendar.pl?year=2011&calendar=library classroom&month=10

posted in some libraries so that librarians and users can see at a glance the types of bibliographic instruction being taught to what audience at what time. They list time, name of professor, place, name of librarian providing the instruction, and the number of students. The position of instruction librarian, a faculty member whose primary responsibility is to teach library instruction classes, is a mainstay in most US academic libraries. In addition, serious consideration has been given to training librarians to give effective information literacy instruction.

Librarians have escalated their efforts to establish organizations and standards for library instruction at the local, regional, and national levels. These organizations and standards support library instruction efforts through education, training, networking, and publications, which keep those performing instruction up to date on the latest theory and practice in the field. The International Federation of Library Associations (IFLA) Roundtable on User Education was established in 1993 to foster international cooperation in the development of user education in all types of libraries. Among its goals, the roundtable aims to hold sessions on user education topics at IFLA conferences, disseminate information about user education projects and programs, and monitor education and training for user education librarians (IFLA, 2002).

Library instruction as information literacy

In the twenty-first century the concepts and requirements of information literacy have become the core for library instruction. This is a change from a focus on library use instruction to information literacy in general. The ACRL Information Literacy Competency Standards for Higher Education codifies standards and outcomes for information literacy in higher education:

> An information literate individual is able to:
>
> - Determine the extent of information needed
> - Access the needed information effectively and efficiently
> - Evaluate information and its sources critically
> - Use information effectively to accomplish a specific purpose
> - Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally (ACRL, 2000).

Library instruction was originally designed to teach library users how to effectively use the library and its resources. In the 1980s the goals of

library instruction expanded to encompass a more comprehensive concept – information literacy – which the ACRL defines as the "set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (ACRL, 2000). Others within the library profession have taken this a step further, defining information literacy as

> hav[ing] an understanding of how libraries are organized, familiarity with the resources they provide (including information formats and automated search tools), and knowledge of commonly used research techniques. The concept also includes the skills required to critically evaluate information content and employ it effectively, as well as an understanding of the technological infrastructure on which information transmission is based, including its social, political, and cultural context and impact (Reitz, 2004, pp. 356–7).

The conceptualization of information literacy began with Paul G. Zurkowski, who used the term to refer to those who had learned to use a wide range of information sources in order to solve problems at work and in daily life (see Badke, 2010). In 1985, Patricia S. Breivik described information literacy as an integrated set of skills and the knowledge of tools and resources (Idaho State University, 2011). In the 1980s librarians from academic and school libraries developed more formalized instructional efforts for their users at all levels to address these concepts, as library instruction was redefined as information literacy (Grassian and Kaplowitz, 2001). Identifying students' need for information literacy skills, building relationships with faculty, course-related instruction preparation (including preparing students' activities, instruction materials, and technology use), identifying instruction methods, and assessing and evaluating the instruction became standard steps in library instruction and information literacy programs.

Although they all contain these basic elements, information literacy instruction courses still vary widely, especially in methods of delivery; some even have students providing instruction to library users, while others have students teaching fellow students enrolled in their classes. Many higher education institutions include an information literacy course as a required element of the curriculum during a student's first year. These classes are most often offered either as a separate, for-credit class or they are incorporated into a survey course, such as freshman English. These courses are often preferable to one-shot instruction sessions because they allow a depth of coverage that the time constraints of a single session could never accomplish.

Among the first to implement an information literacy curriculum was Maricopa County Community College. Information literacy was offered as a stand-alone course, and Maricopa also integrated information literacy models into existing research courses as well as its senior level discipline-specific courses (Evans, 1994). Another notable institution is Earlham College, whose librarians and teaching faculty collaborated to integrate information literacy into the entire curriculum. Teaching faculty and librarians developed syllabi and assignments together to provide a synchronized, sequential approach to library instruction, which followed students throughout the entire curriculum. Beginning with placement tests and continuing through increasingly more complex instruction, by 1998/9 this collaboration had resulted in Earlham ensuring the information literacy of all 1100 students (Grassian and Kaplowitz, 2001).

ACRL's standards became widely accepted and were used to direct and assess academic libraries' instruction programs. The format, methods, skills, content of instruction, and technologies involved were numerous. There were several standard instructional formats, including library tours, course-integrated instruction, and credit-bearing instruction courses. Traditional "bibliographic instruction" usually showed students only how to use library resources, but the availability of electronic tools and the rise of the Internet necessitated a change in the concepts and methods of bibliographic instruction. Thus academic librarians in US libraries now provide instruction on a variety of research methods: how to approach academic inquiry, how to utilize resources in print and electronic format, and how to critically analyze and incorporate the information gathered from these sources. Librarians are now firmly entrenched as collaborative partners with subject faculty and play the primary role in instruction. Librarians wear a variety of hats: they are instructors, professors, coordinators, and information literacy specialists.

A variety of methods are in common practice to teach information literacy, including explanations and demonstrations of the resources available in the library and via the Internet, as well as hands-on searching by the students. There are long-term information literacy goals, as well as targeted short-term goals, such as instructing students in the location and use of appropriate resources specifically for assigned research papers. This type of instruction addresses the technical skills associated with the choice of database and performing a search, as well as teaching students about indexing, organization and classification, and evaluation of resources. Evaluation, in particular, is a skill many students lack, and one which has become of ever increasing importance with the proliferation of digital resources.

Access to digital resources 24/7 through the Internet has also necessitated the birth of 24/7 access to instruction. In addition to traditional face-to-face methods, online instruction has been widely implemented in US academic libraries to provide a more convenient learning environment for students. Online tools, such as the catalog, databases, and other web resources, have become a standard part of instruction content, because proficiency with Internet technologies is essential to user education. This has fostered the rise of "learning communities," which are interdisciplinary, collaborative, and participatory environments that foster the development of knowledge through multiple perspectives. Indiana University-Purdue University Indianapolis has pursued such a community by putting together an instructional team. This team consists of a faculty member, an academic advisor, a student mentor, and a librarian, and all of them contribute to the content of a for-credit "college survival course," which also includes an information literacy component (Grassian and Kaplowitz, 2001). The computer-equipped instruction lab has also become a necessity for US academic libraries – they must have one in order to provide hands-on practice in the use of online catalogs, bibliographic databases, and Internet resources within their information literacy programs (Hovde, 2000).

As instruction has moved into the online environment, open source instruction tools have been made available. The Library Instruction Round Table of the ALA provides a list of web-based library instruction tutorials on effective methods for research and searching the Internet. There are also subject-specific guides (*http://fleetwwod.baylor.edu/lit/lirtproj.html*). EMPOWER, a library instruction tutorial open source software package (*http://library.wichita.edu/empower/downloadEmpower.htm*), is another useful tool for library instruction. Originally developed by Wichita State University Libraries, this open source software allows institutions to download and modify the program as needed. Learning Information Literacy Online, another open source software package from the University of Hawaii (*http://www.hawaii.edu/lilo/index/FA11_index_night.php*), breaks down the research process into a series of easy-to-follow steps by using text, video, relevant websites, and a variety of examples. Six modules are included for research and writing purposes:

> 1) The Research Process – what it is, why it's important, and how it works; 2) Your Assignment – figure out what your instructor expects of you; 3) Research Strategy – select a topic and refine it to a thesis statement; 4) Conduct the Search – choose appropriate

> databases, construct searches, and retrieve results; 5) Evaluate – how to select relevant and appropriate sources to support your thesis statement; 6) Synthesis – the ethics of writing, how to avoid plagiarism, how to integrate search results with your own ideas, and how to properly cite sources (Edwin H. Mookini Library, n.d.).

As an essential part of academic curricula, library instruction delivered via web-based tutorials was found to be on par with face-to-face instruction in enhancing students' library skills and learning outcomes. These library skills are necessary for students to be able to search, retrieve, and critically evaluate information effectively for their personal and academic needs (Beile and Boote, 2004).

It is obvious that the development of technology and the advancement of psychological and educational theories have resulted in evolution and innovation for the practice of library instruction in this information age. Table 1.1 provides a brief overview of the current state of instruction in US academic libraries.

As is often the case, there was a time lag between what was being explored and implemented in the field and the publication of literature describing and extrapolating from it. The body of literature on library use instruction and information literacy has grown by leaps and bounds in the past two decades. A large number of the research articles and books written in this field focus specifically on theory and practice for online instruction. Serving as a textbook as well as a self-education tool, *Information Literacy Instruction* by Esther S. Grassian and Joan R. Kaplowitz provides essential theories for instruction librarians (Grassian and Kaplowitz, 2001). In addition to the LOEX collection mentioned above, the clearing house also hosts an annual conference with published proceedings, produces a quarterly publication with articles penned by teaching librarians, and a monthly current awareness e-letter; there is also the LOEX website itself (*http://www.emich.edu/public/loex/loex.html*), which provides links to examples of work in library instruction and information literacy. In 2011 LOEX became an international institute that boasted over 650 member libraries in the US, Canada, the Caribbean, Europe, Australia, and New Zealand. All of these resources can be used by those in instruction and information literacy to further their education.

Formal courses in teaching methods for bibliographic instruction began to be offered by many library and information studies programs in the US, as shown by a survey conducted by the Instruction Section of ACRL in the spring of 1999. For example, the University of Washington

Table 1.1 **Theories applied, modes, delivery channels, skills applied, content covered, technology involved, and assessment tools in common use in US academic libraries**

Theories applied	Behaviorism (the stimulus–response approach to learning) Cognitive psychology (emphasis on the process of learning) Humanist psychology (emphasis on motivation and self-actualization)
Modes and target audience	Modes: synchronous or asynchronous; remote or in person; print or electronic Target audience: undergraduate students, graduate students, faculty or staff members, community members
Delivery channels	Direction: signage, maps, site maps, kiosks, pathfinders Displays: exhibits, flip charts, blackboards, whiteboards, screen displays Tours: guided, self-guided, virtual tutorial Course-integrated: one-shot, several class sessions Credit course: one–three credit hours for one or two semesters Others: independent studies, reference questions, research consultations, discussion boards, emails, websites
Skills applied	Presentation, explaining, demonstrating, questioning, practicing
Content covered	General or subject-specific or assignment-specific research skills Catalog skills Database or software-specific search skills Internet using skills Academic integrity and intellectual property
Technology involved	Audiovisual and computer assisted
Assessment tools	Objective tests; open-ended questions and essays; questionnaires, surveys, and rating scales; interviews; performance assessment; product assessment

required students to take a course in bibliographic instruction for completion of the Master of Library and Information Studies degree. A teaching practicum was also offered, though it was optional (Instruction Section, ACRL, 1999). Florida State University limited its requirements based on career path – a bibliographic instruction course was required

only for those specializing in school librarianship. Westbrook (1999) noted that, nationwide, there was a significant increase in the amount and types of user education courses in library school curricula; the number rose from four MLIS programs with a user education course in 1976, to 26 programs in 1998. She also noted that some of these programs provided opportunities for a practicum or observation of instruction being taught. By fall 2010, there were 55 ALA-accredited master's programs in library and information studies that offered full library instruction courses (Professional Education Committee, 2010).

Trends, anticipated futures, and recommendations

Since the pilgrims first settled Massachusetts in 1620, new publishing houses and higher education institutions emerged in America and flourished. The libraries of these colleges grew slowly through the first half of the nineteenth century, and their collections generally comprised a very small standard body of literature, collected via donation. Library collections were very limited, and the number of volumes in even the most prestigious universities was small. Growth was slow; for almost 200 years after its founding, Harvard College's course of study remained virtually unchanged. All early college libraries were similar in many respects: their growth was highly dependent on the gifts of interested patrons, and the policies and regulations they drew up had as their main goal protection, not use, of the collection. Library hours were extremely truncated; the building was usually open only two to three hours per day on weekdays and a few extra hours on Saturdays. A librarian, who could also simultaneously serve as a member of the teaching faculty, and an assistant librarian were the predominant library officers, and their major responsibilities included providing reference services and organizing books. The books that made up academic library collections were arranged by a classification scheme and could be circulated to undergraduates. Librarians, though they were often also members of the teaching faculty, were not ranked among the principal educators of a college or university. There was also a disconnect between what was being taught in American colleges and their library collections – a direct relationship between the books found in college libraries of this time and the college curriculum itself is not evident. As a result of this and other factors, the library retained a subordinate position on campus.

Teaching faculty and librarians eventually observed that readers possessed only a limited knowledge of books, common reference sources, special bibliographies, and indexes to serial publications, and the idea of providing instruction on how to use books and research tools emerged in the 1820s. By the end of the nineteenth century, the idea of providing library instruction to students had become commonplace in the US. Library instruction in its initial stages, without the direction of instructional theory, was offered in some college and university libraries.

A sign of maturation of American higher education came in 1900, when the presidents of 14 institutions met to form the AAU (Cole, 2009) with the involvement of government and private foundations. Higher education in America focused on the development of complex, multipurpose institutions. The library became the center of those institutions, and of intellectual activity. Librarians and teaching faculty built on their observations from previous periods to mold their instruction, noting the need for explanation and interpretation of the card catalog and Dewey Decimal Classification system. The rise of departmental libraries, as well as the growth in student enrollment was mirrored by growth in the size of academic library collections, and the framework of library use instruction was formed. Instruction based on librarians' practical experience became systematic.

It came to be accepted that students could not effectively do the work required to obtain their degree unless they were proficient in the use of the varied facilities offered by the modern academic library. Large numbers of students coming from secondary schools were overwhelmed by the layout and purposes of the various spaces in college libraries, and they were confused and intimidated by the proliferation of books and the complexity of academic library catalogs. They were also ignorant of the various bibliographic aids to knowledge to be found in the academic library, necessitating very specific instruction on particular tools and subjects. To remedy this, programs were developed for instruction at freshman orientation and other basic instruction levels. Course-related instruction was later developed by librarians as a logical extension of the library's role of supporting the educational programs of the college.

In the 1960s the theory and practice of library instruction were fully developed. Instruction programs were integrated into most higher education institutions, and they became a standard library service in academic libraries. The next monumental development in library use instruction came with the turn of the twenty-first century, when burgeoning information technologies enhanced access to information and opened a wide range of possibilities for library services and library

use instruction. Information could be accessed via various channels in addition to traditional library print sources, and library use instruction was no longer confined to the library building. Finding the needed information from authoritative sources became vital to the success of college students, and thus the focus shifted from library use instruction to information literacy in the US. There are various methods applied depending on the type of academic environment (e.g., community colleges versus universities), but all of these institutions have made it their mission to educate their users, making sure they have the skills necessary to survive in the information age.

It has been said that knowledge is power, and more importantly that the circulation of knowledge is part of the social distribution of power (Fiske, 1989). Universities in the US depend on knowledge in order to grow, and knowledge is not possible without access to information. The transmission of knowledge is the core mission of universities, and library instruction programs can provide the mechanism for that transmission – they foster information searching skills and understanding of information organization, allowing both to be transferred to students by librarians with the cooperation of the teaching faculty. As can be seen from the earlier sections of this chapter, change in American higher education has been a slow and gradual process. This has included library use instruction, and librarians must continue to observe and learn so they can work with teaching faculty to develop research strategies and bibliographic instruction that meets user needs – which often change more quickly than does academe. The explosion of information in the current age necessitates that advocates of bibliographic instruction and instruction librarians must evolve, becoming increasingly sophisticated in the planning, organization and management of bibliographic instruction and information literacy programs.

Academic libraries must support the educational mission of the higher education institutions of which they are a part. To accomplish this, it is necessary for librarians to tailor their collections and instructional methods to the furtherance of the curriculum and the institution as a whole. Teaching faculty can and should be a strong component of this, partnering with librarians to further instruction. In addition to everything else they are, librarians are also teachers; they provide one-on-one and group reference help, give library tours, and provide single session, general instruction as well as specialized instruction tailored to specific disciplines. All of this they do in person and increasingly online. Despite the varied methods for instruction and reference delivery and how they differ from institution to institution, the steps for the planning process

have not changed: recognize user needs; describe and analyze the present situation, including available resources; develop instructional goals and objectives; design appropriate methods and materials to meet those objectives; deliver the resulting instruction; and evaluate and revise that instruction according to what evaluation uncovers (Grassian and Kaplowitz, 2001).

In the current age, and doubtless for the future of instruction, effective use and incorporation of technology will be the key. The twenty-first century student facing librarians today is a far cry from those who saw the advent of library instruction in the 1820s. Technology is pervasive for them, and for instruction to be relevant to them, it must include the technologies they have so wholeheartedly embraced. Thus, librarians also must prove themselves proficient at using these technologies to transfer information and knowledge to those students. More importantly, they must teach students how to accomplish this for themselves, so they can become lifelong learners. Instruction librarians must keep current, and one way they can do this is to step back from the information melee – take the time to build relationships with other librarians and teaching faculty. Exchange ideas, assess what works and what does not, connect with others to gain new perspectives. Combining this with up-to-date knowledge of educational theory and technology advancements is the only way instruction librarians can ensure that the instruction they give is useful, effective, and necessary both now and in the future.

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2

Instruction in Chinese academic libraries

Zhengjun Wang

Abstract: This chapter focuses on library use and information literacy instruction in Chinese academic libraries. It emphasizes the part academic libraries and academic librarians in China have to play in information literacy given the current information explosion in the country, and the disparities to be found in user information literacy levels. Theory, methods, and content of instruction are covered, including traditional seminar and lectures, library use guides, and embedding instruction throughout the curriculum and within the online environment. The chapter ends with an examination of trends, anticipated futures, and recommendations for information literacy education in Chinese academic libraries.

Key words: Chinese academic libraries, library instruction, information literacy, bibliographic instruction.

Introduction to instruction in Chinese academic libraries

The twenty-first century is an era full of competition and challenges. Along with the rapid development of science and technology, librarians in China now find themselves in a time of knowledge-based economies and an information age, facing a much more sophisticated information environment than ever before. According to UNESCO's statistics, the accumulated knowledge of mankind in the most recent 30 years is about 90 percent of the total accumulated knowledge in human history, as

compared with the mere 10 percent of human knowledge accumulated during the previous thousands of years of human development. In his book *Megatrends: Ten New Directions Transforming Our Lives*, John Naisbitt used numbers to quantify the rapid growth of knowledge. According to him, the sum of human knowledge doubled between 1750 and 1900; it doubled again from 1900 to 1950, and doubled yet again from 1960 to 1965. Since 1965, human knowledge has doubled every five years (Naisbitt, 1982). By 2020, it is estimated that human knowledge will be doubling every 73 days.

The development of information has occurred at this rapid pace in recent years, but compared with some other countries, the development of information in China is still in its early stages. The China Internet Network Information Center (CINIC) published the *17th Statistical Report on Network Development in China* in Beijing in January 2006. According to the report, as of December 31, 2005, there were 111 million Internet users in China. The number of Internet users and the number of broadband users were ranked the second highest in the world (CINIC, 2006). However, the rate of Internet penetration was only 8.5 percent, showing that China had at that time failed to reach the world average level of 15.2 percent, with approximately 970 million Internet users. According to these figures, China ranked 41st in the world in 2006 (People's Daily, 2006). Thus, there is still room for information development in China.

Creating new products to further information development is not particularly popular in China for a number of reasons. Because of the high cost of Internet access, an insufficient number of information professionals, lack of laws regulating the information system, and lack of informational resources in Chinese on the Internet, the Chinese information system has not been fully developed. Information which the Chinese government considers to be harmful and misleading can be found in abundance on the Internet, which accounts for some reluctance on the part of China's government to promote certain types of information development. There is a certain amount of chaos in the information industry in China, and redundant information construction projects still exist at the lower levels as a result of lack of coordination.

There is also a large gap between urban and rural areas in information use, especially in the number of Internet users and the penetration rate of the Internet between urban and rural areas. According to the survey mentioned above, the number of Internet users in urban areas was about 91.686 million, with penetration rates as high as 16.9 percent; however, the number was 19.314 million in rural areas, or a rate of only

2.6 percent, in 2005 (CINIC, 2006). The number of Internet users in rural areas equals merely one-fifth of urban users and one-sixth of the Internet penetration rate to be found in urban areas. Geographical differences also exist. Because of their poor infrastructure and lower education levels, the western areas of the country are far behind in the process of information development than in the east. In 2006 the percentage of Internet users in the east was 57.8 percent, and the percentage of IP addresses in the eastern region was 62 percent, 1.6 times that of western areas; 78.5 percent of domain names and 79.95 percent of websites were from eastern areas, about four times more than those which originated in the mid-west (Xinhua News Agency, 2006).

The influence of information is increasing with the rapid development of today's information-driven society in China. Information, in return, can promote the development of economics, science, and technology. It is recognized as one of the most important factors in promoting the development of human society as well. Those who make full and effective use of information resources will also be pre-eminent in the development of science and technology in the world. With this goal in mind, education for the effective use of information has recently become a major concern in China.

Library information literacy instruction in China

As China entered the information age of computers and networks, there was an information explosion in the country. Fast-growing and more abundant information are features of the information age, and the importance of information can be seen as a primary factor in China's current societal development. Facing such an endless stream of new knowledge and information, it is apparent that only those with knowledge of modern information technology and a firm grasp of effective retrieval and methods of use for information can survive. Information has become one of the most important commodities in modern Chinese society.

In recent years, with the rapid development of computer technology and network communication technologies, the means for accessing information have changed beyond recognition. Two or three decades ago, information could only be retrieved via print directories, indexes, catalog cards and so on in a library, a process that could be very time consuming and complicated. Today, information retrieval can be

accomplished through a variety of approaches: by using databases or online resources, both of which may only take a few minutes. New technologies have made it possible for users to access the information they need conveniently and quickly.

With the rapid development of economy and society, there has been rapid expansion in human knowledge. Information technology reflects this; the update cycle is becoming shorter and shorter. A completely new information environment appears before users almost faster than they can blink. This proliferation of information technology is gradually changing the way of human life and interaction in China. Methods of education and learning are also changing. Information technology now figures widely in classroom teaching, daily living, and self-improvement. A knowledge-based economy and the globalization of information requires users to inculcate better skills for information retrieval and use. It is unsurprising, therefore, that information education has become a necessity in China, although only recently so.

In this era of advocating lifelong learning and the importance of knowledge and innovation, information literacy is essential. Learning to search for and use information, and learning to use the modern library, is especially important. Librarians, as educators, should remember the old adage that it is better to teach a man the art of fishing than to give him a fish. Teaching students to learn how to use information lays a strong foundation for their future lifelong learning. The library in China, as a place for collecting and disseminating human knowledge, is growing, paralleling the development of an information-driven human society. New technologies and new ideas must be applied to enrich the library and allow it to meet the needs of that society. It is not enough for a library simply to provide access to resources – it must instruct patrons in how best to find and use them.

Roles for academic libraries in information literacy instruction

As the information resource centers of universities, academic libraries should first focus on self-improvement in human and information resources, to strengthen the quality of information literacy education they can provide. The first step is building strong and relevant collections, which are essential for information education. Traditional libraries with no online access can no longer meet the instant information requirements of an increasing number of users. The fragmented infrastructure of

traditional libraries faces severe challenges in the current networked environment. Overall planning with relevant and rational distributions of space should be the focus for academic library physical spaces. In collection development, a balance must be achieved and maintained between "quality" and "quantity." Resources are collected in-depth with wide coverage, and academic libraries are promoted as knowledge portals rather than their traditional role as simply warehouses for books. Chinese academic librarians are actively adjusting the structure of their library information resources by expanding the collection of commercial electronic databases, increasing the collection of electronic documents, building databases in-house for special collections, accelerating online information construction and development, and carefully integrating and combining the physical library with the online library.

A digital library is a virtual library built on modern information technology, and they are invaluable because of the immense amount of information to which they provide access, which comes without time and space restrictions. The method of information storage in digital libraries is completely different from that used in traditional bricks and mortar libraries. As a result, information sharing is much easier to achieve in digital libraries than with tangible collections. When considering the construction of a digital library, technological capabilities and user needs are overarching priorities. In recent years, digital libraries have become one of the most important aspects of academic libraries in China. Actively promoting the construction of digital libraries within the academic library realm enhances the ability to organize information. An unavoidable corollary of this is that information literacy education must be promoted as well.

Library user education is one of the founding precepts of Chinese academic libraries, but the actual content of that instruction is a matter of continuous evolution, given that information infrastructures and library services are constantly changing. In the past, teaching students how to use indexes and providing general consulting services was the norm, and this is still a large part of library instruction, though indexing and services are often now provided electronically. In addition, information literacy education in Chinese academic libraries also focuses primarily on developing students' ability to efficiently find and use information themselves.

Over the years, the prevailing method for delivering library use instruction in Chinese academic libraries was the open lecture, given by librarians and attended by students voluntarily. The basic contents of the lecture usually included how to search for and use information. With the

rapid development of digital information, new and innovative modes of delivery are being explored. Syllabi and instruction contents must be adjusted in order to provide information searching skills and to raise students' information consciousness throughout the entire teaching experience.

Compared with traditional instruction, the goal of the new library use instruction is the same – to develop students' ability to search for information – only the tools have changed. Now, instead of teaching students how to use print indexes, librarians are focusing on the wealth of resources available through networked computers and handheld devices. The main content of the average instruction session now includes:

- an introduction to information technology, the concepts of information, Boolean searching, and an introduction to information systems and traditional search tools;
- an introduction to databases and network infrastructure, an overview of database systems, text-based databases, statistical databases, and computer networks;
- computer applications in information retrieval, and principles of computer information retrieval, automation for document storage, and information retrieval;
- networked and CD/DVD database searching, online retrieval systems, optical searching, and online search strategies;
- an overview of the Internet, the introduction and use of the Internet, Internet network information, the characteristics of the Internet, and major information retrieval tools;
- specific searches for Internet information.

As mentioned above, it is necessary for information searching and use instruction to be a part of the entire curriculum, from the teaching faculty to the library faculty. Integrating library use instruction into university courses is an effective way to accomplish this, and often employed in Chinese universities. Based on the information needed for a particular course, students are provided with subject-related search strategies, strategies which allow them to implement what they have learned into their class assignments and/or in other courses. To further this goal, online instruction software is often developed, or instruction on using information resources is embedded within traditional course management software.

With the rapid growth of information, the traditional way of handling information and resource allocation has had to be adjusted. Virtually

limitless information resources can be found online, but library professionals are needed to develop and organize this information. In addition to their various other duties, instruction librarians in Chinese libraries are finding that it is also necessary for them to provide navigation help and instruction for specific Internet resources. Providing various forms of reference services is another key point for library use education. Reference services are information services provided by library professionals using all kinds of resources, and they can flow through various channels to provide answers to individuals with information needs. In the past, the personal or phone reference interview was the only way for librarians to offer answers to individual information needs, but academic libraries are now vigorously developing multiple platforms to deliver digital reference services, including email, real-time digital reference service, and collaborative digital reference service. These kinds of digital information services can maximize the flexibility of information services in the library by allowing reference services to be accessed remotely.

Communication and cooperation with other departments on campus is also important. Information literacy education is time consuming and systematic work. It requires campus-wide planning, and should be pursued with the cooperation of other campus departments outside the library. The library must focus on information literacy education while, at the same time, carrying out a series of activities that promote information awareness. These can easily be accomplished in cooperation with other on-campus departments such as the provost's office, academic departments, the audiovisual center, and the computer center. This cooperation goes hand in hand with liaison services provided by library professionals. Notifying others on campus of the latest information developments and promoting subject-related services can further the success of library use education programs.

The current state of library use education

The 2010–2020 National Medium- to Long-Term Plan for Education Reform and Development proposed that the acquisition of critical thinking skills be integrated into the learning process and teaching methods in Chinese universities (Central People's Government of the People's Republic of China, 2010). These methods include heuristic teaching, discussion, exploring, and interactive teaching – all ways to stimulate students' curiosity, develop students' interests, and create an

environment conducive to independent learning. Great emphasis was placed in the plan on students' creativity and initiative. The concepts fostered by this plan emphasize student-centered teaching, using "research-oriented" teaching methods to gradually replace lectures so that students can conduct and learn from independent research in addition to the knowledge received from teachers and textbooks.

The *Beijing Information Literacy Index* (Council of Information Literacy for Higher Education of Beijing, 2009) outlined seven required competencies for college students. They were the ability to:

- understand information systems and the importance of information literacy;
- determine the depth and breadth of needed information;
- obtain information effectively;
- evaluate information and correctly use information;
- manage, organize, and exchange information effectively;
- use information for task performance effectively;
- use information in an ethical and legal manner.

As can be seen by the stress placed on these competencies, information literacy is essential for college students, and developing students' information literacy is a primary responsibility for academic libraries. According to the *2002 Academic Library Principles and Procedures* (amended version), conducting information literacy education, cultivating students' information awareness, and developing their information use skills is one of the five most important tasks for Chinese academic libraries (Ministry of Education, 2002). To further these goals, academic libraries are offering special information literacy training courses, though how these courses are titled and defined differs because the requirements for information literacy education vary from institution to institution. Though the final goals are the same and almost every Chinese university offers a course of some kind, information literacy education courses are often managed in different ways – as a required course in some universities and an elective one in others.

Library use education survey results for Shihezi University showed that only 21.75 percent of students knew how to use "advanced search" functionality when using search engines, and only 9.25 percent used Boolean logic operators; only 33.75 percent of students could generate key words; and less than half, 44.25 percent, could accurately express themselves during Internet communication. By contrast, an overwhelming

majority, 92.25 percent of students, were willing to share information with others. The results also indicated that 49.75 percent of students visited websites related to pornography and/or violence, and 36.5 percent made personal attacks on other people's comments on the Internet (Wu, 2005). This survey suggests that Chinese college students not only lack the ability to search for information effectively, but also cannot express themselves appropriately in an online environment, or screen that environment for inappropriate content. Their behavior was often unethical, and the ability to self-regulate was found to be weak. In addition, the comprehension and consciousness of legal ramifications were extremely weak among Chinese college students, and infringement of copyright and/or intellectual property rights was a serious problem – 62.25 percent of students never provided the necessary citations and references. The survey also demonstrated that 75 percent of students were not familiar with the basic principles of computer networks; and 16 percent were not familiar with the Internet, press, TV, brochures, CDs, and other formats of information sources. Survey results further showed that 74.25 percent of students realized that information resources have become a major factor in social development; 82.25 percent stated they were actively finding the information they needed; and 80.5 percent said they were able to evaluate the authority of news or reports on the Internet (Wu, 2005). These results would further indicate that Chinese students are often unaware of the basic principles that underpin the digital resources they most often use, and that the majority perceive themselves to be effective searchers and evaluators of information, even if this is not, in fact, the case. Instruction is, therefore, necessary in order to ensure that students' perceptions of themselves as information seekers actually mirror the reality.

Academic librarians in China realize that students' information literacy education cannot entirely rely on information literacy courses; information literacy must be incorporated into all kinds of library services. The library should purposefully plan an environment that fosters information literacy through every library and university service, assimilating the instruction into freshman orientation, assignments, projects, and theses. Libraries must also consider individual users – a one-size-fits-all model is not appropriate for library instruction. It must be realized that users have individual and sometimes disparate needs relating to information literacy. Accordingly, libraries must target specific audiences and tailor training to individuals with varying levels of information-seeking skill. As secondary education systems in China are test-oriented, the prospects for the success of information literacy

education for college students are not optimistic as it does not often fit this model (there is no "teaching to the test"). Therefore, designing appropriate educational methods and activities for students' progressive achievement is of the utmost importance.

Types of information literacy education

Academic libraries in China have a great deal of flexibility in the manner in which they can provide information literacy education. In addition to formal instruction seminars and lectures, they use display cases and exhibits, field trips, and even internships to further instruct users in information literacy. Guirong Yang and Furui Cai have also noted that reading salons and reading competition activities on topics of interest are effective ways to promote and increase students' desire for information literacy (Yang and Cai, 2006).

It has long been recognized that students have a greater chance to excel if learning is made interesting and fun. Lihua Zhao proposed embedded information literacy education as one way to offer students an enjoyable way to learn. By using library space to offer a wide range of services (e.g., establishing online bookstores, establishing reading tea bars and cafés, establishing audio listening and video gaming areas, and gym areas for recreational clubs), the library space is transformed into a one-stop shop for all student activities. Students voluntarily step into the library, and learning is effortlessly combined with other activities to make it a fun process (Zhao, 2011).

Embedding information literacy education with other activities is only one method Chinese libraries use. Information literacy education can also be embedded in the online environment students often inhabit by using such tools as open source software and plug-ins for Unified Modeling Language (UML), LibX, Internet Explorer, and others. For example, Tsinghua University Library embedded its collection resources into Google, and the Chinese Academy of Sciences Library and Peking University Library followed suit by embedding their collection resources into Baidu. In addition, instruction and training can be embedded in a personalized digital library home page, university departmental websites, websites for particular disciplines, social networking sites, bulletin boards, instant messaging tools, and more – all of which allow librarians to carry out information literacy education services in a networked environment.

Information sharing space, or information commons, is also used to further information literacy education in Chinese universities. Based on

human behavioral research, Fudan University Library designed an information commons for information literacy education by providing an integrated learning environment (in this case a multimedia group training room) for effective learning. Other formats and practices for information literacy education are also in use in Chinese academic libraries, including online training and curriculum-related information literacy education. Online training is one of the more popular forms of library instruction, and many university libraries in China provide information literacy courses through online platforms. Some examples include the online library information literacy course videos of Tsinghua University and Fudan University Library's Information Literacy Online lectures. Shanghai Jiaotong University has also developed a library online course. The library of Guangdong College of Pharmacy, like other Chinese universities, has chosen to use already available course management tools common in higher education, in this case the BlackBoard platform, to create information literacy courses.

Literature on information literacy instruction

More than 2000 research papers on information literacy education have been published in academic journals in China. Related monographs from other countries have also been translated into Chinese and published. The literature covers a wide range of information literacy research, including its overall concept, nature, features and significance, implementation, and the evaluation of information literacy education. The literature shows that changes have been made in most universities in library use education in order to introduce online information searching strategies rather than focusing on traditional print searching. The leading approach to library instruction is to use information technologies to their fullest potential to teach these skills. From the 1990s to the present, information literacy education has been carried out to various degrees in colleges and universities in China, but it is still in its infancy. The country has no national organization on information literacy education, and there is also no standard evaluation system. Information literacy education is relatively new, and computer technology education classes and/or document retrieval classes are often classified by mistake as information literacy education, when they do not cover anywhere near the related spectrum of information. Additional problems, such as lack of instructors, out-of-date textbooks, and ineffective teaching materials and methods, are also barriers to library instruction.

The significance of information education

Information literacy is the cornerstone for college students conducting research for their future careers, and for these students and the country of China to be effective in a global environment. Information literacy is essential for lifelong learning. Whether in college or an established career, with the requisite information skills, one will always have an advantage. In *The Fifth Discipline*, Peter M. Senge pointed out that, regardless of environment, information literacy is the only sustainable competitive advantage one can use to further a variety of goals (Senge, 1990). Information literacy is necessary for appropriate adaptation to the world's current information society.

In China, a term roughly translated as "informationization" is used to describe the process wherein social structure and economics are transferred from a tangible, physical base to a system that is knowledge-based. The physical base does not disappear, but information is added to it, built on it, until it changes into something new, with new applications, including in industry and social interaction. It is also a process whereby users are introduced to information and taught to better manage and use that information. In his book, *Powershift*, Alvin Toffler pointed out that those who have mastered knowledge and information can master the world (Toffler, 1991). The ability to locate information is one of the essential qualities one must possess – or risk being alienated or, worse, eliminated from an information-based society. Only those with the requisite information skills can better adapt to the development of information society and integrate themselves into the informationized knowledge society. In this way, those with information skills easily become the mainstream of society, and they are able to achieve self-development and personal satisfaction. Those without these skills are marginalized and left behind, outdated and obsolete, because they were not willing, or were not taught, to adapt.

Thus, since education, especially higher education, is ostensibly a base to prepare students for professions and to enter the mainstream workforce in professional capacities, information literacy education is an inevitable consequence of education innovation. Students must be information literate in order to function in society at the expected level. One of the fundamental tenets of higher education in China is the promotion of quality-oriented education innovation; information literacy education is one of the important components for quality-oriented education.

According to the statistics from the United Nations World Science Information System, the annual growth rate for scientific knowledge is 12.5 percent, with an even faster replacement cycle (Baidu, 2012). With this knowledge explosion, it is necessary for Chinese education to focus on critical thinking, a skill set built on information literacy education. The dissemination of knowledge in digital format requires higher education to pay special attention to information skills training. Information location, evaluation, and use must be emphasized. Information literacy education echoes informationization of knowledge and information dissemination, and information skills are one of most important components of real world success.

Information literacy education is necessary for self-improvement. In the information age, the cycle of knowledge replacement is continually being shortened; information becomes out of date very quickly. The conflicts between limited classroom teaching and unlimited knowledge development are increasingly obvious. Therefore, the key to effective higher education must include developing students' abilities to think and learn for themselves. Basic qualities must be inculcated, such as self-study ability, which is one of the most important benefits gained from instruction in information literacy. Cultivating students' self-study ability requires various methods and steps: students must be trained in how to collect, sort, evaluate, and use information independently. Only those who gain these information skills can be considered successful. This has been one of the main tenets of higher education reform in China, and information education is now emphasized as a major part of quality-oriented education. Information skills and abilities are developed through information literacy education. As a result, students with these skills have a virtually unassailable position in today's fiercely competitive environment – all because they can obtain and efficiently use needed information without regard to time and space limitations.

It is accepted in China that information literacy education is necessary for cultivating professionals and rejuvenating the country through science and education. In today's information society, technical innovation and the professionals who foster it are the main factors for winning what China views as a global competition. For this reason, great importance is placed on persistent innovation to meet the future challenges of science and technology. Former President Zemin Jiang has stated that innovation is the soul of the nation, the inexhaustible power source of the country's prosperity (Zhong and Wen, 2006). The key to this innovation lies in the production, dissemination, and use of knowledge and information.

The advantages of information education in academic libraries

The advantages of resources

The academic library is the university's information resource center. Over an extended period of time, they have built and accumulated a rich collection of resources, which fall under a wide range of disciplines and are professionally and systematically organized. With the rapid spread of digital publications, academic libraries have acquired a large number of electronic resources, multimedia teaching aids, and network resources. With a variety of resources and a professional system of organization, they are poised to meet the information needs of faculty and students, serving the teaching and research needs of the university, and expanding the breadth and depth of library services.

The advantage of information technologies

Well-equipped information technologies in Chinese academic libraries are necessary to provide adequate infrastructures for information literacy education. Most university libraries in China are now fully automated with networked technologies as well as advanced technological facilities. These libraries are key members of the campus education and research network. Their databases and resources are under an integrated management system, which provides a high level of modern organization and management for electronic resources. Therefore academic libraries are usually the first place on campus for the introduction of new technologies and promotion of new software. These promotions, in turn, provide opportunities for even better technological development. As the library often possesses superior technology to other entities on campus, placing the responsibility for information education with libraries in higher education institutions is usually the best way to guarantee this instruction has the benefit of the most reliable and advanced technologies.

The advantages of information professionals

The technology available is far from the only reason academic libraries serve as the logical choice for information literacy education. Aside from their technical resources, there are also the human resources they possess. Chinese university libraries employ a number of experienced professionals, who are specially trained in information science,

information management, computer science, foreign languages, and other relevant areas. They are acquainted with information organization, retrieval, and processing. In short, they are the ideal human resources for carrying out information education programs. There is also the benefit of experience – many senior librarians have been providing instruction and information retrieval classes for a significant period of time; they have seen trends come and go, are familiar with effective teaching methods, understand the needs of the students, know the language of information and information technology, and many also have in-depth subject knowledge. With the evolution of library science into information studies, some librarians have even acquired the ability to develop new technologies and new applications for existing technologies. For all of these reasons, library professionals are the best medium to bridge information and users by teaching information awareness.

The content of information literacy education

Information awareness

In Chinese universities, the basis of all information literacy begins with the concept of information awareness, which is defined as the internal motivation to use information systems to obtain needed information, including information sensitivity, and the ability to choose and digest information (Huang, 2006). Information awareness encompasses concepts of consciousness, judgment, and use of information, and is the first step in locating valuable information.

Information awareness is, essentially, a behavioral science, and has three elements: information cognition, information emotion, and information behavior. Information cognition is the most important. It refers to understanding a person's thought processes and comprehension of information and information-seeking activities. Information emotion refers to the effect of the information-seeking experience – not simply the emotions provoked by this behavior, but the multifaceted effects of this emotional experience on future information-seeking and use. Lastly, information behavior refers to behavioral trends that emerge when performing certain information-seeking and use activities (Huang, 2006).

Consciousness of information usually takes one of two forms: passive or active (Shu, 2008). It has been acknowledged in Chinese academic

libraries that most students are passive when it comes to information – they accept information from the social environment in a passive manner, neither evaluating it, nor actively seeking specific and authoritative information. Active information users, by contrast, are those who are information-aware; they take the initiative in developing information activities, educate themselves about changes in the information environment, and are thus better prepared to make appropriate information choices. These are the types of information users information literacy instructors want to mold.

Before one can achieve a certain goal, one must evaluate the distance to that goal, in this case identifying the strength or weakness of a user's information consciousness. This is usually done by comparing the user's knowledge of five standards:

- awareness of the function and roles of information and information activities;
- level of active experience (a user's sense of dependence, endorsement and support) of information and information activities;
- willingness to learn information needs and information tendencies, and whether the user can locate information in a timely manner;
- acting on the conscious need for information by actively seeking information resources to meet the demand;
- use of creative thinking to glean relevant portions from large amounts of information, and obtain only that which is valuable (Liu, 2006).

Once a user's baseline of information awareness has been determined by using the evaluation methods above, library and information use instruction can then help raise and develop that awareness, as well as create a greater demand for information and ensure that awareness remains persistent. To reach these goals, most information awareness education programs in Chinese academic libraries include the fostering of information consciousness, teaching understanding and comprehension of information dissemination methods, and how to keep abreast of the latest trends and updates to the information landscape, the value of information, and the key role information plays in Chinese and global societies. Information awareness education focuses on two main areas: understanding information science and stimulating awareness of information. Understanding information science includes the understanding of implications and characteristics of information; the functions and roles of information in social and economic development; types and characteristics of information sources; and forms, categories

and patterns of information communication. Stimulating awareness of information is usually taught by showing users how to analyze and identify information value correctly.

Information knowledge

Information knowledge is different from information awareness or consciousness. It is more closely related to the nuts and bolts of information systems, and involves the nature, features, and principal laws of information construction, information systems, and information technologies.

Information theory

As with a variety of disciplines, that of information literacy usually starts with theory and ends with practical application. Information theory is a vast landscape, encompassing educational and technological concepts. In general in Chinese academic library instruction courses concepts such as modern educational technology theories, instructional design, information dissemination, modern teaching theory, media theory, and others are covered. Because there is so much to be considered under the umbrella term of information theory, it is essential that academic librarians and information professionals have a matching skill set; they must understand the characteristics of information education and modern educational technology, as well as familiarize themselves with the latest developments in teaching and learning, recognizing dynamic forms of information dissemination and communication media. They must explore methods and modes of teaching design to best suit disparate audiences, ensuring that they comprehend the concepts being offered. In addition to general information theory, librarians also often cover concepts of information technology, areas such as sensor technology, network technology, communication technology, computer technology, and so on. Computer and network technology especially are at the heart of information technology, and therefore are integral parts of any information comprehension and use instruction.

Information systems and their infrastructures

An information system is complex – made up of hardware, software, and other parts, some with their own unique communication language. Each

part is constructed differently according to certain principles, which include digital principles (e.g., the relationship between information and data), digital representation of information, calculation of binary code, and conversion between decimal and binary code. All of these technological terms are essentially ways of describing the procedures, algorithms, and data which drive and make up information systems. How does an information system run a program? How and in what form is information processed into the information system in the first place? In the realm of information communication theory, what are the basic steps for information dissemination once it has been processed through an information system? What are the basic elements of information dissemination, and what are the functions of each basic element? What are the basic forms of information dissemination? What does the end informational product look like and how is it retrieved? All of these questions are addressed through the study of the infrastructure of information systems. In US library instruction, this type of in-depth analysis of the underlying concepts of digital information is often not a part of information use education; it is relegated more to the discipline of computer science. For most library use instruction, it is enough to know the basics of how, for instance, a database works, stores, and retrieves information; no in-depth study of technological concepts is usually made. However, these types of technological questions about how information systems are built are often considered in Chinese information literacy education, which is perhaps more closely linked with computer science than its American counterpart.

Information skills education

The key to development of information skills in academic libraries begins with instructing college students in collecting and selecting information and knowledge, and giving them the ability to map and use such information and knowledge. Developing information skills education usually focuses on fostering eight specific abilities. These are the ability to:

- use information tools (the skills for using various information tools, especially tools for networking);
- obtain information (the skills to collect information effectively using various methods such as reading, accessing, discussing, visiting, experimenting, and retrieving);

- evaluate the received information (skills for summarizing, classifying, saving, identifying, selecting, and analyzing information);
- abstract and paraphrase information;
- create new information based on the published information;
- add value to information (the skills to integrate information into the real world in order to maximize the utility of information);
- collaborate over information;
- evaluate information (Zhong, 2001).

Developing all of these information skills and abilities is usually accomplished through mastering four separate but simple concepts: using information systems, obtaining information, understanding information, and applying information.

Using information systems

Skills for using information systems are the foundation of any information literacy program. Once the user has been made aware of information and its infrastructure, the next logical step involves the use of those information systems. Information systems are now found virtually everywhere in today's information-driven society, and knowing how to use and operate information systems is essential. Before users can master the other steps towards the goal of full information literacy, they must grasp the fundamental concepts necessary for the effective use of information systems. Information system skills cover a wide range, and are bound up with the vagaries of technology; they include system installation, operation, maintenance and basic problem solving, and selecting, using, and/or developing appropriate software. A mastery of all of these skills is unnecessary for appropriate use of information systems – users do not have to know how to, say, install and maintain a library automation system in order to use a library catalog. However, if they are familiar with the basic concept and operation methods of a library catalog, teaching them how to use it to obtain the information they seek becomes a simpler process.

Obtaining information

Obtaining appropriate information requires that users first be able to recognize and delineate exactly what it is they need. They can then retrieve the information and collect it for use. All of these steps in the

information gathering process begin with information recognition, the judgments one makes about information's value based on one's experiences, reasoning, and even the tools used to locate information. In this area there can be great disparity between different users, since every individual's experiences are unique. Judgments based on experience can be affected by both the quantity and the quality of one's experience – and the result is varying degrees of accuracy in appropriate recognition of information. Judgment via tools provides an extension to that of experience, and involves the specific materials and/or equipment with which the user is familiar and proficient. One's experience is innate, but it can be expanded if it is lacking through a series of information education activities, which include teaching the user appropriate associations and comparisons of different types and formats of information, as well as how to analyze and comprehend different types of information.

Once the user's experience has been expanded, if necessary, information literacy educators can then work on methods for information retrieval. They must instill the ability to search organized and stored information purposefully by first identifying and then using the proper tools. In the past, this may have been a printed index, but in China's now digitally driven information environment, the focus is on automated information retrieval tools, usually search engines and database search features. Information retrieval is *the* most important ability necessary for successful completion of the process of obtaining information. It requires that one master both searching skills and search tools, a task that Chinese academic librarians are well suited to provide instruction in, given their training and experience. In the past, information retrieval in the traditional, manual manner, such as searching through print reference sources, was labor-intensive. With the development of computer and network technology, computer search queries have all but replaced former methods of information retrieval. What began as un-networked terminal searching has since evolved into the world of online searching and retrieval, allowing users to access information anywhere in the world.

Once this information has been retrieved, the user can then collect it for use. Sometimes this requires experimental design and conversion – not all information is located in the form in which the user needs it. Often, data must be converted to other formats or translated in order for users to glean the information they need. Specific technologies and systems are usually in place for this, but if not it is necessary to design them. Not until users have identified the information they seek, searched and retrieved it, and have it in a form which they can then utilize, is the process of obtaining information complete.

Information comprehension

Information comprehension occurs when the user is able to understand and recognize the value of information. These abilities are affected by one's knowledge structure and educational level, as well as other factors. In the field, information instructors use three different terms to define a user's ability to comprehend information: equal value, value-increased, and value-decreased. Equal value is essentially what the name implies: a user with the ability to correctly identify the meaning of the encountered information – basically a baseline when referring to user comprehension. By contrast, those with value-decreased information comprehension operate at a lower level; whether consciously or unconsciously, they do not fully comprehend the information with which they are presented, and this can be due to limitations either in knowledge structure (education) or cognitive ability. It can also be passive or active, based on one's attitude towards information. Lastly, there is the ideal mode for user operation: value-increased. Users who are value-increased in information comprehension use information based on creative thinking to accomplish their goals. Moving users towards a value-increased comprehension mode is one of the core goals of those instructing in information use.

Information application

When users comprehend information, they are ready to take the next step and apply that information – to process it, exchange or share it, and even create new information. In short, they are ready to use information technology – apply it to answer questions and further goals. Since information comes from outside the user, only those users with the ability to process information will be able to exploit it fully for future use. These processing capabilities include, but are not limited to:

- information classification capabilities to identify comprehensively information of all kinds, to understand how information is organized, and to understand the tools needed for future access (e.g., understanding certain data structures and various sorting methods for data can help in database system management);
- statistical analysis capabilities to take advantage of a variety of effective methods of mathematical and statistical analysis to gain reliable information;
- information restructuring capabilities to reorganize information for new results;

- information editing capabilities to edit the useful part of information for one's own information needs;
- information storage and access capabilities to organize and store information conveniently in the appropriate storage medium so that it can be accessed at any time.

Another important element in applying information is information exchange – or the ability to process and then share information with others. In the Chinese academic sphere, traditional methods of information exchange were mainly through oral communication, such as lectures and forums, or through document exchange, such as the sharing of books, periodicals, and other tangible resources. With the development of networked information technology, information via remote multimedia delivery became a reality. Since then, information exchange through the Internet has become one of the most important means of information sharing in China and the rest of the world. Information exchange includes a number of aspects, such as information regeneration. The ability to reconsider information and then provide new discoveries based on it is at the heart of information regeneration. An example of this concept is one used every day by public relations firms – discovering marketing needs based on survey data. Information regeneration, which is of particular relevance in Chinese universities, includes using ratings of faculty by students as evaluation tools. Another method of information exchange is called information loading – converting the information itself into informational products such as sound, text, and images. The final aspect is information reporting, which allows individuals to disseminate information in effective ways.

Successful application of information often results in more information creation – in the ability of users to generate new information based on analysis of existing information. This is one of the core concepts of effective information application, and considered to be the highest level of information application. It is an essential element of the research process – creating and disseminating results based on information collected and analyzed. Users who do this must first comprehend the basic information they have in hand and combine it in order to form common information laws. The information can then be transformed, shifted to other fields using these basic principles of information. Understanding and analyzing information from other fields is necessary to create new information, and individuals who do this are flexible in their thinking and dealing with information. This type of information application results in innovation.

Information ethics education

The process of information development, dissemination, and management brings with it certain ethical requirements, which can directly influence information development. A set of core ethical values is not innate; therefore, guidance is required, and values must be delineated in order to further a mutually beneficial information environment for all involved.

The development of information into its current state has brought with it not only technical issues, but also ethical issues. Technology is not the only scale used to weigh information; moral scales are also a part of the information development equation. While information is pervasive in China, a set of ethics to govern its use is less so. Information itself is neutral, but human behavior with regard to it often has an explicit moral (or immoral) value. Thus, the issue of information ethics cannot be omitted when instructing users on the information development process.

While this is not a uniquely Chinese problem, because of the Chinese governmental structure and the principles behind it, issues exclusive to China are engendered. In the management of information, there is a relationship between supervisors and staff members – between those who create information, and those who oversee it. Information ethics can act as a coordinating tool, a common ground of accepted behaviors that define these relationships. In China, ethics that govern the use and dissemination of information are considered helpful to the efficiency of information management, and also to the healthy development of the information industry. Information system managers have the responsibility of monitoring and controlling access to information. They have an obligation to deny unauthorized access to information systems. In addition, problems related to information security can occur for technical reasons, but more frequently occur as a result of irresponsible management personnel and irresponsible users. Therefore, in the process of establishing codes of ethics, enhancing information management staff's moral responsibility should also be considered.

Ethics must necessarily play a key role in information use and intellectual property. Information is a resource, and once developed, the individuals who developed it own the right to it. Any person who then uses it without permission or authorization may be in danger of intellectual property violation. This is not simply a legal issue, but also an ethical one. As a part of information instruction, users must be made aware of acceptable codes of conduct, instructed in ethical ways to use information. Like other ethical concerns in China, information ethics is firmly opposed to the idea of extreme individualism. This is a somewhat different mindset from that

espoused in the US, where individualism has always been a founding tenet of entrepreneurialism and innovation. Also, while intellectual property rights are a major ethical concern in the US as well, the general approach is to offer as little overall restriction of information as is possible, since transparency in government and sharing of information in general is viewed as important to a functioning democracy, economy, and society.

In China, by contrast, ethics are viewed as a flexible means of social control, especially as regards information. However, since there is no codified set of ethics on information use, the study of ethical concepts in Chinese libraries has not completely solved many of the issues encountered in the field of information. In the US, the concept of legislating morality has always been a thorny proposition, though some hard-line stances have been made, such as the criminal prosecution of those who deal in and view Internet child pornography. In China, legislation on information ethics is viewed as a deterrent against those whose own moral sense does not parallel that of Chinese society at large, or that of the state (arguably the same thing). In short, the threat of legal or state action is seen as a viable option to self-policing, which is viewed as ineffective. Therefore, establishment of information legislation at the national level could be on the horizon for China. In lieu of a current set of laws to regulate appropriate use of information, the adoption of certain accepted ethical practices could serve as a supplement until or unless such legislation appears. Ideally, a combination of legislation and a standardized set of ethics will be implemented to maintain order effectively in information studies, and to promote the development of a healthy information society in China.

The first step in this process is to incorporate education on information ethics into information literacy programs. In today's networked environment, all varieties of information are posted online, and information crime is inevitable. Establishing basic principles of social and moral standards for information usage, building students' responsibility for information, and cultivating their ability to make moral and ethical judgments regarding information use should be given priority in order to avoid unnecessary problems in future.

Modes and implementation of information literacy instruction

In China, learning is viewed as a privilege, and lifelong learning is encouraged. The Chinese learning environment emphasizes self-actuation,

placing responsibility for initiative and learning outcomes on students rather than on teachers. Learning, the process of absorbing information in order to build knowledge, is viewed as crucial to self-development, and therefore can be pursued in any venue and with regard to any subject or activity.

The key to learning is the ability to absorb information, which is why the development of this ability is one of the core elements stressed in information literacy education. Information literacy gives individuals the tools they need to be self-actuated learners. These tools include the ability to define information, retrieve it, evaluate it, create from it, and also use it as a tool for cultural understanding. All of these skills are taught in Chinese academic libraries' instruction courses.

Current information literacy instruction in China is often implemented in the form of either credit-bearing courses or one-shot instruction sessions. Though the level of depth varies (given the time constraints, one-shot sessions are necessarily less detailed than credit-bearing courses), all instruction practices focus on imparting the same basic concepts. First, they cover information retrieval and evaluation of resources in the physical and digital library environments. They cover the use of general reference tools, such as dictionaries and encyclopedias, in print and electronic formats. Perhaps the largest area of coverage in library instruction involves information retrieval using multimedia and online databases, the implementation of appropriate search strategies for these tools and general online supplements to them, such as Yahoo! or Google's search engines. In addition, instruction is given on not only basic information processing tools such as Microsoft Word and PowerPoint, but also basic information exchange tools such as email and bulletin boards. A cursory understanding of network hardware, software, and multimedia learning systems is also covered, with a look at information ethics to complete the session or course.

Different teaching methods are employed for these courses and sessions, such as constructivism and network learning theory. Constructivism acknowledges that students and individuals in general use a variety of constructs to make sense of the environment in which they live, which vary by individual. Teaching library instruction constructively involves immersing students in a particular environment (in this case, a library with all its informational tools) in order to give them first-hand experience and allow them to form appropriate constructs for the use of information. This can be combined with networked learning, which fosters communication – between students, students and teachers, and even students and resources – so that the overall learning

experience is furthered. In addition to these methods, some libraries have also ventured into the areas of self-inquiry and discovery learning, providing students with resources and learning environments that allow them to formulate and answer questions, which help them learn in a self-guided way.

As can be seen, there are a variety of theories and their resulting practices that can be applied to library use instruction. Thus, the way in which instruction is conducted in Chinese academic libraries likewise varies. Some common methods used to impart library instruction in China are described below.

Library use guides

With a plethora of resources and a finite amount of memory, students may find it difficult, even after instruction, to remember everything they are told about library use. Those who have not had any form of instruction can find it useful to find out about certain resources and services so they can use the library's information resources effectively. One way to accomplish this is through library use guides, which can be tangible (printed) or digital (online). What both formats have in common is content: library use guides provide help and directions for users in their attempts to navigate library resources for learning, teaching, and research.

Reading activities

In addition to databases and network information resources, books are still a main medium for information access in China because they are comprehensive, systematic, reliable, and informative. Thus, promotion of reading and reading-related activities is considered an integral part of library instruction in China. Many academic libraries organize reading promotion activities, and professors from across campus are invited to compile reading lists, which are then made available as part of instruction to promote students' professional and/or personal development.

Lectures and seminars

It is recognized that visiting lecturers who use the library can improve information literacy and learning in general. Accordingly, Chinese

libraries periodically invite famous scholars and professors, experts from various disciplines, to give lectures and speeches on a variety of educational topics. Attending these lectures is often incorporated into library instruction.

Fewer restrictions on reading room use

Academic libraries in China often have reading rooms, which usually hold current core periodicals, reference tools, and even special collections. Typically, they are not open to all students. Some reading rooms are open solely to faculty members, while others are open only to students within particular disciplines (e.g., there are reading rooms for students majoring in clothing or fine arts). Increasingly the idea is taking root that there should be fewer restrictions on these reading rooms and their resources, allowing for cross-disciplinary information-seeking and use. Creating new reading rooms or lessening the restrictions on current reading room resources will not only expand users' access to information, but also extend their knowledge structure beyond a particular discipline, thereby aiding information literacy instruction.

Using new technologies

University libraries can tailor their services to individual needs by taking advantage of a variety of modern information technologies, including search engine services, blogs, Web 2.0, and really simple syndication (RSS) subscriptions (a family of web feed formats used to publish frequently updated works). These offer users new and convenient ways of reading and researching. Accordingly, RSS is used by some academic libraries in China to provide news and interaction with their users, while blogs provide a simple online tool for information sharing. In addition, the traditional online bulletin boards, email, and chat messaging clients continue to be widely used in academic libraries in China.

Extension of information services to the community

As covered in more detail in the section on academic library outreach in China, though the typical academic library subscribes to a variety

of commercial databases, these can only be used by students, faculty, and staff members; there are no "walk-in" privileges, such as are found in the licensing for many US academic library databases. Alumni and community members are not eligible to use these resources. However, without affecting normal teaching and learning activities, Chinese academic libraries have begun to explore opening their doors to alumni and local community members by providing a variety of information services aimed at extending information literacy education off campus.

Trends, anticipated futures, and recommendations

Current challenges

The concept of information literacy education in academic libraries in China is comparatively new, and there is still room for development in educational theory and technology. Students' overall information competency at Chinese higher education institutions needs improvement. Many students lack the ability to retrieve and use information effectively when conducting research, which severely hampers their learning outcomes. This is particularly true of freshmen, whose information awareness ranks below that of other levels in Chinese higher education. A simple lack of desire to pursue information awareness is partially to blame for the disparity – freshmen, acclimatizing themselves to the new atmosphere of university life – often allow information awareness to fall by the wayside. Most seniors, on the other hand, have acquired a type of informational tunnel vision: they pay attention only to professional journals as the main channel for obtaining information on professional disciplines and trends, without actively attempting to acquire other types of information through other methods and tools. Consumed with the coursework for their particular discipline, the motivation to obtain information stays at the assignment or project level, and they have no desire to build personal knowledge in other areas.

Students are, in essence, completely ignorant – they have never utilized an encyclopedia, almanac, or any core professional journal. They have no awareness and understanding of the role and value of information. They lack the ability to formulate key words for conducting digital

information searching, and they have no idea about library information classification schema. They rarely accumulate information resources, and are unable to evaluate information. Although most students have some basic research skills, they do not know how to use the library effectively, and cannot find the information they need for their research. They are pervasively computer literate – but in the realm of online entertainment rather than research. Only a few students are familiar with library information sources. This minority can conduct research and access information efficiently using textbooks and library resources.

The explosion of knowledge occasioned by the Internet era has put all kinds of information in front of students. Because they lack instruction in appropriate practices and information filtering, there is complete chaos when students attempt to identify appropriate information for their research. Chinese students mirror issues encountered globally with the proliferation of sources such as Wikipedia – inaccurate information is a common problem in Chinese students' research, as they lack the ability to evaluate sources based on their authority. Copyright violations and intellectual property issues are also common, since most students do not grasp or have never been taught the core concepts of information ethics.

Solutions

This may paint a bleak picture of the state of affairs in Chinese universities, but those in the field of library instruction see it as an opportunity. Progress is being made, and there are achievements in information education in academic libraries in China, from increasing competency regarding the manual location of print information to an enhancement of students' information retrieval abilities using electronic tools. However, there is still room for improving information education. Instruction in information awareness, developing critical thinking skills, and information ethics education should be the focus of instruction programs in Chinese academic libraries.

One's information awareness directly affects the level of one's ability to use information effectively, and thus information literacy must serve as the foundation for students' current and future academic lives. Critical thinking is the heart of information literacy education. Developing students' critical thinking skills by training them to use information independently, effectively, and accurately enables them to integrate these strategies into their future research and daily lives. Students' information awareness can be raised by improving their ability to capture, analyze,

evaluate, and use information; all of this is accomplished through library instruction and various classroom activities which stress the importance of information. In this way, students are poised to make the most of information, and receive the highest level of benefit from it.

Introducing information ethics is also an integral part of the solution to current information problems. These ethical concepts can be illustrated by using real life experience and case studies to introduce the concept of fair use, as well as instruction on related legislation, which currently governs the legal ramifications of the use of certain types of information. Focusing on proper use of academic citations and related regulatory issues, such as emphasizing the restrictions on the number of and extent of electronic document downloads, are critical.

Reform

Reforms are needed to information literacy education. One area that could benefit is that of the methods used to instruct in information literacy. Integrating self-motivated learning and collaborative learning skills into the information literacy education curriculum is necessary to create a self-guided learning environment. Providing online information education packages, enhancing face-to-face library use instruction, and providing information education straight from the reference desk are all additional areas that should be considered.

Though it may seem a radical concept, reform of the entire academic library hierarchy is also sometimes necessary to further information literacy education. The focus on traditional library services such as cataloging and circulation should be eschewed in favor of concentrating on reference services and technical services. Technical services, far from being relegated to cataloging, should instead be responsible for creating the infrastructure of information for the Chinese academic library, including database construction and collection organization. Reference services should complement this by taking responsibility for instructing academic staff and students in how to use all aspects of the library.

Though the focus of this chapter has primarily been students, since they are Chinese academic libraries' largest constituency, information education is also needed for university faculty and administration. University administrators and library administrators are responsible for raising educational and learning awareness in education in the information age – even in those who are teaching students. Faculty members are the main impetus for education reform, and no information education

program is successful without their participation. If they are to assist, supplement, and complement library use instruction with information literacy concepts in their classrooms, faculty need the same continuous education and training as that for librarians. Only in this way can they keep up to date with new educational concepts, strengthen their information awareness, and continue to develop their information use skills.

Reforms are also needed in funding for information education. One of the advantages of using academic libraries as the platform for information literacy is the wealth of information resources they possess, which provide an ideal atmosphere for instruction in information use. Without sufficient funding, updates to information systems, the purchase of appropriate information resources, and information literacy education suffer. Seeking appropriate funding sources is necessary to support information education programs and further information educational theory and practices.

Lack of library resources is not the only area that can decrease the efficiency of information literacy programs. Creating a specific type of environment for information education is important to the enhancement of such education programs. This requires teaching facilities that meet certain criteria, incorporating the latest modern educational technology and information resources, and funding for the construction of these facilities. Teachers and students must be able to familiarize themselves with and adapt to the latest learning environments for the information age. Efforts should be made to create conditions that further learning in multimedia, networking, localization, and personalization. Creating these types of learning environments allows a shift from teacher-led information education to gradually enabling students to have individual and self-teaching experiences. Information education should know no time or space constraints, allowing personalized learning experiences with a variety of information content.

Evaluation

Information literacy is a necessary skill set for survival in a knowledge-driven society, and as has been established in the preceding paragraphs, one with many different aspects. In order to further information literacy goals, libraries and educational institutions must be able to evaluate them twice: before instruction to determine individual levels of information literacy so that instruction can be tailored to needs, and again after

instruction to judge outcomes. Only in this way can it be determined if learning outcome goals are being met, and instruction successful.

Scientific and comprehensive evaluation of information literacy can be performed in multiple forms utilizing a combination of dynamic and static methods. A variety of approaches is available, and which approach is used often depends on relevant standards and competencies for a particular aspect of information literacy. The aspects that can be evaluated include information awareness, knowledge of information, information abilities, information ethics, and information security. Information awareness not only reflects the user's sensitivity to and understanding of the importance of information about the outside world, but also their demand for information for use in decision making and practical problem solving. Information ability must be evaluated to determine an individual's capabilities and skills in information retrieval and access, information handling and organization, and information creation and application. It is also important to evaluate users' knowledge of information ethics, to determine whether they are aware of and behave ethically when accessing information. Likewise, students' level of understanding and recognition of information security threats must be assessed. This can be vital not only for their individual use of technology, but also for organizations, businesses, and the entire country, especially once they enter the workforce.

Table 2.1 details aspects and areas of information literacy education evaluation.

The future of library use instruction in China

Using information technology in library information literacy education is and will continue to be the key for the future of library instruction and research in general. While progress has been made, information literacy education reform is necessary, and should be made a priority for all those involved in library use instruction, from administrative to faculty levels. In today's networked information environment, traditional retrieval methods should be taught only for those resources which cannot be retrieved and utilized any other way (undigitized reference materials, often historical or primary source documents). For most research, however, methods must be adapted to the digital realm. Students must be given experience in efficiently searching and using digital resources; they can then borrow from that experience, add to it, and continue to grow as information users.

Table 2.1 **Areas and skills evaluated for information literacy education**

Areas (general)	Detailed areas	Skills and capabilities to be evaluated
Information awareness	Recognition	Understanding the importance of information literacy
		Recognizing the value of information
		Recognizing that using information is one of the most important ways to solve problems
	Attitudes	Willing to explore information of personal interest
		Willing to experience information and information-related activities
	Theory	Recognizing different information types and formats
		Understanding information access tools
		Taking cost and benefits into account when obtaining information
	Practices	Possessing basic knowledge of computers, networks, and search tools
Information ability	Extraction	Articulating information needs; identifying purposes for using information and generating research topics
		Selecting strategies and key words
		Determining retrieval scopes and steps
	Obtaining	Ability to obtain information via appropriate approaches and retrieval systems
		Ability to adjust search strategies if necessary
		Ability to extract, record and manage information
	Evaluation	Ability to refine information
		Ability to identify and discard false information
		Ability to evaluate the authority of information and sources
		Using information obtained for new research
		Disseminating information products and results in an effective way

(*Continued*)

Table 2.1 **Areas and skills evaluated for information literacy education (*continued*)**

Information ethics	Laws	Knowledge on information ethics and laws
		Legally acquiring, storing, and disseminating information
		Protecting public information resources, equipment, and facilities
		Consciously resisting harmful information
	Intellectual property	Knowledge of intellectual property
		Legitimate use of information products or outcomes
Information security	Alertness	Understanding the importance of information security
		Knowledge of information-related regulations and laws
		Knowledge of information security
		Knowledge of risks of information
	Approaches	Knowledge of securing information
		Knowledge of remedies for security invasion

As technologies change, information education must change with them in order to remain viable. New concepts and models of learning should be explored in online learning, resource-based learning, lifelong learning, research-based learning, and problem solving. In addition, national information literacy education standards for higher education need to be established, which should be supported by connection to current national standards for elementary and secondary education. Along with these standards, a mandate for information education to be a credit-bearing course in the higher education curriculum should be instituted, and these courses should be standardized, with consistent evaluation criteria. With cooperation from all interested parties in academia in China – library faculty, teaching faculty, library administration, and general administration – quality-oriented, effective information literacy programs can and will become the norm in Chinese academic libraries.

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Government publications in American academic libraries

Bethany Latham

Abstract: This chapter presents a historical perspective leading up to the current state of government publications in the US, including the founding of the Government Printing Office (GPO) and the Federal Depository Library Program (FDLP). The chapter covers the organization and statutory governance of the FDLP, as well as the processes and workflows pertaining to government information collections in US academic libraries. An emphasis is placed on collection management, public access, and the issues engendered by the transition from tangible to digital publication methods. Concerns regarding preservation and sustainability of government publications are enumerated, and trends, anticipated futures, and recommendations for government publication collections in US academic libraries are offered.

Key words: government documents, government publications, government information, Government Printing Office, Federal Depository Library Program, digital government information, collaborative depositories.

A popular Government, without popular information, or the means of acquiring it, is but a Prologue to a Farce or a Tragedy; or, perhaps both. Knowledge will forever govern ignorance: And a people who mean to be their own Governors, must arm themselves with the power which knowledge gives.

James Madison, 1822

A history of the Government Printing Office

The above quote, by the fourth president of the US, is a perennial favorite in the realm of government documents, and rightly so. The existence of the GPO and especially the FDLP are predicated on it. It is a matter for interpretation whether or not the current popular obsession with an imagined right to complete transparency in the mechanics of American government is an overreaching of this basic tenet, but regardless of one's view, this concept of transparency is another outgrowth of philosophies like that expounded by Madison. The notion is simple: the US, as a democracy, is governed by its people, through representatives who, for better or worse, the people themselves elect. As has been graphically illustrated time and again in American politics, an uninformed or misinformed electorate is a very dangerous thing. The people must educate themselves in general, but specifically about their government and those who populate it as leaders, in order to vote effectively – re-electing those who are a force for good, removing those who are not, and guiding the progress of their government. The Founding Fathers recognized this, and they saw a need to provide the voting public with appropriate informational tools in order to facilitate informed decision making. The GPO is the first link in this chain.

Public printing in America pre-dates the formation of the US as an independent country. During the British colonial era, the first printing press was imported from England, and America soon had its share of early newspapers. As an additional source of revenue, these newspapers often chose to print legislative and other types of governmental documents. This is another precedent set by the English – though far from a democracy, England still understood the value of disseminating certain governmental publications, and Acts of Parliament had long been printed there for distribution. As the revolution neared, the birth of the US as a country coincided with its first official government publication, known simply as "Government Document No. 1." This document was a broadside (a public notice) printed in Philadelphia, where the First Continental Congress met, and concerned the non-importation of British goods. The Continental Congress would hold fast to the idea of public access to governmental documents, even going so far as to make it a matter of US law – Article I, Section 5 of the US Constitution mandates that both the House of Representatives and the Senate keep a journal of their proceedings and publish this journal for general edification.

In the beginning, the fledgling US Government did not possess the infrastructure to print its own public documents. Accordingly, it invited proposals from independent printers who, not surprisingly, jumped at the chance to print congressional proceedings, acts, and laws. In 1794 alone, the US Congress allocated $10,000 for printing expenses (US GPO, 2011b), a not inconsiderable sum for the time. Thus, it comes as no surprise that when the new capital was established in Washington, DC, in 1800, printers settled in the new city in order to continue their employment with the US Government.

The methods these printers utilized resulted in long turnaround times and often inaccurate printings of congressional hearings and other public documents. There were those in Congress who felt these issues could be rectified if the government selected a single, reliable printing house to handle the entirety of congressional publications. Proposals to this effect were made, but were not implemented until 1819, when the House and Senate passed a resolution providing for each body to elect its own printer and to give these printers clear instruction on exactly how to execute print jobs, as well as set the price for their services. In this resolution can be seen the birth of the fixed-rate, low-bid contract system, which with slight modifications is still employed by the US Government for much of its goods and services requirements today.

As has often been the case in other areas, the implementation of this process proved a disaster for the US Government's printing system. Predictably, the position of public printer was highly sought after, and for an excellent reason. The US Government was capable of providing an unending stream of work, at a volume which could never be matched by private clients. There was also less oversight than with private clients, allowing printers to cut corners or overcharge with impunity. Printers who landed these government "elections" were guaranteed substantial financial profits, which only increased as the years passed. Congress's fixed rates for printing meant that, as technology advanced and they were able to produce more with less labor, printers reaped greater remuneration for a much smaller quantity of work. Also, practices that a private client would never countenance (e.g., immediately destroying plates so that any additional copies could be charged at the same rate as a new job) easily slipped through the cracks of a governmental bureaucracy. Meanwhile, the US Government leaked money like a sieve.

After decades of fiscal mismanagement, the House of Representatives finally appointed a Select Committee on Public Printing, which still exists today, in slightly altered form (the Joint Committee on Printing). This committee was tasked with investigating the printing situation and

reporting on fair and reasonable printing rates. The result was a series of laws passed in the 1840s calling for competitive contract pricing and a system of sealed bids. Like so much that occurs in bureaucracy, it proved a reasonable idea terribly executed, and resulted in the most exorbitantly expensive printing practices that had ever occurred in the US. The governmental solution to this was to create yet another layer of bureaucracy, a Superintendent of Public Printing. This superintendent would be a knowledgeable, impartial party, a "practical printer versed in the various branches of printing and bookbinding" (US GPO, 2011b, p. 7). This would provide an additional supervisory stratum to the Joint Committee on Printing, a well-informed individual who had no personal agenda, and could thus provide suggestions and guidance to streamline governmental printing, resulting in a more economical process.

Yet governmental printing still proved to be an insurmountable mountain of red tape and fiscal irresponsibility. Since the discussion surrounding the resolution of 1819, Congress had bandied the idea of a government printing office, a single facility from which all public printing would issue forth, but governmental printing demands had reached such a magnitude that selecting a single private printing house capable of serving all the government's printing needs was now an impossibility. There were also issues of uniformity. Inaccuracy in printing had been problematic from the beginning, but each printer also used different layouts, fonts, and other design elements, resulting in bodies of work whose aesthetics and quality fluctuated wildly from print job to print job. Perhaps most devastating to the system was the development of the all-too-familiar government kickback – printers began making monetary political contributions to those who could award them preference when it came to printing contracts. Naturally, the result was a corrupt and very partisan system.

After a great deal of less than gentle prodding from the electorate, Congress passed a bill in 1860 which provided for major reforms to the printing system. Perhaps most importantly, it would take this lucrative business opportunity out of private hands. In addition to having the Superintendent of Public Printing personally responsible for the execution of all governmental printing, it also charged him with the purchase of "the necessary buildings, machinery, and materials for that purpose" (US GPO, 2011b, p. 8). Provision had finally been made for a federal government printing office.

Though there was still plenty of room for building in the District of Columbia, the GPO had a short deadline to meet in order to be up and running on time. Accordingly, rather than reinvent the wheel and build

from scratch, the superintendent at the time sought to find an existing printing plant that could be modified to meet governmental needs. A plant, located in Washington, DC, and all its equipment was purchased. This office was the largest print shop in the country at the time, and employed approximately 350 workers. The US GPO was born.

For once, a governmental endeavor proved to be an immediate and lasting success. An efficient and cost-effective printing process helmed by skilled workers helped greatly reduce waste and graft. The quality and consistency of the printing product was another positive outcome. The practice of the superintendent being a presidential appointee was also permanently established – from the advent of the GPO until the current day, the head of the GPO is appointed by the President with the advice and consent of Congress. The title for this position was changed in the late 1860s, first to Congressional Printer and then to Public Printer. It was also established that, as it had been when conducted by the private sector, the Joint Committee on Printing would have oversight of all governmental printing. This, in effect, made it the GPO's official supervisory body. By the late 1800s, the GPO was the largest printer not only in the US, but in the entire world (US GPO, 2011b).

As the GPO grew, greater regulation of its goods and services was needed, and the Printing Act of 1895 was passed, greatly impacting its operations. This broad act set up a system of rules and regulations for issues such as the size of editions, rates of compensation, methods for training of apprentices, standards for paper and other supplies, and more. It also formally organized the GPO's hierarchy. It is the bedrock on which Title 44 of the *United States Code*, the statute under which the GPO operates to the current day, was founded. Not only did it give the GPO control over all other federal printing plants, but it also created what would become the position of Superintendent of Documents and placed it under the purview of the GPO. This, more than anything else, would have a lasting effect on the insurance of public access to governmental publications in the US, and the formation of the entity which is tasked with that enormous responsibility: the FDLP.

Origins and development of the Federal Depository Library Program

The US Government now had a well-established mechanism for the printing of its information, but the distribution of that information to the

public at large was something else entirely. Since the formation of the US as an independent country, a system had been needed to funnel governmental documents to the public efficiently. Initially, certain documents that were felt to be necessary for public examination (usually congressional publications) were distributed to certain designated entities, such as governors' offices, state legislatures, and universities. This distribution was rather random and inconsistent, as a special act had to be passed to allow for the distribution of each document. In 1813, a resolution was passed which provided for this to be done regularly, and "this was the statutory antecedent to what was to become the Federal Depository Library Program" (US GPO, 2011b, p. 21).

While the basic mechanism dates back to this 1813 resolution, the responsibility for distributing public documents changed hands constantly. At one time or another, the Clerk of the House of Representatives, the Librarian of Congress, the Secretary of State, and the Secretary of the Interior had all borne the responsibility for distribution. In fact, the initial establishment of the Superintendent of Public Documents position was completely unrelated to the GPO; it fell under the hierarchy of the Department of the Interior.

The responsibility for classification and distribution remained with the Department of the Interior, but the power actually to designate where the documents were distributed belonged, through laws enacted in the late 1850s, to congressional representatives, senators, and delegates. The disconnect between these designators and the Department of the Interior created a morass of public documents distributed with no rhyme or reason, and sometimes no distribution at all. Designators ordered copies of documents which languished on their shelves until those shelves overflowed, at which point the designators would funnel documents to their designated depositories. These depositories often had already received the same documents from the Department of the Interior and/or by direct distribution from individual printers. The lack of standards in titling of government documents made consistent cataloging and classification difficult if not impossible, further adding to the organizational quandary.

The Printing Act of 1895 remedied many of these problems. By tasking the Superintendent of Documents with cataloging and indexing, as well as distributing public documents, and then moving that position underneath the GPO, printing, classification, and distribution could now be handled from one central point. The resulting centralized system could more effectively classify and distribute public documents. Around this time, a classification system specifically for government publications was developed by one of the first librarians to work for the GPO, Adelaide

Hasse. This system would come to be known as Superintendent of Documents classification, or SuDocs.

This system of classification came just in time, for the process of printing was about to experience a revolution unseen since the introduction of moveable type. Up until this point, type had to be hand set, a process which took several minutes per line. With the advent of the Industrial Revolution, typesetting technology achieved automation through the introduction of monotype and linotype typesetting machines. This allowed for several lines per minute of type to be set, an invaluable advantage in time savings, as the volume of public printing skyrocketed.

Up until the end of the nineteenth century, government information had consisted primarily of congressional documents. Since 1873, the *Congressional Record*, a daily compilation of debates and proceedings in Congress, had been one of the core documents printed by the GPO. However, public printing soon expanded into a variety of areas outside the congressional realm, areas not envisioned by the Founding Fathers. This greatly affected the quantity of print jobs that issued from the GPO. As the government and its agencies grew, so did the types of information they wished to have printed – geographical data, scientific reports, demographic information, and much more joined the familiar congressional publications. Publications from the executive branch multiplied, influenced by a variety of factors. Franklin Delano Roosevelt's administration, with its focus on New Deal programs, produced a massive amount of paperwork (e.g., administrative orders and press releases), and led to a greater need for the GPO's printing services. This influx of executive documents resulted in the *Federal Register*, a sort of executive counterpart to the *Congressional Record*, which compiled all orders, rules, regulations, and proclamations of the executive branch into a daily publication. World Wars I and II also had a drastic effect on public printing as mountains of military-related materials (e.g., drillbooks, regulations, cards, maps, charts, posters, circulars, and orders) were necessary to fuel war efforts. All of these factors resulted in a government printing office that was constantly enlarging its capacities, including the foundation of satellite offices in major cities across the US, and producing an ever-increasing volume of public documents for distribution (US GPO, 2011b).

It is inevitable that the increase in printing of governmental information by the GPO would affect depository libraries. Until the 1920s, there was no mechanism in place for depositories to select what documents they wished to receive. Likewise, there was no system in place for these libraries to dispose of what they did not need. Instead, they were expected simply to take whatever the GPO sent them and to keep it in perpetuity.

This, naturally, caused a great deal of consternation for depositories as vast amounts of documents, many of which were of no value to their users, flowed down to them from Washington DC. In 1922, however, a bill was enacted by Congress which addressed this, and libraries were effectively granted selectivity – they could now choose which classes of government publications they wished to receive.

While the FDLP had its foundations in the Printing Act of 1895, it did not achieve the organizational structure familiar to its participants today until the 1960s. Given the quantity of governmental information for distribution and the relatively random nature of depository acquisitions up until this point, a hierarchy and explicit instructions for governance were needed for effective depository management. The concept of a legacy collection – complete collections of US federal documents kept in perpetuity for historical purposes – also needed to be addressed. With the goal of expanding public access, the Depository Library Act of 1962 established the FDLP as it still functions today. The Act made provision for legacy collections while creating a two-tiered depository system. This relieved some of the burden associated with being a federal depository library for most depositories. The result was a near doubling of the number of libraries willing to serve as depositories in a single decade.

Federal Depository Library Program organization and governance

The current FDLP operates under mandates provided in Title 44 of the *US Code*. This title addresses all issues having to do with public printing and government documents: it outlines the powers of the Joint Committee on Printing, covers every aspect of the GPO, and even deals with specific types of publications, such as the *Congressional Record* and *Code of Federal Regulations*. Chapter 19 of Title 44 concerns itself specifically with the FDLP. All of the mandates codified in this chapter of the title trace their roots back to a single piece of legislation: the Depository Library Act of 1962.

The Depository Library Act of 1962

The Depository Library Act of 1962 defined government publications, and this definition brought with it an expansion. Any publication that

was "informational matter which is published as an individual document at Government expense, or as required by law" was now mandated to be made available to depository libraries through the Superintendent of Documents (US GPO, 2009c, p. 1831). This effectively forced all government agencies to funnel their publications through the Superintendent of Documents. There were certain exceptions to this regulation – documents strictly for administrative or official use or classified publications were exempted. Everything else had either to be printed by the GPO or provided to the Superintendent of Documents in list form once a month. The Act placed the fiscal responsibility for the printing of these documents on the government agency or entity with which they originated – as required by the Act, they would be notified of the number of copies required to send to depositories, and this number would be printed by the GPO, with the costs incurred charged to the agency. By contrast, if the agency used the GPO for the original print job, they would not be charged for the additional copies; this would be covered by congressional appropriations for the Superintendent of Documents. This provision of the Act can be clearly seen not only as an encouragement to utilize the services of the GPO, but also as an attempt to prevent what would come to be known as "fugitive documents" – governmental documents printed outside the GPO, and of which the GPO was never made aware by the issuing agency.

The Depository Library Act also had as one of its aims the preservation of America's government information for future generations through legacy collections – depositories which would select all government publications and retain these publications in perpetuity. Obviously, many libraries were not equipped to manage a collection of this magnitude and complexity efficiently. Depository libraries within the FDLP also needed a hierarchy – supervisory bodies to help them with day-to-day administration and serve as a go-between for depositories and the Superintendent of Documents. Thus, the idea of a two-tiered system was instituted. This system would allow for two separate types of depositories. Selective depository libraries, while required to select and maintain certain key titles as a basic collection, would also be allowed to select whatever other government publications they wished. Within certain guidelines, they could also later remove these publications from their collections. This would allow them to maintain a current, useful collection which benefitted their specific constituencies. These selectives would, in turn, report to a regional library. Regionals, in addition to meeting all the requirements of participation in the program as a depository library, would also have additional mandates. They would be

required to select 100 percent of the publications produced by the GPO, and to hold at least one copy of each of these publications in perpetuity. They would also oversee the selectives within their purview, providing them with guidance and administrative assistance in the running of their depository operations. This would include inter-library loan, reference, and assistance with disposal of unwanted government publications.

In addition to providing for two distinct types of depositories, the Depository Library Act also had a significant impact on the number of libraries in the program because it changed the manner by which a library could become a depository. It increased to two the number of depository libraries that were permitted per congressional district. These libraries could be designated by elected officials, specifically members of Congress and territorial governors. Also, many libraries were designated as "by-law" depositories through this Act, which stipulated that land-grant college libraries, state libraries, accredited law school libraries, as well as the appellate state court and federal agencies, would all serve as depositories. These designations, unlike the two congressional designations, were designated by the Public Printer and Superintendent of Documents (US GPO, 2008a). Under these provisions, the number of depository libraries in the US quickly rose to more than 1300.

Another provision of the Depository Library Act would prove of great importance to depository libraries with regard to their selection process. Though they had been granted a modicum of selectivity through the bill passed in 1922, the 1962 Act resulted in the *List of Classes*, an invaluable tool for depository collection management and development. The Act specifically mandated that "the Superintendent of Documents shall currently issue a classified list of Government publications in suitable form, containing annotations of contents and listed by item identification numbers" (US GPO, 2009c, p. 1832). The resultant *List of Classes* offered a heretofore unknown cross-reference for government publications. Documents were now listed by and could be cross-referenced to SuDoc number, title, and item number.

This Act also supplied another mainstay of the FDLP: "The Superintendent of Documents shall receive reports from designated depository libraries at least every two years concerning the condition of each and shall make first-hand investigation of conditions for which need is indicated" (US GPO, 2009c, p. 1833). The result of this was what is

now known as the *Biennial Survey*, which is a list of questions sent out every two years to each depository library, which the depository is required to complete and return to the Superintendent of Documents. The corollary of this was the inspection process – a group of GPO inspectors sent to evaluate a library and determine its compliance with FDLP regulations – which has since atrophied. Finally, the conditions under which a library's depository status could be revoked were delineated. If the library's number of books, not counting government publications, was found to be less than 10,000 or the government publications the library held were found not to be sufficiently maintained as required by Superintendent of Documents regulations (including public access), the library could be warned of its non-compliance. If, after notification, immediate steps towards compliance were not made, the library could have its depository status revoked. All of the government publications received through the FDLP, as property of the US Government, do not belong to the library that houses them, and would thus have to be relinquished and redistributed to other depositories in the event of revocation of depository status.

The Depository Library Act also set up the system, still utilized, for disposal of government documents received by depository libraries. Before this Act, there had been no structure in place for depository libraries to remove government publications from their collections. Even with the implementation of the Act, government publications received through the depository program could not simply be weeded and thrown away at the behest of librarians or administrators. Instead, the requirements of the Act were that the document must have been retained for at least five years. After five years, it could be discarded, but only after being offered first to the selective's regional library, and then to every other selective in the state. If none of these libraries wished to acquire the publication and the regional library gave its approval, then it could be discarded. There were some exceptions to this disposal process, which the Act outlined. Duplicated and superseded documents – publications which have been revised and/or reissued so that the originals are no longer the correct version – could be immediately discarded. The disposal system as outlined would only be applicable to selectives, however. Regional depositories, by contrast, could dispose of superseded and duplicated materials, but would be required to keep everything else in perpetuity. This established them as the *de jure* legacy collections for information produced and disseminated by the US Government.

Government documents: organization and workflow in the academic library

Selection, acquisition and collection development

The process of acquisitions within the academic library environment has necessarily evolved with the introduction of automation into the library realm in the 1980s. The basic mechanism of library acquisition has always centered on collection development, and acquisitions librarians are seldom the only individuals who make selections for an academic library collection. Instead, this duty typically falls to subject specialist reference librarians, sometimes singly for individual subjects, and sometimes as a committee for the entirety of a library's collections. Some libraries also utilize collection development librarians whose sole responsibility is management of the library's collection. One dilemma academic libraries have always faced is to what extent to include the teaching faculty in the collection development process, and philosophies differ by institution (Evans, Intner, and Weihs, 2002). More recently, as libraries attempt to keep up with changing user expectations and provide the most valuable resources obtainable with limited budgets, many have turned to patron-driven acquisitions. These modified approval programs allow librarians to track what resources are being utilized (usually without the end user ever knowing) and buy resources accordingly. This purchasing can even be set up to happen automatically.

Government documents are a different animal from traditional academic library acquisitions in the US, however, and considerations for their selection likewise differ. The majority of documents are not found in the usual review sources, and managing them within the collection development realm can be problematic. One particular factor which must be noted is that government documents collections are often called on to serve different goals and user populations than other collections within an academic library. Every academic library should have a collection development and management policy, explicitly stating collection goals and methods for assessing whether or not the collection is meeting these goals. Government documents collections should be included in this policy and process. While most academic library acquisitions are selected to support the current and anticipated instructional, research, and service programs of the university, government documents collections must go a step further – they must also support the

needs of the community at large. This is not simply a goal an FDLP library sets for itself; depositories are federally mandated to collect, organize, and provide free and unimpeded access to government publications for the community they serve – usually an entire congressional district and anyone else who happens to walk through the front door.

It can be relatively simple to determine user needs for subject-based collections in the academic library; an eye to the curriculum and university programs, liaising with faculty, and noting user requests helps provide a picture of the resources the typical academic library patron considers necessary. Since government documents must serve the community at large, the scope is greatly increased. A knowledge of the demographics of the region in which the library is located along with current and anticipated trends in business and industry plus health and environmental issues and a multitude of other subjects is essential to providing a viable government documents collection that meets community needs.

Moreover, while traditional library acquisitions are most often selected by subject specialist librarians tasked with collection development and management in a particular subject area, government documents collections are interdisciplinary. Though some agencies may more or less correspond to a particular subject area, many do not, and there is no hard and fast way to separate documents into subjects for selection given how the GPO organizes them (by classification based on agency). Lastly, the data on expenditure versus use is usually a primary factor (in desperate times, it can be the only factor) in selection and de-selection of library resources, but government publications are received free of charge through the FDLP, making a cost-benefit analysis difficult. The publications may be free, but selectors must still ensure that the publications being acquired are useful. They must also take into account the fact that, while the publications themselves are free, the staff time and resources to process, catalog, and maintain them are not. This also assumes a library is a member of the FDLP and thus qualifies to select government publications for free in the first place. Many libraries are not members of the FDLP, and they still require government publications for their collections, so must buy them.

These libraries face an additional challenge: only a small portion of the documents produced by the US Federal Government are even made available for purchase. The GPO selects publications it thinks might be of enough interest to equal sale value, and proffers them through the GPO Bookstore – formerly a number of physical stores, but now an online marketplace (*http://bookstore.gpo.gov*). Those publications not sold through the Bookstore are only available to federal depositories or, occasionally, through direct application to the issuing agency. Libraries

that are not members of the FDLP can and do sometimes acquire government publications by buying them from the GPO, either through standing order or traditional selections following regular acquisitions channels. However, the most common way tangible government information is acquired in the US is through the FDLP.

Each federal depository library is required to have a depository coordinator who holds the credentials of a professional librarian, usually an ALA-accredited master's degree in library and information studies or a related field. Though input may be solicited from subject specialists and others routinely involved in collection development and management, because of the nature of the depository selection mechanism, the depository coordinator often serves as the *de facto* selector for a library's government documents collection.

The FDLP's selection mechanism is not particularly intuitive. Its basic precepts were developed at a time when government information was distributed in a single format (print), and before the advent of automation. While certain aspects of the process have since been automated, the basic process for selection has not changed significantly for decades. It begins with a system of item numbers. The very name would seem to suggest a number tied to an individual item, but this is not, in actuality, the case. Item numbers correspond roughly to agency publications through their Superintendent of Documents classification numbers – a classification system based entirely on issuing agency rather than subject, unlike other library call number systems. Some item numbers relate directly to a specific publication, but others denote entire classes of publications within a particular agency (e.g., "Department of Agriculture, Miscellaneous Publications"). This leads to a less than precise method of selection and also the question of how to know to which publication(s) a particular item number corresponds. To keep track of this, depository selectors use the *List of Classes*. This official listing of all publications available through the FDLP provides the item numbers, the SuDoc numbers to which these item numbers correspond, and then cross-references them with the publications they actually represent (the publications which are classified by any given SuDoc number). In this way, FDLP selectors can have at least some idea of what they may be getting when they add certain item numbers to their selection profiles. Still, the imprecision inherent in this system can result in libraries being flooded with publications they neither have a use for nor wish to retain. Selectors must, therefore, be vigilant in monitoring selections and quickly deselect item numbers that supply undesirable publications. Libraries are allowed to deselect items at any time, but until recently could only add items once a year during the FDLP Annual Update Cycle. In 2012, this was modified so that depositories could also add

publications year round – though the GPO essentially "holds" that request until October (the start of its fiscal year), which is when new additions take effect and begin to be distributed to depository libraries.

The selection mechanism itself is a web form where selectors enter item numbers for addition and deletion to their selection profile. A confirmation email is sent, and selectors can also view lists of selections and non-selections for their library and any other library in the FDLP through the Item Lister tool. All that is required is a library's depository number. All of these forms are available through the FDLP Desktop website (*http://www.fdlp.gov*), created as a portal for all things related to depository management (Figure 3.1).

Once selected, depending on format, government documents shipments can come from a variety of sources; print and other tangible formats are usually distributed by the GPO itself, microforms come from government contractors, and electronic resources, as detailed below, have no real distribution system at all.

As has been noted, the selection system for depository libraries was implemented when government publications were available in only one format: print. Since then, like other non-governmental resources, government documents have branched out into a variety of formats:

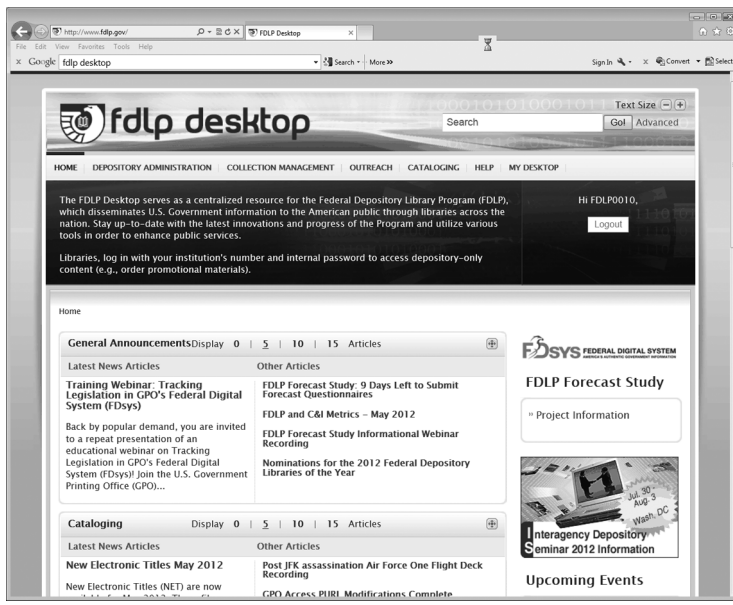

Figure 3.1 FDLP Desktop website

microforms, CDs, DVDs, cartographic materials, born-digital resources, and more. Over the decades, various suggestions have been made, mostly by the depository community itself, for changes and improvements to the selection, acquisition and distribution system provided by the FDLP in order to address the issues this proliferation of formats has engendered. Consultants have been hired at great expense to write white papers and provide input, various plans have been detailed, and a multitude of surveys have been disseminated. The end result has been, as is often the case when working with governmental bureaucracy, no change whatsoever. Perhaps the one nod to the abundance of formats now available through the FDLP is the modification of the *List of Classes* so that format is now denoted next to the title of the publication. Even this can be unreliable, however, for the *List of Classes* is updated yearly, and publications randomly change format spontaneously, are reclassed, or cease altogether. Agencies may also originally publish a document in one format, but then decide to offer it in an additional format, or change formats altogether. The GPO will then helpfully add these new or different formats to a library's selection profile without the library's solicitation or knowledge. In this way, it is possible for a library to select a publication in one format, but receive it in another or not at all.

The proliferation of one particular format, namely electronic resources, has had a profound effect on government information, and also created a host of issues with regard to selection and acquisition. As has been detailed, though classification systems differ, the workflow for tangible government publications is much like that for anything else the library adds to its collection: select, acquire, catalog, process, and add the item to the shelf. However, certain characteristics of electronic government information have necessitated a reconsideration of this process.

Digital government publications are offered for selection from the GPO through its item number system, just as are tangible formats, but the actual process of acquiring these publications is significantly different from their tangible counterparts. When a tangible publication is selected through the FDLP, whether it be in print or microform or some other form, that publication is physically distributed to the library; print shipments arrive from the GPO, microforms from government contractors, maps from the US Geological Survey, and so on. The point being, there is a physical document to be processed. Library staff can receive it, check it off a shipping list, stamp, catalog, label, and shelve it. The GPO creates catalog records for almost all the documents it makes available through the FDLP, and these records can be found in various bibliographic utilities, of which the Ohio College Library Center (OCLC) is the most prominent.

The GPO does not take the extra step of pushing the records it creates to FDLP libraries based on their selection profile. This makes it necessary for libraries to locate appropriate records on their own. Most do this through searching in OCLC or WorldCat, or by purchasing records for government information from a vendor such as Marcive. Others create original cataloging. The heart of the matter is that since the library already has the publication in hand, it is obviously *aware* that the publication exists and needs accompanying descriptive information.

For digital government information, there is no item in hand, and nothing to receive. Digital publications selected through the GPO result in absolutely no notification. A library adds an item number for a particular electronic resource to its selection profile; that resource is digitally published, but the library is not notified by the GPO that it is now available. No link is emailed, no Portable Document Format (PDF) pushed. Nothing happens. The responsibility rests solely with the depository itself to keep track of a digital document's publication, locate that document, and provide access to it. There are certain tools most libraries use to accomplish this.

Perhaps the most useful of these tools is the New Electronic Titles list compiled by the GPO. Using data mined from the *Catalog of Government Publications* (*CGP*) (Figure 3.2), the GPO generates a monthly list of the

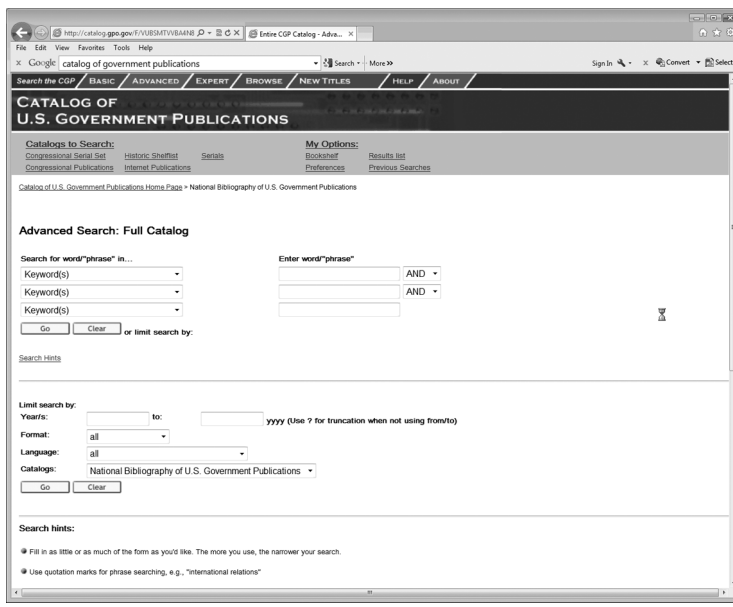

Figure 3.2 The Catalog of US Government Publications

new electronic resource records that have been created by the GPO and added to the *CGP*. Depository coordinators are notified each month through the FDLP-L listserv when this list is available.

Since most depositories are selective, many of these titles are outside a particular library's selection profile. While it would be extremely helpful for depository coordinators to be able to filter the New Electronic Titles list by their selection profile, this option is not offered by the GPO. Thus, to discover which new electronic resource titles selected by a library are now available, the New Electronic Titles list must be compared to the entire list of the library's selection profile. The library can then decipher what has been published within its selection profile, download the appropriate records, and add them to the library's catalog. The publication is then officially "acquired," and the library can provide access through URLs in the machine-readable catalog (MARC) records, by direct access via the library's website, or other methods.

In addition to the New Electronic Titles list, other lists can be generated by searching in the *CGP*. Canned searches for new electronic titles in the past seven days, two weeks, or three weeks are available, or users can set their own parameters by using the advanced search feature and limiting the time period. It is important to note that the New Electronic Titles list plus any of these searches performed in the *CGP* return reports solely on newly created electronic resource records – new titles. A great many government publications being released in electronic format are the result of format change, addition, or modification – they are not technically new. If new records have not been created for them, they show up on neither the New Electronic Titles list nor in related *CGP* searches. How, then, is a library to discover them?

The *Administrative Notes, Technical Supplement* (*ANTS*) was until 2008 printed by the GPO and distributed to all depository libraries as part of their administrivia. This publication was extremely useful as it provided an organized list of all changed records. If a publication was ceasing, it was noted in *ANTS* and libraries were thus made aware so they could close their records. If a publication was changing format, this also was noted in *ANTS*. Likewise, if a publication was being offered in an additional format (usually electronic), *ANTS* made this information available. Libraries could then provide access by adding URLs to their tangible records and/or selecting the item in the new format. However, the GPO discontinued the publication of *ANTS* in favor of a cumulative database known as WEBTech Notes (*http://www.fdlp.gov/collections/collection-tools/webtechnotes*) (Figure 3.3), a dataset that includes records from 1991 to the present, and is meant to be a dynamic database

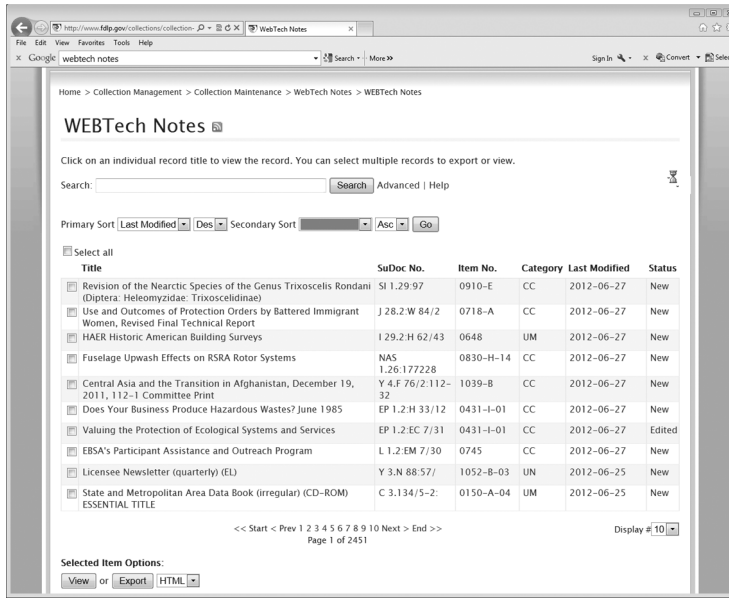

Figure 3.3 **WEBTech Notes database**

providing users with the most current administrative information about every GPO title. It is a laudable idea, which works extremely poorly in practice – replacing *ANTS* with WEBTech Notes has further complicated the management and acquisition of electronic government publications. Depositories must now run reports, limited by date, by searching in the database. This returns an unwieldy list of titles which, like the New Electronic Titles, has then to be checked against a library's selection profile, yet another time consuming and monotonous process. This step could be eliminated by simply providing a feature to filter WEBTech Notes database searches by selection profile, but in fall 2012 no such feature was on offer or planned for future upgrades.

Housing the collection, cataloging, description, and access

How academic libraries in the US choose to catalog and provide access to government documents varies greatly by institution. The workflow itself is influenced by the initial choice of how to treat government documents, about which there are two major schools of thought: integration or

separation. Many institutions have chosen the latter, to house their government documents collections separately from their main collections, simply because they find it easier from a descriptive standpoint. When a government document arrives through the FDLP, it comes complete with a SuDoc number on its accompanying shipping list. These classification numbers are also included in the records that the GPO's catalogers input into bibliographic utilities such as the *CGP* and OCLC. Most academic libraries in the US employ Library of Congress (LC) classification numbers to organize and shelve their materials. Government publications, however, are classified by SuDoc, and usually do not include an LC call number in their records, whether gleaned from OCLC or purchased from a vendor such as Marcive. Libraries that do not wish to take the additional time and effort to create LC call numbers and other descriptive information for government documents records must shelve them by SuDoc number. This requires that they be separated from the rest of the library's collections. There are other considerations in favor of this method.

As they are technically property of the US Government and there are certain mandates which govern their disposition, government documents must be handled differently from traditional library acquisitions. Each document obtained through the FDLP must be date stamped as property of the library's FDLP collection; they cannot be discarded unless the library has retained them for a minimum of five years and the entire disposal process has been completed. Many documents are also less substantial, in form and longevity of use, than traditional library acquisitions – documents frequently appear in pamphlet form, easily lost on regular shelves, and the information they contain may be intentionally ephemeral (e.g., timely consumer information or slip laws, which will be replaced by bound volumes). This results in documents that are superseded more often than traditional library acquisitions. Lastly, because of certain FDLP requirements, documents must be available for public access – not just to the library's patron base of university students, faculty, and staff, but to the community at large, patrons who may lack regular library privileges. For all these reasons, many libraries choose not to expend the additional effort it would take to maintain government publications within the library's regular collections.

While this may seem logical in that it provides an initial saving in time and descriptive effort, the end result is a collection that is under-utilized. Users browsing the main library shelves never encounter documents, and even when locating them in a library catalog may be intimidated by having to find an entirely new location (sometimes even off-site). By

integrating government documents completely into its collection, a library ensures them increased visibility and ease of use. This may require more time and effort expended in cataloging and maintenance, but the benefits to the end user and the collection easily justify the additional effort. FDLP mandates require that an accounting to the piece level be made of every document; it does not require a great deal of additional effort to extend this to affording the same cataloging and access a library provides for its regular collections.

In order to provide this type of access, depending on the format of the item (especially electronic resources), more than traditional cataloging may be necessary. Most American academic libraries currently catalog using *Anglo-American Cataloguing Rules 2* (AACR2) for their MARC records. AACR2 is in its death throes, however, and a new system is on the horizon: *Resource Description and Access* (RDA). Some RDA test records have already been loaded into bibliographic utilities such as OCLC by libraries testing the new system, but implementation is far from complete, and implementation dates have been repeatedly delayed. It remains to be seen what impact RDA will have on library catalogs in general, and the cataloging of government publications in particular. The GPO has stated that it will closely monitor the discussions surrounding RDA and the *Functional Requirements for Bibliographic Records* (FRBR) on which RDA is based, and will modify its cataloging practices accordingly. In fall 2012 certain steps had already been taken to pave the way for RDA by modifying the *CGP* in order to accommodate display of RDA information. The GPO has also stated that it plans to incorporate RDA into its cataloging practices fully by spring 2013 (US GPO, 2011c).

While the GPO and many governmental entities (e.g., the LC, the National Library of Medicine, and the National Agricultural Library) have moved to embrace RDA, individual academic libraries have proved less sanguine, but most cataloging work in most academic libraries is done through copy-cataloging – finding a record already input by another institution into a bibliographic utility (usually OCLC), downloading that record into the library's catalog, and modifying it to fit the item in hand and local practice. The GPO itself, through the bibliographic unit of its Library Technical Information Services division, is the primary producer of catalog records for government publications, and therefore, if and when it fully implements RDA, libraries in the FDLP that typically use its records for copy-cataloging will have no choice but to adapt as well.

There are several different ways libraries can provide access to digital titles, and most choose more than one access point. How a library chooses to provide access to its digital publications often depends on the format

in which they appear. Depositories are required to maintain a holdings record to the piece level for all tangible depository selections, but there is no such stipulation for electronic resources. Cataloging them is encouraged, but not mandatory. Those depositories that do catalog them can choose either the single- or multiple-record approach. If there are other, tangible versions of a digital title, the multiple-record approach involves adding a new catalog record for each format. By contrast, the single-record approach allows catalogers to add one record per title, and simply attach multiple holdings records to it to denote the different formats. This helps eliminate clutter in the library's catalog, making it easier for the end user to find resources.

Currently, according to AACR2 standards, electronic resource records require several additional and/or modified fields to that of their tangible counterparts. The GPO records for government publications generally include some standard fields other records do not, specifically a 074 (US GPO item number) and 086 (SuDoc number) field. Electronic resource records have undergone some changes in the past five years, which continue into the present. Formerly, these records included a system details note (538 field) to detail the mode of access (usually Internet from a particular website) and a field which noted the type of computer file or data which made up the resource (516 field). AACR2 has since modified this to allow for the addition of a 300 field (physical description), just as tangible publications have; this has more or less replaced the 516 field. It is, perhaps, belaboring the obvious to note that giving a physical description of something that has no physical form is somewhat illogical. For tangible publications, this is where information about pagination and dimension is found; for digital resources, it is used to denote format and can also include pagination for file formats where it is relevant, such as PDFs. In addition, since digital resources can be problematic to quantify through regular MARC fields, the 520 note is often included to provide a summary or additional description of an electronic resource's content. The recent modifications to electronic resource records within the structure of AACR2 reflect a "provider-neutral" approach, introduced primarily to make provision for the multitude of vendor-specific electronic resource records flooding bibliographic utilities. These records make it possible to create several different records for the exact same resource – the same title and format – only with the addition of fields which tie the resource to a specific database vendor or platform. This, understandably, creates a great deal of clutter and confusion, and it is hoped that provider-neutral electronic resource records will offer a solution to this problem.

Government information takes uneasy shelter under this provider-neutral umbrella – though the GPO is not a vendor *per se* and does not intentionally create GPO-specific records, the new model does affect the cataloging of government information. Under the new guidelines, any field that relates back to a particular provider (including fields such as the 074 in GPO records) should be removed. Common practice eschews this, however, since it is difficult enough to manage electronic government information without removing helpful identifying fields from the records.

Finally, all electronic resource records have an 856 field, which houses the URL. A "public mask" (the text that displays to the end user rather than the URL; e.g., "Connect to the Federal Register") is also often included in this field. The 856 field provides the end user with access to the electronic resource; with government publications, this access is usually provided through persistent uniform resource locators (PURLs). This persistent URL is essentially a redirect maintained through the GPO. Electronic resources are most often originally housed on the issuing agency's servers; the GPO assigns that resource a PURL, so when the resource moves location, the GPO can update the link through its PURL server and access is never lost. In fact PURLs are often far from constant – the GPO frequently fails to update the PURL when a resources moves addresses or, as is often the case, is removed from the issuing agency's servers altogether.

Though bibliographic records are the primary method of access for digital monographs and serials, not all libraries choose to catalog other digital resources available through the government, such as its websites. Either in addition to or in lieu of the library catalog, these resources frequently appear as links through library web portals and/or federated search engines. Databases and resources by subject pages within library websites are another popular method. Every FDLP library is mandated to have a web presence for government documents, and many libraries use this part of their website to showcase electronic government publications and resources, providing yet another portal to government information.

Collection management

The first step in collection management occurs before acquisition – with appropriate selection as part of a collection development plan. As has been mentioned, this is helped along by a library's typical collection management structure – which includes a collection management policy.

The FDLP goes a step further by offering some tools and essential titles lists that libraries should select, and these provide a good example of the types of government publications that can be found in FDLP libraries. The first is the Basic Collection. The titles that comprise the Basic Collection are what the GPO considers to be "vital sources of information that support the public's right to know about the workings and essential activities of their Federal Government" (US GPO, 2009a). This list was first developed in 1977, and it has been periodically updated since. While the guidelines on exactly how to provide access to these titles leave some room for local practice decisions, every depository library is required to have these titles immediately accessible for all library users. In addition to staples such as the *Congressional Record*, *Code of Federal Regulations*, *Federal Register*, *US Code*, and *Statutes at Large*, some other examples from this list include *American FactFinder*, *Budget of the US Government*, *Economic Indicators*, *Economic Report of the President*, *Public Papers of the Presidents of the US*, and the *US Government Manual*, which are described below.

American FactFinder

This database provides population, housing, economic, and geographic data gleaned from the information collected by the US Census Bureau.

Budget of the US Government

Issued by the Office of Management and Budget, the *Budget of the US Government* is actually a collection of documents including the budget message of the President, information about the President's budget proposals for a given year, and other related and supporting budgetary publications, which can vary from year to year.

Economic Indicators and Economic Report of the President

Economic Indicators is a monthly publication that provides information on gross domestic product, income, employment, production, business activity, prices, money, credit, security markets, federal finance, and international statistics. The *Economic Report of the President* is an annual report by the Chairman of the Council of Economic Advisers that offers an overview of the nation's economic situation through a vast amount of collected data on many of the topics included in the *Economic Indicators*.

Public Papers of the Presidents of the US

Begun in 1957, this publication is the official compilation of all the writings, addresses, and public remarks made by each president during his term(s) of office. It is important to note that, as the "official" record, this only includes the papers and speeches that were issued by the Office of the Press Secretary.

US Government Manual

This handbook provides information on all agencies of the legislative, judicial, and executive branches of the US Government. In addition, it also provides information on quasi-official agencies, international organizations of which the US is a member, and boards, commissions, and committees. This information usually includes a description of the entity, its major operating officials, a summary of the entity's role and purpose within the federal government, a brief history, and contact information.

Other collection management tools

Another collection management tool the FDLP offers is a list of Suggested Core Collections for Academic Libraries, divided by library type. Unlike the Basic Collection, acquiring and providing access to these titles is not mandatory. Rather, this list is made to serve as a guide that libraries can use for both collection development and evaluation of existing collections. This list was first disseminated to depository libraries in 1993 as a part of the now superseded *Federal Depository Library Manual*, and it is divided into core collections for academic, public, and law libraries. Since its creation in 1993, the list has undergone repeated revision, primarily to remove item numbers no longer available rather than add new item numbers.

These tools provided by the FDLP can be used not only for selection, but also for assessment purposes. Most academic libraries perform some sort of regular systematic assessment on their subject collections. This is necessary not only as part of an effective collection management plan, but also because academic libraries are an integral component of the program review process, and their subject collections must reflect certain levels of study for accrediting agencies and others tied to specific programs and the university as a whole. There are various methods used for assessment, from conspectus sheets to other, more holistic practices.

These are geared almost entirely towards traditional subject collections; assessment of government information collections is more problematic.

Challenges in assessing government information collections

The challenges in assessing a government information collection stem from a number of factors, not the least of which is that it differs significantly from a traditional subject collection in a variety of ways. Government information collections are interdisciplinary. They are, for the most part, materials received or available free of charge. Also, in some cases, these materials are not classified using LC call numbers. Yet another hurdle is locating bibliographies to use as checklists for assessment. While customary tools such as *American Reference Books Annual*, *Best Books for Academic Libraries*, *Choice's Outstanding Academic Titles*, and recognized benchmark subject bibliographies can be used for subject collections, none of these is appropriate to assessment of government documents collections. New resources must be found. All this can make performing an assessment on government information collections using traditional subject collection-centered methods difficult.

One way to address this, especially in the case of integrated documents collections, is the path of least resistance – simply to allow documents to be considered as part of and during regular subject collection assessments. However, if a substantive portion of these documents are classified differently (by SuDoc rather than LC number), they are left out of reports run and other traditional assessment methods, such as conspectus sheets. Perhaps the strongest argument for separate collection assessment of government information lies in the fact that these collections must serve a different purpose and additional audiences to those of regular subject collections in an academic library. The objective of any assessment is to determine if a collection is meeting set goals and fulfilling the purpose for which the materials were acquired, and the only way to determine this for government information collections is to assess them on their own.

The first step is to select appropriate bibliographies and benchmarking tools. If a library is a member of the FDLP, it must meet its mandates, so compliance with FDLP requirements should be a major component of any assessment. For this reason, several tools useful for assessment are provided by the FDLP itself. The FDLP Basic Collection and Suggested Core Collections for Academic Libraries, as mentioned above, are two such tools. There are also others: Essential Titles for Public Use in Paper or Other Tangible Format and Maps Available for Selection. Since the

FDLP also outlines minimal collection development and maintenance guidelines (found in the *Federal Depository Library Handbook*), these should also figure in assessment. Other valuable commercial sources include the *Guide to Popular US Government Publications* (Hoffman and Wood, 1997), *Subject Guide to US Government Resources* (Hardy and Robinson, 1996), and the seminal *Guide to US Government Publications*, published annually by Gale Cengage. Comparison of titles held with these sources provides percentages and can give a picture of what is missing from a collection.

Another major part of traditional collection assessments is a section on funding – specifically, the costs of acquisition for certain resources. With a government information collection acquired through the FDLP there is no such data; the items are received free of charge. However, in a time when space and personnel constraints have many in library administration questioning the value of continuing membership in the FDLP, a cost–benefit analysis as part of the regular assessment process can prove beneficial. Though not all publications produced by the GPO are available for sale, some of the most widely recognized and used ones are, and prices can be found through the GPO Bookstore's online search. A simple list of these publications and their cost, which is substantial, easily shows the benefit of depository status.

All this information (bibliography percentages, title lists, holdings counts, acquisitions and expenditures, electronic resources data, and so on) is usually compiled into a single descriptive document. This allows the assessor to view the collection as a whole, and with this complete picture to analyze its strengths and weaknesses. This evaluation, which is not achievable without the cornerstone of assessment, allows assessors to provide recommendations for improvement so that the collection can meet the goals set for it. For instance, if a perceived weakness of a government information collection is that it contains too many ephemeral and or redundant publications, a documents department can address this by aggressive adherence to a policy of removal of all superseded items, selection of resources in the single format deemed most useful, and replacement of ephemeral publications with electronic substitutes that are regularly deleted when no longer current. Another scheduled assessment (many choose a five-year schedule) can then show if implementation of these policies has reduced the number of ineffectual publications within the collection. Likewise, selectors will have no idea if a collection is lacking in retrospective resources unless it is assessed and evaluated. Once aware of this, they can modify their selections accordingly and attempt to fill gaps in the collection by utilizing needs

and offers lists. Evaluation is essential in guiding planning processes and future policies.

Public services

Once the collection has been selected, acquired, cataloged, and access provided, the focus shifts to the public services realm – to helping patrons find and utilize information the technical services staff has so painstakingly described. Public services librarians are less and less the gatekeepers of information, and more knowledgeable guides. The problem is not finding information, but wading through the useless data returned in search results to locate that which is actually sought. End users, especially in the academic library where they are primarily students, are increasingly technologically adept. Unfortunately, this does not necessarily equal the ability to complete their research successfully, as they lack effective search strategies, the ability to sort through what those searches return, and the judgment to know which sources are authoritative. There is also a lack of familiarity, especially in the area of government publications, with exactly what type of information is available, and thus knowledge of where to start looking.

This is where the government information specialist can be invaluable. How a library has chosen to structure its government information collection (separated or integrated) often determines the type of reference services offered. If the documents collection is a separate entity, reference services are typically provided by a government information specialist, but if the collection is integrated, it is frequently left up to general reference librarians to provide reference assistance for these sources from a general reference desk. This can be problematic, especially if supplementary training and education in the location and use of government information is not part of the reference librarian's skill set. Libraries often opt for a middle ground. Since FDLP libraries are required to have a depository coordinator who is a professional librarian, in addition to managing all depository operations, this librarian is often also tasked with specialized reference service for government information. Even if the position is located in technical services, the depository coordinator becomes the *de facto* government information reference specialist and must take on a role that traditionally falls within the public services realm.

Whether a librarian is a general reference librarian or a government information specialist, the GPO provides opportunities for training on

the location and use of government publications, as well as other government-information-related topics. One such opportunity is available through the Online Programming for All Libraries (OPAL) web-based system sponsored by the GPO. Both GPO staff and members of the depository community make presentations through this system on a variety of topics. The OPAL system allows FDLP participants to attend these sessions via the web and conduct interactive meetings in real time through voice chat, text chat, slide shows, and synchronized web browsing. These sessions are also archived, allowing users to take advantage of previous presentations. In the past, the GPO often sent representatives to state level meetings of depository librarians to train depository coordinators on the use of new resources. Owing to budgetary issues and staffing concerns, this system, like the inspection system for depositories, has atrophied. To fill this vacuum, library faculty and others can sometimes receive training from governmental agencies on the products they produce by directly contacting that agency. For instance, the US Census Bureau has various field offices, and offers local training through them and its Partnership and Data Services Division.

Another public services responsibility with regard to federal documents collections is that of promotion. As is true for any collection, if patrons are not aware of the collection's benefit to them, usage is greatly decreased. This is especially true of government documents, and promotion is essential to maintaining a viable government information collection. Luckily, the GPO provides perhaps even more aid in marketing their products than do most vendors. Various promotional tools and ideas are available through the FDLP Desktop, with the GPO even having developed various marketing campaigns over the years. The current marketing plan, released in the last few years, is "Easy as FDL." This plan's tagline succinctly outlines both the program and its goals: "Federal Depository Libraries: Free Information, Dedicated Service, Limitless Possibilities" (US GPO, 2008d). The plan includes various marketing strategies directed at particular audiences, as well as outlining the role of depositories within the GPO's marketing efforts. The GPO also provides promotional materials including stickers, posters, pens, folders, graphics, public service announcements, videos, and more. Every depository library is required to prominently display the FDLP symbol on its website and physical building, and these tools offer additional visibility. The GPO also highlights particular depositories by encouraging the celebration of depository anniversaries as well as spotlighting a new depository every month by profiling it and its significant accomplishments.

In addition to these promotional efforts provided at the national level, there is a variety of methods depositories can utilize to promote their collections at the local level. Listservs offer a quick and easy way to highlight new government information resources and programs, and these can also be promoted through the library's web presence and campus news outlets. Presentations on specific government resources at the university level (e.g., teaching sociology classes how to use American FactFinder for demographics research) and the community level (e.g., a presentation at the local Chamber of Commerce on small business resources) can prove to be valuable promotional experiences. Government information specialists may also find that opportunities present themselves for promotion of government resources to specific audiences through current events (e.g., presidential elections, disasters such as the Deepwater Horizon Gulf oil spill, and Hurricane Katrina).

The transition to electronic government information

The US Government could not fail to be affected by the rise of the Internet in the 1990s. This ushered in the concept of e-government information, with the GPO and federal agencies quickly adopting digital publishing practices. The embrace of digital information production by the US Government has greatly impacted those who use government publications, including and especially academic libraries. Recent figures estimate that federal agencies publish approximately 92 percent of all new information in digital format (US GPO, 2008c, p. 13:4), and this has necessarily affected depository operations in a variety of ways. The most obvious consequence has been a decrease in the number of tangible publications available through depository libraries. The reason for this is twofold: as the GPO has moved into the digital realm, it offers fewer tangible publications for selection; it is also a matter of user preference – even when tangible publications are available, many libraries are eschewing their selection in favor of digital alternatives.

As has been established, one of the requirements for depository libraries is that they have a designated depository coordinator to oversee operations and ensure that the library remains in compliance with federal mandates. This depository coordinator is required to carry the credentials of a professional librarian, usually in the form of an ALA-accredited library and information studies degree. Beyond this basic criterion there is no guidance given or requirement for a certain skill set for these

depository coordinators. They are a diverse breed, and can be found in public and technical services, sometimes simultaneously. As a result of the changing nature of the profession in general and the current financial situation in which many academic libraries find themselves, it is common to see those in library positions having hybrid responsibilities. Positions involving government documents are no exception.

It is increasingly the case that traditional depository duties and supervision are being melded with other position responsibilities, especially for reference and electronic resources. While government information specialists have traditionally had a niche in the public services realm, venturing into electronic resources territory is directly related to the rise of e-government information. Fewer tangible shipments are arriving, and the number of digital resources has expanded exponentially. While the basic selection process available through the FDLP may be essentially unaltered despite this shift in format, librarians have long realized that management of digital collections varies greatly from management of tangible ones. Accordingly, librarians who deal with government information have had to adapt by supplementing their traditional workflows and skill sets, adjusting them to meet the challenges of managing digital resources. This is in addition to any other position responsibilities they may find have been assigned to them in technical and public services. The result is a new type of depository coordinator, who differs greatly from the traditional "docs librarian" common before the advent of digital publishing. The coalescence of different responsibilities and the skills needed to meet them has resulted in title changes to reflect new duties and expanded roles. Titles such as "government information specialist" or "electronic resources/documents librarian" reflect the evolution of duties and types of materials in which government documents librarians now specialize.

While the end user may find digital documents quicker and easier to access and utilize than tangible government publications, librarians find them much more difficult to manage from the back end. As was detailed in earlier sections of this chapter, even determining the publication and/or existence of digital government information can be problematic. Once a library is aware of a new digital title or resource and decides to provide access to it, additional decisions about types of access must be made, and many libraries choose to use a combination of methods to provide as many access points as possible. This is further complicated by the fact that digital government information appears in a variety of forms. The most prevalent is PDF, but electronic government information also appears in the form of HTML pages, raster images of cartographic

materials and other GIS information, text files, Excel files, and others. These electronic resources represent monographs, serials, databases, and more. Libraries must determine the scope of their digital government information collections, for though they may be free to acquire, the staff time to catalog, process, and maintain them can be costly. The end user must also be considered. A great deal of digital government information is extremely focused and technical; a library must have a user base which needs this type of information to support collection at this level. If not, adding it to the catalog or library web presence only creates unnecessary difficulties when the end user must wade through it.

Thus, the advent of digital government information is a double-edged sword. On the one hand, it can be quicker and easier for the end user to access current digital information, and this fits in with the goal of depository libraries to provide authoritative, unimpeded access to government publications. On the other hand, the sheer amount of information being produced can leave end users frustrated in their searches and wallowing in a morass of confusion. Perhaps the most disconcerting prospect of this move to digital government information is its devastating effect on authority and permanency. Information available on the Internet is easily altered and here today, gone tomorrow. For a great deal of the useless ephemera produced and showcased there, this is no cause for concern, but this is not the case when that information is the official record of the US Government. Depository libraries find themselves in a complicated position when it comes to preserving access to the digital publications they have acquired as part of their government information collections.

Preservation of government information

Preservation of collections is an accepted part of the collection management process. With tangible materials, it is a relatively simple proposition. Decisions are made about what to weed and what to keep. In the case of selective federal depositories, this is no different for government documents, except that the publications (unless they are superseded) must have been retained for at least five years and approval granted before disposal can proceed. What is retained, according to federal mandate, must be processed, maintained, and preserved at the same level as other, non-governmental items in the collection. In practice this means that if a library has a policy, for instance, of binding loose periodical issues after a certain period of time or replacing damaged

volumes of a set, it must do exactly the same for items in its government information collection. Replacing lost or damaged government publications can be more difficult, however, because of the nature of the depository system. Many items are never available for sale in the first place, so buying them from the original publisher (the GPO) is not possible. Also, since the library did not pay for the item initially, there may be an additional psychological hurdle to overcome with library administration – they may not wish to pay to replace it either. Sometimes this problem can be addressed by locating the item through needs and offers lists – listservs and other postings where depositories advertise for items they need to acquire, or items they have that they wish to give away.

In theory, regional libraries would have far fewer preservation decisions to make than selectives – as they are required by federal mandate to select 100 percent of publications available through the GPO and keep them in perpetuity, the decision on what to keep and what to discard has been removed from their control. In addition to their duties as knowledge centers and administrators of selectives, these depositories are meant to be the legacy collections, preserving all US government information for future use. Yet, as is readily apparent with even a cursory overview of most regionals' collections, they do not hold anywhere near 100 percent of the government publications that have been published and distributed through the FDLP since they joined it. Why this is the case is less readily apparent, but it is obvious that somewhere, at some time, someone failed in his or her job duties.

Collaborative depository projects

There have been some attempts to address this, with one of the most recent and visible being a proposal by the Association of Southeastern Research Libraries (ASERL). More than 250 libraries in the southeastern US serve as depositories, and ASERL has developed a plan for a Collaborative Federal Depository Program. On its surface, the goals of the plan seem laudable: supporting improved access to depository collections, digital and tangible; promoting depository outreach, training, and education for all libraries in the region; and developing enhanced regional collections, including at least five "centers of excellence" representing complete collections for each federal agency (ASERL, 2011). It is this last goal which has proved, in practice, to be controversial and complicated.

Serving as a center of excellence would be voluntary, and the agency chosen would represent already held collection strengths – the system as envisioned is built on the foundation of existing regional depository holdings. These libraries would be responsible for actively replacing lost or damaged items, filling holes in the collection, providing preservation for the collection, and cataloging the collection to the item level. All of these provisions seem to be redundant as each one is already federally mandated for regionals for the entirety of their collections. That ASERL's plan states them outright in its outline implies that most regionals are not already complying with this. Regardless, as they are essentially an echo of the GPO's own regulations, the fact that the GPO might object to the program apparently did not occur to the program's initiators. ASERL is a consortium of academic libraries, not a government entity, and parts of the implementation as stated usurp the authority of the GPO. After viewing the implementation documentation, the Superintendent of Documents commended ASERL for its efforts, but notified them that certain provisions of the proposed implementation, specifically a disposition tool for needs and offers, did not conform to the mandates of Title 44 and the current *FDLP Legal Requirements and Program Regulations*. The resulting discussion between the GPO and ASERL libraries became confrontational and sometimes heated, with both sides arguing over the interpretation of statutes. In fall 2012 the GPO and ASERL were still working to resolve their differences.

Although, as the GPO has itself pointed out, centers of excellence are beyond the scope of the FDLP, they would seem to be an effective means for the provision of access to and preservation of tangible legacy collections. Whether or not they will have additional and unintended repercussions, if implemented, remains to be seen. What the program's initiators may not have considered is that their centers of excellence could be viewed by library administrators as an opportunity to abrogate individual responsibility. Selectives could lower their selection percentages in favor of referring patrons to centers of excellence. Many library administrators, especially in regional libraries, are less than favorably disposed towards tangible documents collections because of the large amount of space they occupy and the resources needed to maintain them. With centers of excellence established, these administrators may find the impetus they have been seeking to justify dropping regional or even depository status altogether. If enough regionals take this path and the centers of excellence do not then manage to fulfill their role as envisioned, legacy collections of tangible publications will greatly suffer. As the deficiencies already inherent in regional collections demonstrate, even the

threat of breaking federal law has not been enough to motivate some regional depositories to fulfill their obligations. That a comparatively powerless regional agreement would accomplish this seems doubtful at best.

Sustainability of digital government information

The most concern over preservation lies in the area of electronic government information. In fact, some government information librarians have evinced borderline panic over the situation, and repeated calls for the GPO to institute a systematic structure of preservation for federal government information have been left largely unanswered. Yet if blame for the current state of affairs is to be assigned, it lies primarily with government agencies, not the GPO itself. Since the original publication of Title 44, agencies have been required by federal mandate to publish through the GPO. This provides an official, centralized record, as well as a way to distribute these agency publications to depositories and ensure permanent public access. In fact, the GPO has neither carrot to persuade nor stick to compel at its disposal – it cannot *make* agencies comply. Since the inception of the FDLP, this has resulted in documents published by government agencies outside the purview of the GPO. The GPO has not been notified that these documents exist and therefore cannot make provision for their distribution, which can quickly result in total loss of access to the publication. When the primary publication format was print or another tangible form such as microfilm, the number of these fugitive documents was manageable. Government agencies needed the GPO to manufacture the item in its physical form; this was usually the most cost-effective way to have a document printed. Thus, there were fewer documents that fell through the cracks of the system and became fugitives. Born-digital government publications negate this need, however. For example, an agency can create a report and publish it through the agency's website – the agency need never notify the GPO or use its services. The GPO is therefore unaware of the document's existence and cannot funnel it (or access it) through the FDLP to the librarians who manage this digital government information and help provide the means for the public to find and use it.

The issue of fugitive documents goes hand in hand with an even greater concern, especially to depository librarians: the issue of permanency. The GPO has made steps towards preservation of digital government information, but these nascent efforts are far from effectual against the

tide of government information being created. With the advent of digital publication, an agency can now, as detailed above, create a document and publish it to the agency website, but more importantly can remove that document and even destroy it – ensuring that the public no longer has access to it. The GPO has no copy, federal depositories have no copy, and the publication is effectively lost. How can this be addressed?

The issue of sustainability of digital government information collections is a thorny proposition. It is directly tied to the question of a library's scope for its digital government resources – what the library chooses to collect, how it chooses to provide access to that collection, and most importantly, its provisions for *maintaining* that access. At the heart of the problem is the issue of responsibility. The GPO has traditionally placed the responsibility for the permanency of government information in the hands of the depositories – regional depositories are the *de jure* legacy collections for federal government publications. In the matter of tangible government information, this is easily handled by the regionals being required by law to select every publication in at least one format and preserve it in perpetuity. A selective may discard it, but in theory at least it will always be available through a regional's collection if it is ever needed. Though it does not appear to have functioned as intended in reality, there is at least this theoretical framework for preservation and sustainability of tangible government information.

In the case of digital government information, however, there is no such framework. There is more stability with government publications than with some other Internet publications because of the GPO's implementation of its PURL system, but the fact remains that, with few exceptions, the GPO does not host these publications; they reside on the publishing agency's server. The GPO neither caches them nor makes provision to preserve them – it simply provides the links to them, and attempts to update the links if and when the publication moves. The situation is duplicated at the depository level, where access is also provided through links in a catalog or on a library website. The publications themselves are not migrated to a library server, and no one backs them up. The most that many libraries do is run a periodic URL check and, if broken links are found, notify the GPO so that it can attempt to redirect the PURL. If the publication has disappeared from the issuing agency server, access is lost. All of this also assumes that what one is attempting to preserve is actually a discrete publication. Much government information is contained in HTML or other scripted pages – the agency's website *is* the information. Web content is designed to be dynamic, and each time a page is changed, information is irrevocably lost.

Attempts at preservation have been made, because the impermanence of information that is, essentially, the US historical record is a disconcerting conundrum. So far, none of these efforts have met with unqualified success. During the first decade of the 2000s, the GPO began a pilot project to test the efficacy of using Lots of Copies Keep Stuff Safe (LOCKSS) software in an attempt to preserve digital government information. It was originally developed for the preservation of e-journal content, and libraries had been experimenting with this software on their own collections. The GPO thought it might meet the needs of digital preservation for government information. It does have some features which would seem to recommend it: the free software can run on a typical desktop PC, so no major hardware is needed. The software works by making multiple copies of a single piece of information; it crawls the network to look for lost data and will select uncorrupted copies to replicate at each linked site. The idea is that in the event of a catastrophe which destroys most sites, at least one would survive with a full copy of the archive intact. However, although the software is free, there is a tiered annual fee to be a member of the LOCKSS Alliance, a fee beyond the means of many libraries. Also, what LOCKSS creates is a dark archive – it is used only for preservation purposes, not access. As a result of the complication of actually setting up and maintaining a LOCKSS network, and the overall cost, the outcome of the pilot project was a rejection of LOCKSS as a method of preservation for digital government information (Latham and Stevens, 2011).

Other methods of preservation have been employed, although they are neither long term nor comprehensive. OCLC's Digital Archive (*http://www.oclc.org/digitalarchive*) is one such method. Libraries use this subscription-based service to store information, and the GPO has joined them by utilizing it as a digital archive for some government publications. The GPO is essentially paying for off-site storage space – housing digitized government information on OCLC's servers does provide some redundancy and thus a modicum of security, but this still does not offer widespread permanency of government information; only what libraries and the GPO select to store in the archive will be preserved. A web harvesting feature is available, but the parameters for selection of what is stored on OCLC's servers still has to be set; the software has to be told what to harvest so it can crawl the web, create metadata for what it finds, and upload it to the relative security of the Archive. The Digital Archive is also not without cost – since it operates on a tiered system, the more content a user wishes to store, the more cost is incurred.

The Federal Digital System

The GPO is not without its own in-house preservation efforts. Since the 1990s, the GPO had managed its web content through GPOAccess, essentially a web portal. In 2008 it released the Federal Digital System (FDsys) (*http://www.gpo.gov/fdsys*) (Figure 3.4).

This system would not only replace the GPOAccess legacy system, but also enable the GPO to manage its digital information more efficiently and completely through a variety of new features. Whereas GPOAccess was developed primarily as a portal, FDsys is meant to provide a one-stop shop – as described by the GPO itself, it is a content management system, a preservation repository, and an advanced search engine. The system allows government agencies to submit files and orders electronically to the GPO for printing, publication, digital distribution, and inclusion in the FDLP. Aggregating this with the content migrated from the legacy system and funneling it through the single FDsys portal is intended to make for more robust searching capabilities than those of GPOAccess. FDsys is also meant to help address the problem of authentication through version control. While preservation and permanency are the main points of concern in digital government information, another issue

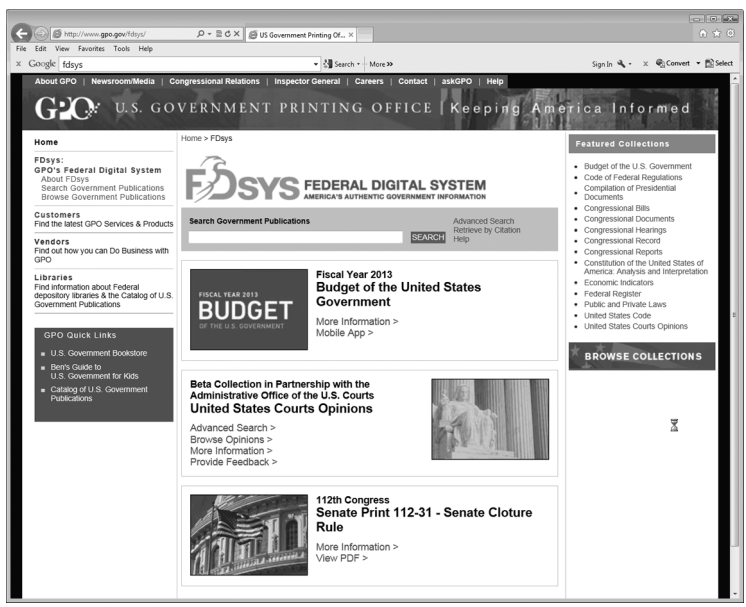

Figure 3.4 The Federal Digital System (FDsys) website

is that of authentication. Digital information is much more easily altered than tangible, especially in the environment of the Internet. Sometimes this alteration is deliberate and malicious (hacking, forgery, and so on); sometimes it is simply the nature of the digital system: an agency may digitally publish a version of a document, realize something needs to be revised, and publish an updated or corrected version – but the original version still exists, with no indication that it is not the final product. The version control built into FDsys is intended to address this issue, providing the final, authorized version of a document. Other GPO authentication safeguards include digitally signing PDF documents; the GPO uses a digital certificate to apply digital signatures to government publications. These signatures can then be checked by the end user to verify a document's authenticity.

But what of the GPO's claim that FDsys will serve as a preservation repository? What exactly does this mean? In fact the GPO does not explicitly state how this is to be accomplished or precisely what role FDsys will play, only that "the preservation function of FDsys will ensure public access to government information even as technology changes" (US GPO, 2012b). So far, this seems to involve migrating and housing certain collections (e.g., the *Code of Federal Regulations* and the *Congressional Record*) within FDsys. In fall 2012 there were 42 distinct collections currently in FDsys, with varying years of coverage per collection (e.g., the *Code of Federal Regulations* is available from 1996 to the present). The addition of new collections is ongoing, but no information is available about strategies for migration or preservation if or when formats or other conditions change. With the vagaries of federal funding, it is uncertain that, even if FDsys's preservation mechanisms are fully implemented, they will be sustainable – all it takes is one cantankerous Congress to slash appropriations and, without the support of adequate funding, FDsys will collapse.

Whatever potential for digital content management and preservation FDsys possesses, it is obvious that the GPO would still prefer for depository libraries to shoulder at least some of the burden of preserving digital government information. To further this end, the GPO has proposed the concept of digital deposit, and attempted to determine how depository libraries would react to this. The idea is essentially the digital version of what depository libraries already do: they would house copies of digital government publications on their own servers, or otherwise be responsible for storing them. While this sounds relatively simple, no mechanism for how this would work in practice has yet been proposed. Publications could be pushed from the GPO to depositories, or

depositories could be required to initiate and complete the process entirely on their own – by locating, downloading, and saving digital documents. As can be imagined, these proposals have met with a less than enthusiastic response from an already over-stretched depository community. Recent biennial surveys indicate that most depository libraries are unwilling to participate either in digitizing government information, or in preserving government information currently available in digital format. While libraries may feel that these are worthwhile endeavors, they lack the resources to pursue them. There can also be a disconnect between the priorities of the depository coordinators who actually manage the collections, and the administrators under whom they serve, who may not see government information as a priority for resource allocation. Addressing the federal government's digital preservation problems is seen as neither within their purview nor their budgetary and staffing constraints. The need for preservation is recognized, but shouldering the burden of responsibility for that preservation is a conundrum yet to be resolved.

Trends, anticipated futures, and recommendations

The FDLP and the system of government information access and preservation it represents has been in operation for almost 200 years, but its future is by no means certain. The advent of born-digital content has fundamentally changed the way government information is produced and disseminated, as well as how it is collected and used. The GPO, federal agencies, and the FDLP have been hard-pressed to adapt to this new environment, and it has resulted in a reduction of the number of libraries participating in the FDLP. This attrition is due to a number of factors, including, but not limited to: budgetary constraints, staffing issues, and the perception of the FDLP as no longer being necessary. A presentation given at a Depository Library Council meeting in 2003 detailed four distinct eras in US government information: the formative era (1895–1922), the selective depository era (1922–65), the expansion era (1962–88), and the electronic era (1988–present) (Ahrens and Griffin, 2003). Charting the ebb and flow of the significant events occurring during the last two periods and how this has affected the number of libraries in the FDLP reveals some disturbing trends. The system experienced growth, sometimes steady, sometimes bordering on

stasis, through the first three periods, right up to the advent of the electronic era. The first government document to be released in electronic format appeared in 1988 (a CD-ROM of census materials), and with it the first signs since the foundation of the program that depository libraries would be required to fundamentally change their role. As the 2003 study notes, the shift happened much more quickly than the FDLP system was built for, or could handle. While legislation furthering the concept of e-government passed quickly, no legislation to change the FDLP in kind accompanied it, and none has since been forthcoming. The result has been that libraries have left and continue to leave the FDLP in significant numbers.

In the past, libraries that left the FDLP most often cited diminished use as the reason for their withdrawal, but this no longer seems to be the deciding factor for most libraries. Use of government publications is on the rise, but libraries are still withdrawing. They cite lack of funding and staffing considerations as their main reasons to drop out of the FDLP, and secondarily the proliferation of government information available electronically. Also, serving as a federal depository was formerly viewed as somewhat of a status symbol. This perception has since eroded, with depository status now frequently being viewed as a burden by administrators who do not wish to expend the human and financial resources necessary to conform to federal mandates.

The solution is not simple, but in general seems to present itself in the form of modifying the role of the FDLP, rather than changing the overall goals of the program. The FDLP's foundational goal has always been to provide permanent public access to authenticated government information. This goal is even more essential in the digital age. Yet how academic libraries and the FDLP further this goal requires a rethinking of the traditional role of depositories – even the very name, defined as a place where something is deposited or stored for the purposes of safekeeping, may soon be obsolete. Unless the concept of digital deposit grows in popularity, a circumstance that seems increasingly unlikely, then deposit and storage may one day cease to be depositories' primary role. They can, however, serve as safekeepers of *access* to government information, whether within the FDLP, some as-yet unrealized successor, or entirely on their own. Government information librarians will find that they can no longer function merely as gatekeepers. They must become facilitators, offering their expertise and familiarity with a distinct and unique subset of reference sources. Government information in the US has always been freely available; the Internet now makes much of it freely accessible; and yet the inherent difficulty in locating what is sought

has only increased with the landslide of information. This is where government information librarians can prove invaluable: by educating users on what is available, teaching them where and how to look so that they can find what they need and successfully utilize these often complicated resources.

Government information librarians will also be forced to consider and possibly rethink their role in the preservation of government information. The most logical course of action would be for the GPO to collaborate with these librarians within the FDLP community to preserve and promote access to the resources federal agencies have proven themselves incapable of managing long term. To this end, numerous discussions have ensued, white papers have been written, and plans have been floated. In fall 2012 the GPO was collecting survey data from the FDLP community to allow depositories to share their views on a variety of topics, including: the FDLP collection and the strengths and weaknesses of the program, the role of digitization and digital government information, cooperative efforts and partnerships, and suggestions for the future direction of the program (US GPO, 2012a). The goal is to formulate a shared vision for the future, to preserve the foundational goals of the program while moving forward in a digital environment. Repeated attempts to address this within the current FDLP framework have, so far, been unsuccessful, and the situation begins to grow dire. If a way cannot be found to adapt the FDLP to its new environment, with Darwinian certainty, it will die.

Government information librarians will survive it, but whether or not they will eventually serve as the only preservers of government information remains to be seen; this may be a natural role for them. It is not a role that the GPO can force on them, so if they assume it, it will be by choice. While it is by no means an easy proposition given dwindling human and financial resources and a multiplicity of projects on which to expend them, government information librarians within the academic sphere may find that if they do not shoulder this burden, no one will.

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Government publications in Chinese academic libraries

Xuan Xu

Abstract: At present, China has no specialized agency responsible for government publications, and no depository library system for the disposition and/or storage of government documents. The use and preservation of Chinese government information is still in the early stages in Chinese libraries, including the collections of academic libraries in China. This chapter outlines the relevant practices of public and academic libraries in China, with the primary focus being on the academic sphere. In the university library, access to Chinese government publications is furthered through the purchase of printed government documents and relevant electronic databases, the development of government information resources on the Web, and providing reference assistance for library patrons wishing to utilize these resources. The most typical government publications sought by academic library users in China are laws and regulations, statistics, patent information, and other specialized government information. Emphasis is placed on the 2008 implementation of the People's Republic of China information disclosure regulations, a milestone in the evolution of providing Chinese government information to the public, which establishes the library as a primary means of public access to government information for Chinese citizens.

Key words: Chinese government publications, Chinese government information, Chinese academic libraries.

Introduction to Chinese government publications

Unlike in the US, where what constitutes a government publication is a matter defined by federal mandate, there is currently no uniform definition of a "government document" to be found in China, neither is there a Chinese equivalent of the US Government Printing Office (GPO) – a particular publisher responsible for the printing and distribution of Chinese government documents (referred to as "government publications" in mainland China). In the Chinese academic sphere, the most research to be found for literature review, surprisingly, focuses not on the collection and usage of Chinese government documents, but rather on government publications in the US, the UK, and Japan. No in-depth research on Chinese government publications is extant. Based on the current state of government documents in China, this chapter will focus primarily on the development of open access to Chinese government documents, and the role academic libraries are playing in this development. The practices with regard to use of Chinese government information in academic libraries will also be covered, as well as recommendations for further development with regard to access and the state of preservation of Chinese government publications.

What is a "government document"?

"Government publications," "government information," and "government documents" are the most commonly used terminology to describe publications which concern the Chinese government. The phrase "government publications" is most widely used, while with the development of open access to government information in China, the term "government information" has also become typical in the vocabulary of library and information studies. Terms such as these are virtually interchangeable when discussing US government publications, but they are defined differently in China. Thus, it is necessary to provide detailed analysis on these three distinct concepts and their definitions.

In the *Chi Hai*, which is the most authoritative Chinese dictionary in the field, and *The Dictionary of Library and Information Science* (Wang, 1990), government publications (also called "official publications") are defined as documents published by Chinese government ministries and their agencies. The essential feature of a "government publication" is

official authority. This raises the question: in China, who holds the official authority? What are the official entities that can produce government publications?

The answer is that the primary official authority in the Chinese government is held by agencies at all levels (Dictionary Research Center of the Commercial Press, 2000, p. 1874), rather than the more centralized system in the US, where the GPO is responsible for vetting the authority and guaranteeing the authentication of government publications from various agencies and entities. These Chinese agencies include the country's administrative branches at all local, county, regional, municipal, provincial, and national levels. According to the Constitution of the People's Republic of China (Central People's Government of the People's Republic of China, 2004), the State Council – also known as the Central People's Government of the People's Republic of China – is the supreme organ of state administration. There is less separation of governmental authority into federal, state, and local administration than in the US – Chinese local government bodies at various levels function as executive branches for the enforcement of State Council governmental policies, rules, and regulations. The State Council itself includes: the State Council General Office, the ministries and the commissions directly under the State Council (e.g., the People's Bank of China and the National Audit Office), the departments directly under the State Council (e.g., the General Administration of Customs; the State Administration of Taxation; the State Administration for Industry and Commerce; the State Administration of Radio, Film & Television; the General Administration of Press and Publication; and the State Intellectual Property Office); and the institutions directly under the State Council (e.g., Xinhua News Agency, Chinese Academy of Sciences, Chinese Academy of Social Sciences, Chinese Academy of Engineering, the Development Research Center of the State Council, National School of Administration, China Meteorological Bureau, and China Securities Regulatory Commission). As can be seen in these divisions, there are some agencies or entities that correspond to American counterparts, such as the State Administration of Taxation, which are a rough equivalent to the US Internal Revenue Service. However, as is quickly apparent by a glance at this list, because of the make-up of the Chinese Communist system of government, there are a great many more entities under governmental control than can be found in the US's democratic system (e.g., since the US espouses the concept of a free press, there is naturally no US equivalent to China's General Administration of Press and Publication).

In China, local governmental bodies are the administrative divisions established under the central government to perform the function of administration and management of that central government's mandates. These governmental bodies include local "people's governments" at all levels. In administrative hierarchy these are local government agencies above the county level (at regional, municipal, and provincial levels), such as local civil affairs bureaus, local municipal bureaus of labor and social security, local public health bureaus, local audit offices, and so on; all agencies under direct leadership of local government, such as local bureaus for industry and commerce, local environmental protection agencies, local agencies for food and drug administration; as well as the branch offices of local government, such as the district offices and street offices (essentially resident associations for neighborhoods, but under governmental control).

In addition, the Chinese Constitution stipulates that the Communist Party of China is the ruling party. Thus, by law, all policies and regulations of the Party are to be implemented throughout the country; there is no division or occasional conflict, as in the US, between federal and state authority. The Constitution also specifies that the National People's Congress (NPC) is the supreme organ of state power in China. Therefore, broadly speaking, the publications by all the above governmental agencies and branches as well as the publications of the NPC and its standing committees are considered to be government publications (Yan, 2004), while in the narrower sense, "government publications" refers only to the official documents published by national administrative bodies and local executive bodies. For the purposes of this discussion, concentration will be on the narrower definition of "government publications."

What is "government information"?

With the development of network technology, the World Wide Web has become an important way to publicize government documents, and has resulted in an extension of the concept of what constitutes a government publication in China. Information can refer to the contents of electronic messages, reports, data and signals (Dictionary Research Center of the Commercial Press, 2000, p. 1615), which is a much wider concept than that encompassed merely by printed documents.

Government information refers to the information that the Chinese government collects, classifies, and disseminates during the process of performing its governmental duties. The information can be broadly

divided into two categories: administrative documents, including minutes of meetings, resolutions, treaties, judicial documents, rules and regulations, as well as statistical information; and the literature of science and technology, including research and technical reports, popular science documents, and so on.

Though it has not always been the case, providing public access to the first category of government information is now required by law and regulation in China. All formats of this type of government information including paper, film, tape, disk, and other forms of electronic storage of materials with all relevant data, charts, text, and so on must be open to the public. One of the pioneers in making public provision for this type of government information is Shenzhen Municipal Government. On September 1, 2006, *Regulations of Shenzhen Municipal Government Information Open Access* (Shenzhen Municipal Government, 2006) was implemented. These regulations defined provisions for open, public access to normative documents, executive actions, and administrative decisions provided by government agencies. *The Decree of Government Information Openness of PRC* (Central People's Government of the People's Republic of China, 2007), implemented on May 1, 2008, defined government information as the recorded, saved information collected during an administrative organ's performance of its duties.

Traditionally, Chinese government publications have appeared in tangible formats such as books, periodicals, newspapers, and other printed literature (Dictionary Research Center of the Commercial Press, 2000, p. 1507). As is the case in the US and other countries, however, digital formats for government information have become more and more popular because of the rapidity of access they provide. In addition, "documents," usually in the format of books and reference materials, can sometimes be used in Chinese to refer to various types of literature that have historical value. In common usage "government documents" and "government publications" are synonyms and can be used interchangeably. For the purposes of this discussion, "government publications" will be used to refer to all kinds of government documents and government information. With the implementation of *The Decree of Government Information Openness of PRC*, the extent of Chinese government information publicly available increased, and public access to government information began a gradual journey towards openness. This openness brings new opportunities for Chinese libraries, especially academic libraries, in collecting, processing, preserving, and using government publications.

The development of public accessibility for government publications

Traditionally, the level of government information access in China has been extremely limited. Public access to government documents was restricted, and use of these documents was a privilege not easily obtained. However, the recent implementation of *The Decree of Government Information Openness of PRC* opens up entirely new opportunities for the public where Chinese government information is concerned. As knowledge and information centers, libraries have always collected, organized, and preserved all sorts of resources. Because of the nature of the Communist system, Chinese government publications have not usually been among them. Since the implementation of the aforementioned decree, however, government publications are poised to become one of the key resources to be found in Chinese library collections. In examining the development of Chinese government information management, three stages in the evolution of public access to government information can be observed: the Emergence Era, the Transformation Era, and the Rapid Development Era (Liu, 2011).

The Emergence Era (from October 1, 1949, to the 1970s)

The establishment of the Communist Party as China's sole ruling entity occurred in 1949. There are very few "historical" government publications still extant from before this period, as most were destroyed during the Cultural Revolution, which occurred from 1966 to 1976. From 1949 until early in the 1970s, public access to government publications in China was practically nonexistent. Government publications were kept strictly confidential; access to them was granted only to government officials, and only on a need-to-know basis. In essence, every single publication of the Chinese government was, in American parlance, classified. In lieu, China's news agencies, now under government control, served to disseminate to the public what the Chinese government deemed necessary information. According to *The Administrative Rules for Publishing Government News Bulletins and Publicly Accessed Official Documents*, implemented on January 1, 1950, news from Xinhua News Agency and the newspaper *People's Daily* were deemed the government's official media – the authoritative source for information released by the

State Central Government (Changshou District Bureau of Justice of Chongqing City, 2010). In addition to the government publications featured in China's newspapers, state laws and regulations, government reports, statistical information, and publicity materials were also published in print (Cheng, 2007). Examples of these types of publications include the *Collection of State Laws* (September 1954 to June 1955), compiled by the Bureau of Legislative Affairs, and the *Development of the National Economy*, published by People Publishing House in 1959.

The Transformation Era (from the late 1970s to 2001)

During this era, the Chinese government began to pursue the development of its own information infrastructure. In the mid-1980s, a series of government office automation projects began, one of which was named the "Internal Project." The purpose of the Internal Project was to lay the requisite foundation for the construction of e-government publications projects in China. As in the US in the mid-1990s, China realized that an infrastructure was necessary in order to facilitate electronic publication of government information, taking the country forward into the digital age. Planning for a series of electronic projects was begun at the national level in an attempt to create a technological infrastructure with the goal of modernization and to stimulate China's economic growth. All of these digital projects were known as "golden projects," and at the end of 1993, three projects of particular interest to the study of Chinese government information, dubbed the "Three Golden Projects," were officially launched.

The Three Golden Projects consisted of the Golden Bridge Project, the Golden Customs Project, and the Golden Card Project, all of which had as their goal the facilitation of Chinese economic interests. The Golden Bridge Project provided the information infrastructure itself. It has been called the Chinese equivalent of the information superhighway – the Golden Bridge network was constructed with the aim of becoming the state economic information network, allowing for macroeconomic control as well as strategic decision making by the state. On a grander scale, the Golden Bridge network was also intended to eventually support all of China's information systems and digital projects, and provide a means to share a variety of information (Pecht, 2006). This structure included a national public information platform established via fiber optic cables, which were in turn linked to satellites and a private network.

In this way, provision was made for both wired and wireless or mobile access. The goal of this project was to build an information network to cover the entire country – to connect state ministries; 31 provincial governments, municipalities and autonomous regions; 500 important cities; 12,000 core enterprises; and 100 separate planned enterprises. These original participants were a sort of beta testing in preparation for the connection of China as a country to the global information network. This connection would come a few years later when the Golden Bridge was combined with ChinaNet (China's first Internet superstructure), China's Science and Technology Network (CSTNET), and China's Education and Research Network (CERNET).

The next of the Three Golden Projects, the Golden Customs Project, was a network project for economics and trade. It provided foreign trade enterprises with an information system they could use for networking with China, promoting electronic data interchange (EDI) for businesses and international EDI clearance. The goal of this project was to make it easier for foreign trade to do business with China, thereby increasing China's revenues and economic growth. The Golden Customs Project connected the main governmental entities necessary to accomplish this (e.g., the Ministry of Foreign Economy and Trade, the National Statistics Bureau, and the Foreign Currency Administration) and streamlined importing and exporting processes.

The last of the Three Golden Projects, the Golden Card Project, also had as its ultimate goal economic growth, in this case through consumer spending. In order to enhance convenience and reduce the amount of cash which was in circulation, the Golden Card Project pursued the development of magnetic card technology (credit and debit cards) in order to promote digital financial transactions as the primary means of payment in China. In order to do this, it was necessary for the project to connect government agencies, the postal service, points of sale, banks, tourism industries, and more.

The Three Golden Projects were instituted by the Chinese government to promote sharing of information throughout the entire country. With the proof of concept these projects provided and an infrastructure thus established, a prototype for digital government information and its dissemination was ready to come into existence. In January 1999, more than 40 government ministries and departments launched the Government Information Online Project, and the first meeting of those responsible for the project was held in Beijing on January 22, 1999. The project immediately set lofty goals – the original target was to have at least 60 percent of ministries and government departments at all levels provide

accessibility to their information and services via the Internet, and by the year 2000 to increase this to 80 percent.

In 2001, a five-year plan to construct a national government information system, entitled *The National Information Construction Plan for Government System and Performance 2001–2005*, was developed by the State Council. On December 26, 2001, an important decision was made by the State Information Leading Group at the Group's first meeting, indicating that the key for construction of country wide information sharing initiatives in China was its government information.

In the more than 20 years since China began its electronic information development, great progress has been achieved that has furthered the goal of providing digital access to Chinese government information. Various government information technology infrastructures have been completed, and most governmental departments such as taxation, industry and commerce, and customs have now completed the construction of their networked systems. Local governments have also significantly sped up the pace of the creation of their digital infrastructures. The Government Information Online Project has made significant advancements towards its goal of providing web presence for all governmental entities. This can be easily seen by a quick glance at statistics from China's Internet: only 323 gov.cn domain names were found in October 1997 (CINIC, 1997), while by December 2011, the number of gov.cn domain names had reached 51,185 (CINIC, 2011).

It was one thing to create this information in digital format, and another to provide unrestricted public access to the information. After the network infrastructure had been built, Chinese citizens began to request that government information be made openly available to them.

The Rapid Development Era (from 2002 to the present)

The wheels of government often turn almost imperceptibly unless given a significant push by some outside motivator. For China, that impetus came in the form of the World Trade Organization (WTO). In 2001 China joined the WTO, whose Principle of Transparency requires that all member parties must make publicly available the formal implementation of import and export trade-related policies, laws, regulations, statutes, ordinances, and signed treaties on trade. A country's membership and trade could be terminated if the required information cannot be openly accessed. With the desire to facilitate economic growth at the heart of all

Chinese policy, the WTO's Principle of Transparency requirements significantly sped up the pace of the development of public access to much of China's government information.

Surprisingly, the establishment of legislation on public access to government information in China came not from the central government, as might be expected, but rather from government agencies at the local level. The first formal document detailing regulations on the public accessibility of government information was enacted by the Guangzhou Municipal Government on January 1, 2003. This document, entitled *Guangzhou Municipal Government Information Public Access Rules*, verified that one of the fundamental principles of government information was open access. Limited or restricted access of government information, rather than being official policy, should be considered as an exception rather than the rule. Similar regulations for citizens' open access to its municipal government information were also issued by the Shenzhen Municipal Government on February 25, 2004, and enacted starting April 1, 2004. Other major municipalities quickly followed suit: Shanghai Municipal Government on January 20, 2004, enacted on May 1, 2004; Wuhan Municipal Government on May 17, 2004, enacted on July 1, 2004; and Beijing Municipal Government on September 22, 2004. Between October 2005 and October 2007, several other municipal governments and provincial governments also established the rules and regulations for government information open access at municipal and provincial levels.

While these leaps and bounds were being made at the local level, national regulations regarding open access to Chinese government information had yet to materialize. Research into the proposition of establishing nationwide rules and legislation on government information open access had been proceeding, however, and can be traced back as early as 2000, when the Information Society and Government Information Open Access Research Group was set up at the Chinese Academy of Social Sciences. In May 2002, the State Council entrusted this Research Group with the drafting of the *Government Information Open Access Ordinance of the People's Republic of China*. Two months later, the draft came out for discussion (Zhou, 2003). On April 5, 2007, this *Ordinance* was formally announced and was enacted on May 1, 2008. This is the first national, systematic administrative regulation system on open access to government information in China. The significance of this landmark ordinance lies in its language referring to "open access to government documents," indicating the formal establishment of an open access system for Chinese government information.

The Government Information Open Access Ordinance of the People's Republic of China

Promulgated by the State Council, the *Government Information Open Access Ordinance of the People's Republic of China* identified that a primary principle of government information should be open access, and as mentioned above in the *Guangzhou Municipal Government Information Public Access Rules*, that limitation or restriction of that access should be an exception rather than the rule. The *Ordinance* specifies that it is the obligation of administrative organizations at all levels to provide openly accessible government information for their citizens. These administrative organizations include, but are not limited to, education, health care, family planning, water supplies, electricity, gas, heat supply, environmental protection, public transport, and the public interest – all of which are closely related to citizens' daily lives. The *Ordinance* also provides a parallel to the US's Title 44 of the *US Code* in that it offers a definition of government information. The *Ordinance* defines government information as "information retained or preserved in the process of executive organs' performance." The *Ordinance* also points out the channels through which access to government information should flow: the information is provided by government agencies to any citizen requesting public access. The *Ordinance* also detailed the scope, modalities and procedures for publishing and accessing government information. It cannot be denied that this single piece of legislation, the *Ordinance*, created the system for publicly accessible government information in China, a system that allows citizens some modicum of information gathering for the monitoring of their government.

Government information dissemination channels

Chinese government information is disseminated to the public via several different methods: government gazettes, official government websites, government press releases, newspapers, and radio and television programs. In 2008 the Chinese government had four main channels of information dissemination: the red header document system, used to share information within the government; commercial publication; complimentary dissemination; and the online open access system (Cheng, 2008).

Red header document system

Not surprisingly, the reason some government publications are called "red header documents" is because the header of this particular type of document is printed in red. These red header documents usually originate with administrative organizations, such as the State Council and its affiliated institutions, and local people's governments at all levels. Official documents issued from the Communist Party are also red header documents.

The state laws and the regulations in *The Archives Law of the People's Republic of China*, the *Implementation of the Archives Law of the People's Republic of China*, and the *Ordinance of Government Document Cataloging and Retention* established the principles used to handle and utilize red header documents. Since the red header documents are usually circulated within administrative organizations, the administrative organizations are responsible for the preservation, management, utilization, and provision of public access to this kind of government publication. *The Archives Law* orders that, much like the US GPO's former publication, the *Monthly Catalog*, a catalog–directory of archives should be published regularly in order to facilitate open and easy access to the government documents archived there. In this way, Chinese citizens and other organizations with legitimate proof of need and certain clearance can access these archives for public use. This clearance comes in different forms, and includes things such as personal identification and/or official letters from authorities such as the police, street offices, or job-affiliated institutes. The *Ordinance of Government Document Cataloging and Retention* also states that the State Archive Administration of the People's Republic of China is the national access point for archival documents. There are different levels of confidentiality assigned to individual red header documents, and only those with the lowest level of confidentiality have been made available for public access in recent years. One example is that of the Shanghai Municipal Archive Administration which, after providing open access to government documents for its citizens in September 2002, has received more than 200 patron requests per day asking for access to current red header documents (Liu and Wen, 2009).

Commercial publications

Using their contents for classification, government documents for commercial publication can be broadly divided into two categories:

administrative documents, including minutes of meetings, resolutions, treaties, judicial information, rules and regulations, as well as statistical information; and the literature of science and technology, including research and technical reports, popular science documents, and so on.

In the administrative documents category, the government gazettes are perhaps the most significant, because of their authority, currency, and importance of content. These government gazettes publish laws, statutes, regulations, and other formal documents; they also serve to announce major Communist Party decisions and administrative measures, thereby informing the citizenry of current events. The government gazettes are often published by the NPC and local people's congresses, the State Council and its affiliated departments, and the local People's Government.

Of these gazettes, the *Government Gazette of the State Council* is the most important and authoritative. It has been compiled and published since January 1980 by the General Office of the State Council and is targeted at all audiences at home and abroad. It publishes national laws, regulations and policies. According to the *Legislative Act of the People's Republic of China*, all official documents published in the *Gazette* are the standard version and have the same authority as if they were published in any other formal government publication. In 1999, administrative organizations, enterprises and government institutions at all levels, colleges and universities, as well as all types of libraries, were required to subscribe to the *Gazette* (General Office of the State Council, 2001). This mandate to subscribe to the *Government Gazette* can be seen as a sort of nascent depository system for Chinese legislation and regulations. However, unlike in the US where publications are provided for free to those who choose to participate in a depository system, Chinese entities, such as academic libraries, must pay for this subscription themselves, and are not given the choice of whether or not they wish to serve as a depository for this publication.

In addition to administrative documents such as the *Gazette*, the other significant category of Chinese government information is the literature produced in science and technology under the auspices, or with the support of, the Chinese government. These kinds of publications are mainly published in monograph format, including yearbooks such as the *Shanghai Residents' Life and Price Yearbook 2011*, edited by Ma Junxian and published by the Shanghai Municipal Bureau of Statistics. These types of government publications can provide statistical information not found in the administrivia and legislative information which dominates the gazettes.

Requiring subscription to or purchase of government gazettes for public access is the most common method for Chinese government information dissemination. Libraries provide an information hub to collect and preserve these publications and to make them available to the public. In this way, Chinese libraries serve not only as a sort of extension of traditional state marketing channels, but also as a resource that can be used to meet the information and research needs of the Chinese public (Cheng, 2008).

Government information online open access

With the development of a structure for digital information sharing in China, the World Wide Web became an important channel for information dissemination, and government information was no exception. The *Government Information Open Access Ordinance of the People's Republic of China* made it clear that the Chinese government views governmental websites as the primary venue for the public to access current government information. Government websites are used in China to provide an authoritative platform for accessing government information. By the end of 2011, there were over 50,000 government domain names representing different government agencies at national, provincial, municipal, regional, and local levels. At the same time, the State Council also started to consolidate its information online. The General Office of the State Council is responsible for promoting, guiding, coordinating, and supervising the national government information that is made available to the public. On April 30, 2008, the General Office officially announced that government information at the national level could be accessed through the central government website (*http://www.gov.cn*). Local government entities also began to provide guides or directories for public access.

Also worth noting is that Web 2.0 communication channels such as blogs, microblogs, and other new media have been adopted by the Chinese government to promote communication and dissemination of its information. Many local governments have launched official microblogs in which the Chinese public has actively participated. On November 28, 2011, the Shanghai Municipal Government official microblog, entitled *Shanghai Publication*, was launched, and citizens have access to the blog via several prominent websites including sina.com, QQ.com, eastday.com, and Xinmin.cn. Topics such as food prices and residence statutes drew a great deal of attention, and on the day the microblog launched

there were more than 180,000 fans following the *Shanghai Publication* blog via the Sina.com platform. An additional 170,000 fans accessed the blog from the other three websites mentioned above (Gu and Xu, 2011). The Office of the Beijing Municipal Government also features a microblog (*http://city.weibo.com/g/beijing*), which has been in existence since December 22, 2011; and 21 government departments and all 16 districts and counties of Beijing have all created their own official blogs for information dissemination. According to the 2011 *China Chief Microblog Survey Report*, there were 32,358 official government microblogs in existence by the end of 2011, of which 27,400 were newly added in that year (CINIC, 2011).

Beginning in December 2011, the China Information Research and Promotion website (*http://www.ceirp.cn*), which is an independent organization that evaluates Chinese government websites, began to evaluate the microblogs created by government agencies. Six out of 70,000 microblogs were selected and recommended as models for the publication of government information online. As this proliferation demonstrates, it is clearly indicated that the microblog plays an important role in the promotion of government information to the Chinese public.

Complimentary dissemination

It has long been realized by libraries that cost can be a barrier to the use of any kind of information – regardless of how useful a resource may be, if a library cannot afford it, it cannot provide access for its patrons. In the US, this has traditionally been less of an issue with government information, since it is essentially provided for free. In China, it has also been realized that complimentary dissemination allows for more pervasive access to government information. For this reason, most government gazettes can be obtained gratis from various government agencies. These publications are distributed free of charge to certain entities which serve as depositories. Thus, a depository system of sorts does exist in China, though it is more limited in scope while being less limited in type of depository (it's made up of many different entities, not simply depository libraries) than the FDLP system in place in the US.

Since January 2002, the State Council has expanded the number of depository sites for the *Government Gazette of the State Council*. In addition to the traditional depository sites, which include various provincial, autonomous regional, and municipal administrative agencies (General Office of the State Council, 2009), as of 2002, the NPC and

local congresses, the courts, the prosecutor offices and central committees have all been given the freedom to expand the scope of government information dissemination by appointing depositories. Accordingly, urban neighborhood local people's government offices and local community centers now also serve as depository sites for the complimentary dissemination of the *Government Gazette of the State Council* as well as government information at all levels and throughout the People's Political Consultative Conferences (China News Publishing Bureau, 2010). At the end of 2003, there were 94 separate gazette titles published for complimentary dissemination (People's Daily, 2003), of which 55 could be freely accessed nationally while local access was provided to the remaining 39. Furthermore, electronic versions of some of these government documents were published online in order to allow for remote access. As is the case in the US, born-digital versions are the only versions available for some government documents, and the digital realm is becoming an increasingly important venue for publication and publicizing of government information.

Unlike the US depository system, there is no method provided by the government for the implementation of complimentary dissemination – in practice, there is no strict delineation by law or regulation governing who can receive these documents, so the ways in which these government documents can be accessed varies. In Guizhou Province, for instance, the *Government Gazette of Guizhou Province* is available for free at 148 post offices and newsstands all over the province (Guizhou Provincial Government, 2009). By contrast, in the city of Tianjin, the Tianjin Municipal Archives, the public libraries, and some appointed bookstores are the sites designated for public access to complimentary government publications (Tianjin Municipal Government, 2012). According to the *Government Information Open Access Ordinance of the People's Republic of China*, the state administrative archives and the public libraries are the official designated sites for access to complimentary government gazettes.

While the US system relies on librarians to select the publications they wish to receive based on their perceptions of their patrons' needs, the Chinese system removes the library or depository entity as middle man. Instead, the government itself performs selection – complimentary government publications are sent to target audiences based on their perceived needs. Publications that provide subject-specific information needed during a specified time period are delivered to the target audience directly. For example, in order to popularize the knowledge of national law, the *Legal Daily Newspaper* and the publication *Legal Education*

Materials were made available for free public access at public schools, community centers, libraries, reading rooms, railway and bus station waiting rooms, and other public places (Ministry of Justice, 2005).

The mindset behind public access to Chinese government publications is different from that in the US, because in the past libraries have not been the primary disseminators of that public information. When access is provided by sending out complimentary copies of a particular government publication, these documents are available in the public venues mentioned above for users to *take*, not borrow. The number of the complimentary publications distributed in this manner is relatively small and, since they are taken and not returned, fewer people have the opportunity for complimentary public access. It has been realized that complimentary copies placed with libraries for circulation is the best way to maximize public access to the largest number of patrons. Chinese libraries are also ideal places for the preservation of government publications, another issue that cannot be addressed by direct distribution to the public.

Government publications and copyright

According to the latest amendment (February 2010) of the *Copyright Law of the People's Republic of China*, Title V, Section 1.5, laws, regulations, resolutions, decisions and orders of state organizations, and other legislative documents, administrative and judicial documents, and their official translations are not protected by Chinese copyright law. Publications in these categories, which represent most Chinese government publications, are not subject to copyright protection.

Government publications in public libraries

In China, the library is an important hub for culture and resource preservation and dissemination. It is also an important venue for public access to government publications. The *Government Information Open Access Ordinance of the People's Republic of China* defined the government depository function for public libraries, and since the implementation of this ordnance, citizens can access government publications at their local public libraries. In 2008, reading rooms for government publications began to be built in public libraries. Online

government information could also be accessed via computer workstations provided within the libraries.

Construction of government information access points

In accordance with the *Government Information Open Access Ordinance of the People's Republic of China*, reading rooms for government publications were built to provide access and reference services for patrons who wished to use these materials. Government information centers were built in libraries in Beijing, and in Tianjin, access and reference services for government information were provided beginning May 1, 2008. In addition, on October 1, 2008, the Shanghai Library's Shanghai Local Documents Reading Room was created and began accepting patrons.

The main purpose behind the construction of these government publications reading rooms is to collect and preserve a selection of important government publications, such as official gazettes, and to make them available for free public access. Reference services are also provided. In addition, readers' advisory services are offered at the Tianjin Library, which is an appointed municipal public library for government information access and therefore holds an extensive collection of government publications in print and electronic formats. In addition to legal information published by the government, the Library also subscribes to the China Legal Resource Database to provide in-depth legal information for patrons (Zhang, 2011).

Digital government information collection development

The acquisition and development of online digital government information resources has only recently been initiated in most Chinese libraries. According to a survey, as of 2010, 22 out of 31 provincial libraries, or 71 percent, provided services related to government information in China (Yu, 2010). An examination of exactly what those services entail reveals that the major services include providing links to government websites, providing pathfinders for government information, developing government information databases, and providing government information retrieval services. It should be noted that, while there are a

few exceptions (e.g., CyberCemetery; *http://govinfo.library.unt.edu*), in the US libraries do not typically develop databases of government information. Rather, this is seen as the responsibility of the GPO and other government agencies which pursue resources such as FDsys or FedStats on their own initiative. By contrast, Chinese libraries have been integral in developing database tools to further the use of Chinese government information, tools not provided for specifically by Chinese government agencies. One example is the Shanghai Municipal Government Information Retrieval Platform (*http://www.libnet.sh.cn/*) built by the Shanghai Library – a public library at the municipal level – which provides access to information and resources by the Shanghai Municipal Government and other administrative authorities.

Led by the China National Library in collaboration with various public libraries, the China Government Public Information and Service Platform was constructed to provide one-stop access to comprehensive government information. Building on this, the Chinese Government Public Information Portal (*http://govinfo.nlc.gov.cn/*) was launched by the National Library in 2009. Both of these resources can be seen as similar to FDsys – an attempt to provide one central portal to aggregate government information, thereby facilitating public access. The China National Library and nine provincial libraries have thus served as pioneers in the implementation of online libraries, with the launch of additional resources in October 2011 (National Library of China, 2012).

The Government Public Information and Service Platform offers three categories of information: official gazettes, information from government organizations, and information on government agencies. The access provided to government gazettes through this resource includes the *State Council Gazette* as well as official gazettes from municipal, provincial, or autonomous regional government organizations such as those of Beijing, Guizhou, Heilongjiang, Jilin, Shanxi, Ningxia, Hubei, Shandong, and Zhejiang. Information from the government organizations themselves is collected through the websites of these entities – all available information listed on the websites of the government ministries, municipalities, provinces, or autonomous regions is included. Information on government agencies is provided through an online directory which offers contact information for more than 3000 agencies including the State Council, ministries and commissions, provincial governments, autonomous regional governments, municipal governments, and other agencies. A navigation function to parse results by geographical location is also available.

Through these efforts, the tables of contents and the full text of official gazettes can be accessed for more than 7000 issues, and 50,000 entries

are searchable (Wang and Chen, 2010). In addition, a variety of provincial libraries have developed their own government information databases. These databases support a variety of research services and functionality, including full-text and metadata searching.

Web information collection and preservation

Web Information Collection and Preservation (WICP) is a pilot project for collecting and preserving online information. Started in 2003 by the National Library of China, the WIPC pilot project had collected more than 50,000 government websites by the end of 2007 (Chen, Hao, and Wang, 2004). In some provincial public libraries, a subject indexing system is also available for information access and reference services are offered within the local network at provincial or municipal levels (Liang, 2008).

As these initiatives demonstrate, Chinese libraries have embraced the idea of public access to government information. With the implementation of the *Ordinance* in a larger area, public libraries are playing an increasingly important role in the process of public awareness and access to government information in China.

Government publications in academic libraries

The mission of the academic library

College and university libraries in China are supervised by the Ministry of Education of the People's Republic of China. According to the *General Regulations of College and University Libraries* (Ministry of Education, 2002) issued in 2002 by the Ministry of Education, the primary mission of academic libraries is to serve the teaching and research activities of the college or university. The *General Regulations of College and University Libraries* also points out that the library is the center of the university for information and resources; it is one of the primary components of learning, teaching, and research. The main task of libraries in colleges and universities is to build comprehensive library collections. In addition, they are to offer information literacy education; provide services such as circulation, document delivery and reference to their patrons; and at the

same time actively to organize, coordinate, and optimize information resources in order to meet the needs of patrons most effectively and assure sufficient information to support teaching and research. Though they are not mandated to, academic libraries can also provide services to the local communities. Currently, instructors and students are the main audience in the Chinese academic library, while in some academic libraries, limited services such as issuing temporary access permits and providing reference services are also offered to community members.

Acquisition and organization

As a significant type of special literature, government documents are collected, organized, and added to the academic library's collection. Providing access and making government documents available to its patron base is viewed as an important service in the Chinese academic library. Unlike in the US with its Superintendent of Documents classification system, there is no specific classification system available for Chinese government publications. Thus, while many US libraries do not integrate their government publications into the main collection because there is a disparate classification system, this is a non-issue in Chinese academic libraries. Since they have no separate classification system for government publications, government documents are processed in the same way as books and materials for the general collection. Acquisition, cataloging, collection development, and related services for government documents follow the same procedures as that of regular materials.

Covering a wide range of topics, government documents are rich in content. In China, the format of government documents can be divided into two main categories: print format, which includes books, journals, and official gazettes; and digital format, which includes government information databases and government information resources freely available on the Internet for public access. The collection, organization, and use of government publications can differ significantly depending on subject matter and formatting.

Printed government documents

Ordering publicly released government documents is the primary avenue Chinese academic libraries utilize to obtain copies of government

publications. As has been detailed previously, there are various channels for government publication dissemination, and the main types of publications disseminated free of charge are official gazettes, reports, and books. These government publications may appear under different names depending on differences in geographical regions. A few examples of the types of print government publications that are often found in academic libraries include the *Gazette of the People's Government of Zhejiang Province* (a print gazette journal), the *2010 Statistical Bulletin on China Water Activities* (a print report), the *Shanghai Residents' Life and Price Yearbook* (a statistical report in print format), and the *Compiled Documents for the Fourth Session of the 11th NPC of the People's Republic of China* (a printed book).

Although official gazettes are made available free of charge for public libraries, academic libraries are not included in this complimentary system, and no mechanism for mass distribution to academic libraries is currently in effect. As a result, academic libraries have to purchase official gazettes, the only channel open to them for the collection of these type of government publications.

Cataloging and classification

As mentioned above, since there is no appointed publisher for government documents at the national or local level, documents are treated in exactly the same manner as all other academic library acquisitions. Unlike the federal depository selection system in place in many US academic libraries, no separate acquisition system for government publications is built into the workflow of Chinese academic libraries.

The Chinese Library Classification (formerly known as Chinese Library Classification for Books) System has been adopted for classifying, cataloging, and shelving government documents, just as it is used for all other types of materials in Chinese academic libraries. The Chinese Library Classification System is a comprehensive classification tool adopted by most libraries, academic, public, and special, in China. Compiled after 1949, the first edition was published in 1975, and the latest fourth edition was released in 1999. New subjects were added, new categories were expanded, the reference system was improved, some classifications were adjusted, and some tables were amended in this latest edition. All of this was done with the goal of providing a more standardized and accurate means of cataloging and classification to meet modern

library needs. The latest edition of the Chinese Library Classification was also modified in order to reflect new developments in the fields of science and technology. Table 4.1 shows an outline of the Chinese Library Classification System.

According to the Chinese Library Classification System, most government documents should be classified under one of two headings: C56 (Government Publications, Corporate Publications, under the subject Social Sciences) and N56 (Government Publications, Corporate Publications, under the subject Natural Sciences) (Table 4.1). However, few academic libraries choose to implement this and catalog government documents under C56 or N56. Instead, most use an accepted local practice of cataloging them in the same manner as all other publications, by subject, since the content of government documents is varied and encompasses a much wider range of subjects than simply social or natural sciences. Publications such as the *Shanghai Municipal Government Gazette* and the *2010 Compilation of New Regulations of the People's*

Table 4.1 The Chinese Library Classification System

A Marxist-Leninism, Mao Zedong Thoughts, and Deng Xiaoping Theories	N Natural Sciences (general) N5 Science series, collections and serial publications N56 Government Publications, Corporate Publications
B Philosophy, Religion	O Mathematics and Chemistry
C Social Sciences (general) C5 Collections and serial publications of social sciences C56 Government Publications, Corporate Publications	P Astronomy, Earth sciences
D Political Science, Law	Q Bioscience
E Military science	R Medicine, Health
F Economics	S Agricultural science
G Culture, Science, Education and Sports	T Industrial technology
H Languages	U Transportation
I Literature	V Aeronautics, Astronautics
J Arts	X Environmental science, Safety sciences
K History, Geography	Z General

Source: Editorial Board, Chinese Library Classification System (2010)

Republic of China can most often be found under "D, Political Science, Law," while publications such as the *Shanghai Yearbook of the Resident's Life and Price* can be found under "F Economics." As has been detailed, many US depository libraries choose to shelve their government publications in a separate location from the rest of their collections, because of classification or format issues. By contrast, there is no special location for government publications in most Chinese academic libraries. Though it is not uncommon in public libraries, most Chinese academic libraries also do not display or highlight their government publications. Instead, government documents are completely integrated into the regular collection and are shelved in the reading room or with other non-governmental materials that fall under the same subjects.

Commercial electronic databases

A large percentage of academic library budgets is currently expended on subscription databases and the purchase of digital materials, such as e-books. According to surveys, 1.998 billion Yuan (1 US dollar = 6.3 Yuan) total was spent on acquisitions by 504 academic libraries (an average of 3.96 million Yuan per library), of which 0.685 billion was spent by 552 academic libraries (an average of 1.24 million Yuan per library) on digital resources, approximately 48 percent of total acquisition allocation in Chinese libraries (Academic Library of China Steering Committee, 2010).

Many commercial databases contain a large amount of government information, such as laws and regulations, statistics, yearbooks, and so on. These databases can be divided into two major types: general comprehensive databases and subject specialized databases. Several comprehensive databases in Chinese are available, such as cnki.net, Wanfang Data, cqvip.com, and chaoxing.com (Super Star). The full text of various electronic resources is provided by these databases for a subscription. The database cnki.net, also known as China National Knowledge Infrastructure (CNKI), was launched in June 1999. Developed through the partnership of Tsinghua University and Tsinghua Tongfang Company, the goal of CNKI is to establish a knowledge infrastructure through which information in Chinese can be shared throughout the world for the purposes of research. After 13 years of hard work, CNKI became the world's largest Chinese full-text information database. Large numbers of government publications, such as the full text of government

journals, are included (CNKI, 1999). Other government publications are collected in some subject databases, such as the Full-Text Chinese Standards Database, CNKI Yearbook of China Database, China's Economic and Social Development Statistical Database, and the Chinese Patent Database; all of these aggregate a large amount of government information. Databases such as the Law and Regulation Database, the Scientific and Technological Achievement Database, and Chinese and Foreign Patent Database from Wanfang Data also collect related government publications. In addition, Super Star databases contain a significant number of e-books published by the government.

Subject databases, such as lawee.net (legal information), drcnet.com.cn (economic information), infobank.cn (comprehensive information on all walks of life), soshoo.com.cn (statistical information), People's Daily (people.com.cn, news information), and cei.gov.cn (economic information) are some of the more commonly used subject-related subscription database products that help amplify access to government information (usually in the form of legal regulations and statistical data). Both lawee.net and infobank.com focus primarily on government information in the realm of law and regulation, while products such as Statistics for Mainland China from soshoo.com collect and compile useful statistical information, often gathered and/or published by the Chinese government. These commercial database products are readily available for academic libraries' subscription or purchasing, and they fill a gap, providing an effective way for enhancing access to government information.

As can be seen in many English commercial database and even tangible products, it is often not the information itself, but the organization of that information which determines its usefulness to library patrons. All US government information is, technically, available free of charge, seemingly negating the need to purchase commercial products which contain this information. However, as the flourishing trade of publishers such as Bernan and Lexis-Nexis in congressional products attests, repackaging of freely available information can be a lucrative business. This is even more apparent in China, where the reorganization and development of government information by commercial database vendors is often the only way to offer a user-friendly environment for accessing government publications. By subscription and purchase of these types of resources, academic libraries in China have made government publication collections available to their patrons in a format they can easily use. The acquisition of government documents in these formats has significantly enriched the collections in Chinese academic libraries.

Collecting and using government information on the Internet

In China, academic library automation can be traced back to the late 1970s. The availability of the China Education and Research Network (CERNET) in 1995 opened up a new era for the structure of information organization in academic libraries (Xie, 2000). In the following years, online networking for information preservation and collection became a major focus of the Chinese academic library system. The China Academic Library and Information System (CALIS) and the China Academic Humanities and Social Sciences Library (CASHL), along with the "online information sharing system" from the Chinese Academy of Sciences and the National Science and Technology Library, showed the prominence of these institutions in leading the way in automation for Chinese academic libraries. The digitization of information and the construction of a network infrastructure facilitated at the national level by these institutions established a firm foundation for the future digitization of government information.

Most academic libraries are currently collecting yearbooks and laws, regulations, and standards since this type of information is published by government agencies at all levels. After visiting ten major academic library websites – at Peking University, Tsinghua University, Fudan University, Shanghai Jiaotong University, Zhejiang University, Nanjing University, Sun Yat-sen University, Wuhan University, the University of Science and Technology of China, and Jilin University – the author found that eight out of these ten libraries not only offered access to this type of government information, but also provided pathfinders to help with accessing regulations, yearbooks, standards, and patents. Interestingly, while pathfinders of this kind on US academic library websites would most often be found under a header of government information, especially if that library was a FDLP depository, in Chinese libraries these pathfinders were not categorized under the subject of government documents.

Government information is collected and used extensively in academic libraries, with the most common types being information on laws and regulations, statistics, patents, and standards; these are the most frequently used government resources in Chinese academic libraries. Owing to regular use by patrons and the importance of government information, some academic libraries have built special collections of these laws and regulations, statistics, patents, and standards in order to

provide a centralized method of access to make this type of information available to their patrons.

Subject research guides were also created to help patrons locate and navigate government information. The research guides offered by CALIS are good examples. In order to help patrons develop effective search strategies and retrieve the best online search results, CALIS launched its Subject Research Guides Project, which was accomplished in two phases; 48 academic libraries participated in phase 1 and 54 academic libraries participated in phase two (CALIS, 2010). In June 2006, 217 subject research guides were created, covering philosophy, economics, law, pedagogy, literature, history, science, engineering, agriculture, medicine, management, and other key disciplines in colleges and universities in China. Government information, recognized as an important information source, was included in a variety of these subject research guides. By using "search type = government publication" for retrieving government information, 1900 results concerning government information in China and foreign countries were retrieved; 17 of the results were official gazettes, which includes the web page of *The National Statistical Bulletin* from the National Bureau of Statistics of the People's Republic of China National Bureau of Statistics (*http://www.stats.gov.cn/tjgb/*) and the web page of the *China Water Resource Bulletin* (*http://www.chinawater.net.cn/cwsnet/gazette-new.asp*).

Patent information services

The ability to search and locate all relevant patent information effectively is an integral part of a successful patent application and approval process. In accordance with patent law in the People's Republic of China, information on inventions with patents pending or under review, as well as patent approval, must be recorded and collected. In addition, once the patent is granted, this information is also made available internationally. In order to facilitate this, the Chinese government funds methods for invention information exchange and technology transfer.

Public access is afforded to patent information in accordance with the *Patent Publicity Notice* posted on the Patent Office of the People's Republic of China's website (*http://www.sipo.gov.cn/zljs/xxcx/*), and the Patent Office provides a Chinese patent search and retrieval service for public use. The Shanghai Intellectual Property Information Platform (*http://www.shanghaiip.cn/Search/login.do*), sponsored by the Shanghai

Municipal Bureau of Intellectual Property (patents), also provides national and international patent search and retrieval services.

Academic libraries in China have found that patent search and retrieval is an important part of the information services they offer, especially as regards the research and development projects of segments of their main constituencies (e.g., university faculty in the fields of hard sciences and technology). Research has shown that patent search and retrieval services were provided by all the academic libraries of the universities that made up the top ten patent applications in 2007. For instance, Qinghua University Library provides user instruction sessions to faculty members and graduate students on how to search and use patent information. Southeast University Library has placed the link to an "introduction to patent databases" in a prominent position on its website, and provided navigation help and pathfinders for important domestic and foreign patents on the site (Zhang and Guo, 2009).

Academic libraries not only actively provide information platforms faculty and students can utilize for their patent searching, but also enhance the patent information service by integrating research tips and advice into their subject research guides in order to help patrons with patent research, as well as the application and conversion process. In 2010–11, Shanghai Jiaotong University Library and other university academic departments collaborated on a series of activities geared towards patent research and application. The 2010–11 "patented activities" attracted students and faculty members and provided lectures by experts, an online conference, an interactive salon, and interactive online communications, which allowed users to share their patent application experiences. The result of these activities was a strengthening of the awareness of intellectual property rights and increased knowledge of patent research and the application process. It also encouraged the use of patents and tools for patent research and promoted innovation (Gao, 2011).

Some academic libraries also provide library patent-related consulting – essentially fee-based research services. The Shandong University of Technology Library offers a patent and trademark intellectual property service to faculty members and students (Shandong University of Technology Library, 2004). Professional advice on patents, trademarks, and other intellectual property is provided, and fees are incurred for some of the services related to patent research for China and the US. These types of services include librarians providing professional help with a patron's patent application, patent re-examination, invalid license, ownership disputes, patent infringement, patent and other intellectual property disputes, and litigation.

Trends, anticipated futures, and recommendations

Uniform laws for public access to government information

Since the *Government Information Open Access Ordinance of the People's Republic of China* was enacted on May 1, 2008, public access to government information in China has been greatly improved, particularly in its provision of public access through online government information tools. Government websites have become the first stop for Chinese citizens in their search to obtain government information. The directory for open access, information open access guides, annual reports, and other government information are readily available through the Internet. A publicity system has also been established to further promote the process of government information open access. The *Ordinance* has made all of this possible.

However, the *Ordinance* is not without its faults, and the following disadvantages can be found in the *Government Information Open Access Ordinance of the People's Republic of China*. First, the *Ordinance* was promulgated by the State Council, and the primary target audience is administrative agencies. As a result non-administrative agencies of the state organizations, such as the NPC, the courts, the prosecutor offices, and the people's political consultative committees, are not included in this *Ordinance*, effectively barring the information they produce from being subject to public access laws. Second, though they are few, there are some conflicts between the *Ordinance* and other government laws and regulations, such as the *Law of the People's Republic of China on Guarding State Secrets*, and the *Law of Archives of the People's Republic of China*. Resolving these conflicts (which legislative mandate would have precedence) has not been addressed. Third, the *Ordinance* focuses on government information attained when government agencies accomplish their duties, such as information acquired from government agencies, citizens, corporations, or other organizations and information provided by enterprises or individuals for administrative purposes. One key source of information, the information on the results of government-funded projects, was not included and therefore is not openly available for public access.

Obviously, further expansion is needed in the coverage of government information for public access in China, in particular information from

the NPC, the courts, the prosecutor offices, and the people's political consultative committees. The information on the results of government-funded projects should also be included for public access. Tentative steps in this direction have already been pioneered by the Ministry of Education; in 2006 it launched a scientific and technical paper online exchange service on its website (*http://www.paper.edu.cn/*). This could easily be expanded at the national level for other scientific and technological research, and proposals for implementation of this type of digital initiative for public access should be given high priority. Finally, coordination of the *Ordinance* and other conflicting laws should be addressed and resolved, and further legislation to facilitate greater public access to government information should be introduced.

Government information integration and opportunities for Chinese libraries

Though significant steps have been made with the complimentary distribution of some forms of government information to libraries, access to government information is far from pervasive in China. An increase in the number of government publication and information depository sites is necessary, as is an improved organizational structure for classification and dissemination of government information. An expansion of services is also needed. In China, it is accepted that knowledge preservation and dissemination are the two primary functions of a library, and collecting, preserving, and promoting the use of government information fall within these functions. This should therefore be greatly stressed in the mission of libraries in China, especially the issue of preservation of government information, which has not been addressed in any systematic fashion. China's current situation, with the direction taken by the *Government Information Open Access Ordinance of the People's Republic of China*, leaves libraries poised to take on a greater role in the realm of open access to information. However, they cannot pursue these additional goals without the benefit of greater financial and personnel support. Providing this support to libraries should be made a priority in order to ensure the continuous development of services and access to government information. Consolidating the electronic resources distributed by various government agencies for easier access is also necessary. Digital government information guides, directories, and annual reports have developed rapidly in recent years and can be used by libraries to achieve their collection and organizational goals for government information.

One important method to help further these types of goals is the encouragement of public libraries at the provincial level to join the Chinese Government Information Consolidating Project and add their assistance to the creation of a national government information open access platform.

The development of government publication collections in academic libraries

Academic librarians should educate themselves and give higher priority to government publications given that they are of considerable import as scholarly resources. A unified government document acquisition system, such as that provided by the FDLP program in the US, could be established to better facilitate public access to government information. Even with this infrastructure so far unrealized, individual libraries can and should emphasize the acquisition of government publications to support their academic programs. Academic libraries should also spearhead efforts to seek support from government agencies to collaborate and pursue opportunities for developing a complimentary government gazette plan like that already offered to public libraries. Since the target audience in Chinese academic libraries is the well educated, this audience is already equipped to follow the development of information technology and make the best use of that evolving technology. Accordingly, the collection and organization of government publications and information in digital format should be expanded, in addition to continuing already established purchasing practices with regard to government resources such as books, periodicals, and databases. Further research into collaboration opportunities and methods between public and academic libraries in collection and utilization of government information needs to be conducted in order to further these types of partnerships.

Conclusion

Chinese government publications are the official, authoritative publications published by government agencies. In a broader sense, government publications in China include not only publications issued by administrative organizations at all levels, but also the official documents published by the Communist Party. The process of making government publications open to public access in China is gradual and

ongoing. The 2008 *Government Information Open Access Ordinance of the People's Republic of China* is a milestone document, which has laid the foundation and provided a direction for public access to Chinese government information. The *Ordinance* has also delineated and solidified the role of libraries in this provision of public access to government information.

At present, there is no specialized government publication agency or publisher in China, and even a definition or conceptualization of government publications is difficult to find. In the library realm, government publications are integrated, mixed with non-governmental information publications, making separate identification within library collections difficult. With the development of government information and public access to these publications in China, the collection and use of government documents is changing. Academic libraries make government information available through the purchase of printed government documents, subscription to relevant electronic databases, the consolidation of online government information, cataloging, circulating, and providing reference services, user training, and research guides. Government information on laws and regulations, statistics, and patent information are typically the publications most often used in academic libraries.

In China, the use and preservation of government publications and information is still in the early stages. Much can be done in the future for the acquisition, collection, organization, and services provided to those seeking government information in Chinese libraries.

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Outreach in American academic libraries

Charlcie Pettway Vann

Abstract: This chapter examines the structure of academic library outreach programs in the US. The target populations for outreach and those who participate in outreach services are covered, and definitions, theories, and outreach practices are also examined. The reasoning behind outreach programs is enumerated and the benefits to academic libraries, students, faculty, and the surrounding community are emphasized. Methods for promoting outreach services on-campus and globally are offered, along with a look at trends, anticipated futures, and recommendations for academic library outreach programs.

Key words: academic library outreach, community outreach, off-campus outreach, academic library promotion.

Introduction to academic library outreach in the US

The African saying "It takes the community/village to raise a child" originated from the Nigerian culture and its proverb "Ora na azu nwa" (Speake, 2009). Each member of a community or village has a unique yet equally important role to play in raising a child properly. Since education is an integral part of development, it also can and has been said that it takes a community to educate a child (Pearce, 2012). One of the best ways to gain knowledge is by reaching out to others, by learning from their successes and sharing information. Outreach is an essential tool in

academic libraries in the US, and an effective method to further this sharing of information. Perhaps even more importantly, it allows for the creation and development of relationships between academic libraries and their communities. Over the past 20 years, it has become apparent that outreach can no longer be simply an option for the academic library to establish positive relationships with the entirety of the community it serves – it must be a *requirement*. Academic libraries are valuable not just to their core constituencies within the university, but to the entire community. This community, in turn, can prove to be a valuable resource for academic libraries. Through outreach, academic libraries gain opportunities to invite, involve, and inform both the campus community and the general public on a variety of subjects.

Outreach services can be offered formally and informally. Regardless of the delivery method, planning is the key to outreach success. Just as there are collection development policies, there should also be a flexible outreach policy in place to ensure that academic library services are effectively promoted and delivered to the academic library's surrounding community.

The classical African philosophy of Ubuntu, originating from the Bantu languages of southern Africa, is translated to mean, "I am what I am because of who we all are," and this worldview emphasizes people's commitments to and relationships with each other (Gade, 2011, p. 303). Archbishop Desmond Tutu has stated that Ubuntu highlights the fact that people cannot exist as isolated beings (1999). Ubuntu is, therefore, a philosophy of interconnectedness, and it parallels the philosophical underpinnings of library outreach. The outreach programs of academic libraries demonstrate the connection of academe to the entire community it serves (Ubuntu Women Institute USA, n.d.). In June 2009, Elizabeth Frawley Bagley, US Department of State Special Representative for Global Partnerships, discussed Ubuntu's application in America in her swearing-in remarks:

> In understanding the responsibilities that come with our interconnectedness, we realize that we must rely on each other to lift our World from where it is now to where we want it to be in our lifetime, while casting aside our worn out preconceptions, and our outdated modes of statecraft. . . .
>
> In 21st-century diplomacy, the Department of State will be a convener, bringing people together from across regions and sectors to work together on issues of common interest. Our work no longer depends on the least common denominator; but rather, we will seek the highest possible multiplier effect for the results we can achieve together (Bagley, 2009).

Outreach exemplifies this concept of interconnectivity and extending knowledge. Outreach, which can also be referred to as extension services, extends knowledge and services beyond traditional library realms, providing new and/or expanded services to new individuals or groups. By furthering knowledge through services offered to the community at large, one creates an atmosphere of learning and teaching that extends far beyond the often insular university sphere.

Defining outreach

The definition of outreach for the purposes of this discussion is that expounded in the article "Outreach: why, how and who?" by Tina Schneider, who states that outreach comes in various forms, but all forms can be found under the umbrella of "independent efforts of academic libraries to move beyond their walls or traditional clientele to interact with their surrounding communities" (Schneider, 2003, p. 200).

The outreach services of academic libraries engage patrons in a learning environment where individuals from all sectors of the community can share knowledge. Academic libraries' outreach services also vary according to the needs of their users and the community. Therefore, effective outreach can be described as a two-way street; it cannot go in only one direction. To provide successful outreach services or programs, communication must take place. In order to convey knowledge, there have to be at least two active parties, one giving information as the other party receives, and that recipient must provide feedback to indicate that comprehension has been achieved. Thus, outreach in US academic libraries includes more than just lectures; it is the total involvement of social learning outside of the traditional academic library environment. In addition to information sharing, both formal and informal partnerships are established through outreach. Since outreach is so broadly defined, some outreach services may be within the campus and university departments while others may involve local community members, civic groups, and small businesses.

The foundation of outreach services in academic libraries

Traditionally, it has been the public libraries that are known for their outreach efforts, efforts made to stay in tune with the needs of entire

communities. Since these communities are often constituencies of academic libraries as well, many progressive academic libraries have also adopted a more customer-driven philosophy. Outreach in many American academic libraries includes their surrounding community as well as the academic community. College students, faculty, staff and community users' informational expectations are constantly changing. Therefore, it is imperative that academic libraries remain aware of users' expectations and effectively meet and exceed them.

The mission statement of most academic libraries in the US usually includes a promise to create, develop, organize and disseminate information to support the curriculum of the university, as well as to promote lifelong learning. For example, this is how the mission statement of the Houston Cole Library of Jacksonville State University, a regional university in the southeastern US, describes its responsibility to provide information services:

> the Houston Cole Library is to provide information services and bibliographic resources to support the scholarly and informational needs of the University community. . . . The Library serves students, faculty, administration, and staff of the University. It also makes its resources available to the local community, businesses, schools, and Alabama libraries, thereby contributing to the educational, cultural, and economic well-being of the area (Houston Cole Library, 2012, p. 4).

As mission statements such as this demonstrate, outreach should not be considered optional. It is mandatory for the survival of the academic library to reach outside its prescribed walls and stay in touch with its surrounding community. The words outreach, community, global, social, and partnership are descriptors found in many American academic library mission statements. Outreach was once considered a goodwill gesture to the citizens of the geographic area in which the academic library was located. Since information can be located online and independently, academic librarians offer a human relationship between library users and information. Hallmark, Schwartz, and Roy provide an accurate description of the position of today's libraries:

> Gone are the days when libraries can simply open their doors and expect to be perceived as the number one option for information services. With fierce competition for funding and more people assuming everything offered by a library can be found online,

> libraries are feeling the pressure to blow their own horn (2007a, p. 40).

Offering personal, teachable moments enhances users' knowledge as well as improves research skills. More importantly, however, person-to-person interaction can establish relationships which improve the users' perceptions of the library and its services. In today's competitive information market, the human interaction of librarians and paraprofessionals with library users separates academic libraries from generic online search engines. Like academic libraries, bookstores also provide human interaction, face-to-face communication within a bibliographic information environment, yet bookstores are for-profit entities. Academic libraries are not in the book selling business; if anything, they are sources of information and education, and not necessarily for a fee, especially to those who use their services but do not pay tuition. Both information and education are valuable and costly. Academic libraries are non-profit units of colleges and universities. Therefore, since academic libraries do not fit the for-profit model, they must instead be seen as a public good. The "human relationship factor" helps further this perception and preserves academic libraries' relevancy during the current information age. Outreach furthers the mission of academic libraries, but this is true only as long as those libraries are aware of the needs of their users and utilize effective methods to meet those needs.

Types of outreach

There are no "cookie cutter" procedures for outreach in academic libraries. Just as there are numerous types of libraries, there are also various library outreach programs and services. Mission-based outreach, community outreach, departmental and on-campus outreach, collaboration of academic libraries outreach (both private and public institutions), combination of academic and public library outreach, private academic libraries merging with public academic libraries – the variations are abundant. Librarian, author, and editor Carol Smallwood has compiled a well-organized handbook for librarians and their libraries who are or want to be involved with their communities entitled *Librarians as Community Partners* (2010). Smallwood gives examples of the different types of outreach taking place in American academic

libraries. For an example of mission-based outreach, she offers Indiana State University (ISU) library, which participates in a mission-based and community outreach service. In keeping with ISU's mission of addressing the educational, business, social, and cultural concerns of its citizens, the university's library decided to partner with community members. A large number of senior community members use ISU's library resources. The reference and instruction librarians at ISU realized an effective way to expand assistance to this growing population was to go where many of them live or regularly visit. Accordingly, the instruction librarians went to retirement communities in order to teach information and computer skills, an effort dubbed the Bits 'n' Bytes program. Susan Frey, Reference and Instruction Librarian at ISU in Terre Haute, Indiana, coordinates the program, and explains that in 2004 ISU built a computer lab at a private, non-profit assisted and independent living facility for seniors. When the ISU library upgraded its hardware, the older computers were funneled to this facility to be used for outreach at the senior computer lab (Smallwood, 2010). In order to organize the training classes, Frey utilized the semester format as a template for coordinating the 13 once-a-week instruction sessions which made up the class. Each instruction librarian took a turn teaching a session. The teacher or coordinator asked the instruction librarians which topics they wanted to teach and the date they were available to teach the class. One or two classes could then be taught by each librarian per semester. The librarians had an opportunity to select the subjects they considered to be their specialty, ensuring that the instruction was interesting, well delivered, and expert. The librarians created their own handouts and lesson plans, and once the syllabus was complete a copy was sent to the retirement center for review and suggestions (Smallwood, 2010). In this way, those teaching the sessions could receive feedback from the community and tailor their outreach sessions accordingly.

In the third year of the Bits 'n' Bytes program, the librarians realized that ISU students could also participate in and benefit from the program. Librarians consulted and worked with teaching faculty and concluded that undergraduates enrolled in the Introduction to Social Work course were eligible to serve as interns in the program. The students were teaching assistants as well as volunteers. Students must complete 36 hours of volunteer work as a course requirement, so participation in the Bits 'n' Bytes program helped them meet this requirement while simultaneously assisting the library with its outreach efforts. Not only did the residents of the retirement center gain information literacy and library research skills from the Bits 'n' Bytes program, but the librarians

and the ISU students learned how to effectively serve and interact with senior citizens and gained practical knowledge of the theories taught in the classroom. Providing a hands-on internship for the students helped many of them acquire work experience in their major field, which will stand them in good stead as they enter the workforce. This program helped build relationships in and out of the traditional classroom, achieving one of the main goals of outreach. The librarians at ISU are now planning to incorporate other possible departments into the outreach program. Frey concluded:

> In these times of tight budgets and staffing shortfalls, some might call for a reduction of or a moratorium on outreach programs in academe. But the process of developing and managing the Bits 'n' Bytes program has demonstrated to us that information literacy instruction can and should extend beyond campus walls and into the local community. The program has grown in ways that we did not initially predict. What started out as an educational outreach program meant to build good-will grew into a field site for one of our undergraduates and helped us to build community in the classroom (quoted in Smallwood, 2010, p. 28).

Academic library outreach services promote the library and its university simultaneously. Inviting and welcoming the general public to the academic library produces an environment of social and shared learning. Miriam Rigby, a social science librarian at the University of Oregon and author of the article "Social networking 0.0" explains that social outings are fun and effective ways for librarians to assist teaching faculty and library users without the stigma of the old-fashioned library workshops:

> Biking trips, hanging out in coffee shops while working, and going out for happy hour drinks are just a few of the types of activities that I have successfully employed to reach out to teaching and research faculty. . . . These more casual get-togethers do not come with the stigma often attached to work-related events and are not competing for time with other lectures and professional events in the way a typical library workshop might (Rigby, 2010, p. 14).

Outreach brings with it positive side effects that come from combining academic information with social events. Positive perceptions of the university and the library can be generated even during the most casual outings (Rigby, 2010).

The Bits 'n' Bytes program provides an example of collaboration between the library and other on-campus departments for outreach, but this is just one of many types of collaboration being utilized by academic libraries in the US. When academic libraries collaborate with public and technical libraries, information literacy can be made more accessible to a larger portion of the community. An example that illustrates the strength in teamwork is the outreach program taking place in Lafayette, Indiana between Purdue University, the Tippecanoe County Public Library (TCPL) and Ivy Tech Community College. The three libraries have developed a program for homeschooling families (and anyone interested) to assist their students with the transition into higher education and information literacy for life.

Three librarians, one from each library, collaborated together in person as well as through email to coordinate the outline and content for the program. Purdue's Instructional Librarian, TCPL's Young Adult Librarian, and Ivy Tech's College Librarian developed goals based on the American Association of School Libraries' standards. The main subjects discussed were topic development, database searching, citing sources, and evaluating sources. The team used the Texas Information Literacy Tutorial (TILT) as a format for both content and procedure in teaching library skills. TILT is an interactive educational web page designed to introduce college students to research sources, techniques, and skills. Tutorials or modules are developed along with quizzes to be taken once tutorials have been completed (University of Texas, 2000).

The collaboration was entitled "Search It, Find It, Use It." There were three sessions of training, one in each of the libraries. The first session was taught at the public library. Students, parents, and anyone else interested in attending were introduced to basic library skills, such as how to search for information and properly utilize what those searches returned (Riehle, 2010). In the second training session, database searching was taught at the community college, and techniques for determining primary sources using various databases were taught. The last session took place at Purdue University. The librarian gave guidelines on how to avoid plagiarism, as well as "how to identify inaccurate, biased, or misleading information" (Riehle, 2010, p. 44). A folder was given to each attendee with sample material from each session along with blank sheets for taking notes. In addition, invitations went out to all who attended, inviting them to take a tour of each library and learn more about the services these libraries provide. Homeschoolers and interested parents and students gained an opportunity to use school and academic libraries, an opportunity they might not otherwise have had.

In another instance of outreach to the community, in 2007, the University of Arkansas at Little Rock (UALR) library decided to extend privileges to community members. The decision to allow free community usage was made as a gesture of appreciation and goodwill for the community, as well as a potential fund-raiser. The privileges were fee-free, and included borrowing items from the circulating collections, use of reference materials, and the use of computers in the library building (Dole and Hill, 2011). UALR is a public urban university, and it has a diverse student population – more than half of the students enrolled are over the age of 25. In addition, 47 percent of the students attend part-time and 92 percent of the students commute to campus. UALR is in a prime location not only to serve its core academic population, but also the surrounding metropolitan community. Dole and Hill examined the effects of the free community borrowing privileges and analyzed the cost and benefits associated with this privilege. The results indicated that community use of library resources and services increased, most probably because this access was free, but no donations were made to the library. The authors concluded that there was

> the need for more research and comparison to practices at other libraries. The authors would like to survey the UALR community users to obtain information on demographics and the users' perception of the value of the services and impact of their attitude toward the library and university and their willingness to donate funds (Dole and Hill, 2011, p. 148).

Programs such as these may help dismiss negative perceptions of academic libraries and librarians and break down barriers which hinder users from maximizing the resources of academic libraries.

An example of departmental or on-campus outreach can be seen at Mississippi State University (MSU). Historically, MSU has been known as "The People's University." It has five libraries: they include Mitchell Memorial Library (the main library), the Architecture Branch Library, the College of Veterinary Medicine Branch Library, MSU-Meridian Library, and the College of Architecture Jackson Center Library. MSU Libraries offers outreach services to assist the athletic academic tutors and student athletes with class assignments. The libraries' goal is to develop an ongoing relationship with the tutors by integrating them into the libraries' research consultation program, as well as to teach more orientation sessions (Davidson and Peyton, 2007). In the spring of 1998, the reference librarians noticed that their teaching faculty colleagues

were not aware of the updated databases the students were using to complete their assignments. This conclusion was reached by observing the procedures the students were advised by their professors to use to complete their research assignments. The librarians were then prompted to interview faculty to learn what the professors knew about the available library services and databases. It was discovered that some faculty had "difficulties with the use of the library services and resources" (Davidson and Peyton, 2007, p. 65). The Dean of Library Services then appointed an outreach coordinator. The outreach program was developed with two main goals: to "professionally represent and promote the Libraries' programs and services"; and to market "MSU Libraries as a premier information provider to the University community, the State, the southeast region and beyond" (Davidson and Peyton, 2007, p. 65).

The Athletic Academic Tutoring Program started in 1982 with only 15 tutors assisting student athletes. MSU is a member of the National Collegiate Athletic Association (NCAA) of the Southeastern Conference Division. The NCAA has academic standards, which student athletes are required to meet in order to be eligible to participate in collegiate sports. These standards became progressively stricter, and by 1998 the tutoring program had gone from 15 to 50 tutors to better meet the needs of an increasing number of student athletes. The NCAA Division new academic guidelines in 2002 required that all athletes pass more classes each year to remain eligible to play sports. The reason for the new guidelines included an effort to motivate athletes to progress towards their degrees each year and prevent them from taking all non-challenging or easy classes. In 2004, the NCAA approved a landmark academic reform package, and the requirements for athletes as well as their universities changed once again. Now the university and team would be held accountable for the educational progress of student athletes. Punishments would be meted out to schools that did not achieve the three years requirement effort to improve student athletes' progress, retention, and graduation rates (Davidson and Peyton, 2007). Reflecting on the proverb "It takes a whole village to raise a child," it appears as if that university village is now being required to fully commit to raising the child – in this case, young athletes – and take on a greater responsibility for the educational growth of the student athlete.

In 2005, MSU's Reference Department's graduate student, who was also an athletic academic tutor, contacted the reference services and campus outreach coordinator to state that the tutors needed a library orientation session. The student indicated that it was difficult to help the athletes when the tutors themselves needed more knowledge about the

library and its services. The coordinator contacted the assistant athletic director and also the athletic academic advising coordinator. All agreed that the tutors would benefit from a library orientation which emphasized electronic resources and how to better assist freshmen football athletes with their assignments. The first Athletic Department's freshmen orientation took place over a weekend in the Athletic Academic Advising Building. The reference services coordinator and government documents librarian introduced the library's website and its services to the students. The brief presentation demonstrated how the athletes could access the catalog and databases electronically. Since the athletes spend a great deal of time training and traveling to games, they needed to be taught the most efficient procedures to obtain the information needed to complete their assignments. More importantly, the athletes got an opportunity to meet two of the librarians and put faces with names. All directors and coordinators involved viewed the orientation as a success. It was determined that the next orientation would take place in the library so each athlete could have hands-on instruction.

The tutor orientation took place in the library, and the librarians demonstrated the new library website and resources. The presentation highlighted general databases and gave examples of searches. All of this allowed the tutors to become more familiar with the databases and form a connection with the Reference Department, which comes in handy both in their tutoring duties and when pursuing their own studies.

The situation at MSU illustrates a trend in that many American academic libraries are identifying college athletes as populations in need of outreach services, and are moving to meet those needs. Other examples of universities which have documented their experiences with athlete outreach library programs include Penn State, Valdosta State University, and the University of Iowa (Davidson and Peyton, 2007).

Another notable example of academic library outreach took place at the University of Florida (UF). Since 2003, UF has hosted a Readathon during National Library Week in April. This event was organized to celebrate literacy and libraries. Although this takes place on the main UF campus, the entire community of Gainesville (the city where UF is located) is invited to participate. Students of all ages, college professors, campus administrators, academic librarians, public librarians, teachers, school media specialists, elected officials, authors, and media personalities, among others, register annually to reach out to the community and promote libraries and literacy throughout their communities (Malanchuk, 2010). The Readathon is a four-day event. Each day there is a different theme and lunch is given by the generous donations of local restaurants,

supermarkets, ice cream parlors, and coffee shops. For example, Monday's theme might be Politics Day; Tuesday is frequently Children's Literature Day; Wednesday Southern Living Day; and Thursday Open Microphone Day, which sometimes includes readings of short stories or poetry (Malanchuk, 2010). The events usually take place outdoors under large tents, or inside the library if weather is inclement.

The Readathon's planning committee consists of 11 volunteers, academic librarians and paraprofessionals from the Public and Technical Services of UF's main library. Through the hard work and outreach activities of these individuals, both the campus and entire community can gain an opportunity to interact with each other and appreciate the diversity of the campus and surrounding city.

Target populations for outreach services

In order for academic libraries to properly serve a community, they must know that community – the constituent groups which make it up. The population of academic libraries is traditionally thought to be the students, faculty, and staff of a university, but global thinking suggests that academic libraries' population can be anyone in the world, at any time. Maintaining a balance between on-campus and community outreach programs is, therefore, a challenge. Most academic libraries have various roles. The primary role is to serve as the central informational resource of a college or university and, secondarily, to serve as an informational resource for a community. Students (college, high school, and elementary), faculty, staff members, and the general public of all levels may use many academic libraries to gain knowledge of all types to meet their informational needs. Regional university libraries often welcome community patrons to use their services in order to promote knowledge (Smallwood, 2010). Academic libraries are not limited to only those individuals on campus. Internet access has allowed academic libraries to assist patrons around the world. With the increase of distance education on US campuses, remote access to information is extremely important to students and potential students. Global access is not only the key for business success; it is the key to academic success as well:

> One would think that academic libraries would have a clear picture of their community and be able to target their marketing much more easily than a public library. Theoretically, this is true. An academic

> library knows that its community consists of faculty, students, and administrative staff, but its image of these potential library customers may be inaccurate or outdated. . . . Quite often, it seems that we [librarians] have an inaccurate picture of our customers. Perhaps we were given certain types of assignments when we were in college. Consciously, we are thinking about our own long-ago needs and those of our classmates. . . . We may incorrectly assume that those needs are typical of many disciplines. The only way to find out if this is true or not is to ask. There's no substitute for querying real students and real faculty. If you don't know how to reach them, then you're not going to be able to market the new service to them either. Developing a practical strategy to identify and communicate with your customers must be at the center of any effective marketing plan (Woodward, 2009, p. 134).

Community patrons have a wide range of professions and hobbies, just as college students have a variety of majors and interests. When academic libraries have a global outlook and awareness of the community, the possibilities to serve the community are limitless. Citizens, civic leaders, educators, and students of all ages may be patrons of an academic library, either physically or remotely via Internet access. Everyone is a potential library user. At one time, academic libraries' purpose was to support only the curriculum of its institution. Yet it is now recognized that outreach services establish important relationships. Once relationships are created, shared knowledge begins. Academic libraries communicate with their library liaisons or departmental representatives on campus in order to ensure that the library collection stays relevant and meets the subject and assignment needs of the university's students. This type of on-campus, departmental outreach allows academic libraries access to the subject expertise of its university's faculty. By reaching out in similar fashion to the community, academic libraries also gain valuable referrals lists of experts – by being aware of the local professional and skilled specialists, the library can make contacts who are important to the entire academic community. Using questionnaires (print and online) and focus groups may assist in knowing the libraries' users as well as their informational needs. Evaluations are not a popular topic with many librarians, yet customer evaluations give an accurate view of the state of academic libraries. Ongoing evaluations by academic library users promote true measurement, the first step in assessment and possible change and improvement of services.

Participants in academic library outreach

All library personnel can participate in the outreach services or programs offered by their library. Once an acknowledgment is made that outreach is needed at a public service point, library personnel with diverse specialties can collaborate with other professionals, students, and the general public to answer questions or resolve any issues. In *Librarians as Community Partners: An Outreach Handbook*, Smallwood shares an assortment of outreach participants and practices. The title alone indicates the relationship libraries have with their communities – academic libraries are instrumental segments of those communities. Smallwood shares outreach practice articles by numerous librarians of diverse backgrounds in academic, public, school, and special libraries. The book creatively communicates methods of outreach in all types of libraries. Smallwood states, "Librarians tend to share, and this bodes well for outreach – even in times of economic stress, the creativity of librarians opens fresh paths to reach patrons in their communities" (2010, p. ix).

Academic library outreach is beneficial to the faculty members of an institution, not only to inform them of the library's services, but also to aid in the dismissal of old stereotypes. Often librarians are viewed as administrative assistants. Misconceptions of the purpose, educational level, and skill sets of academic librarians can hinder both librarians and non-librarian faculty members in the pursuit of research. Professors are often engaged in research which will improve their discipline as well as the institution, yet librarians are often not consulted in the process of research. In *Advocacy, Outreach and the Nation's Academic Libraries: A Call for Action*, D. Scott Brandt writes:

> One area in which the need for and influence of advocacy may not be so obvious is within the research enterprise itself, identifying and pursuing collaborations to partner and engage in (as opposed to supporting) research. Opportunities are opening up to create and promote new roles for librarians, identifying and building new services, and ultimately increasing funding and visibility for the academic library, especially given the evolving nature of research in a data intensive environment (2010, p. 43).

Brandt also asserts that academic research is a business, an "enterprise to produce new knowledge, as well as new educators and researchers" (2010, p. 43). The author adds that academic research is growing and

universities expect everyone to participate in the process of this growth. In addition, Brandt tells of how Purdue University's Provost and the Dean of Libraries collaborated and concluded that the best way for the libraries to participate in major research funding was for the libraries to restructure and imitate the university's structure. A new position of Associate Dean for Research was created. The main responsibility of this Associate Dean is to guarantee library participation "in funding opportunities, and related collaborations at the university, with other universities, and funding agencies" (2010, p. 43). The collaboration is a form of internal outreach. It could also be considered as a method of cross training. University research offices, legal departments, finance departments, and libraries can coordinate on the research strategies that are best for the success of the university.

Students are the main patron base of all academic libraries. Knowing the expectations of today's college students is not the same as it was 20 years ago, ten years ago or even five years ago. The current generation of library users does not know a world without computers, and librarians that are often from a different generation may think they know what students need – but do academic librarians know what students want? The best way to learn what college students want from their academic library is to observe them, conduct literature reviews, have electronic and paper suggestion forms, and simply talk to them – ask them. Outreach will assist in learning what students expect of their library. Reaching outside the library's walls by visiting dorms, cafeterias, student recreation centers, student health centers, and lecture halls will give librarians a clearer view of what college students expect. Making assumptions about user desires by reflecting on personal experiences can be useful at times, yet assumptions about the needs and expectations of today's college students can lead to misinterpretation of their desires. Misconceptions can also be costly when seeking the best way to meet the informational needs of college students. Many academic library budgets are decreasing, and in order to maximize library funds, knowing exactly what is expected will eliminate stress as well as misallocation of funds. Utilizing a variety of media and methods to gain knowledge of what students want is important.

Today's college students are varied – they include traditional students, non-traditional students, commuter students, online students, part-time students, and graduate and PhD students. Naturally, academic libraries do not have the financial resources to satisfy all patrons all of the time, yet university administrators, library administrators, librarians, and library personnel can be aware of the needs and desires of the patrons. By

proactively involving patrons, particularly students, in the library outreach process, academic librarians can learn what students need and want. Jeannette Woodward, the author of *Creating the Customer-Driven Academic Library*, suggests that patrons can ensure their informational needs are met by being involved in library planning:

> The twentieth-century library was built to accommodate printed resources. As we plan for the twenty-first century, we are reasonably certain that libraries will continue to purchase print, but survival depends on expanding services beyond those of the traditional academic library. Perhaps the best way to approach the twenty-first century is to focus on the total student experience and the ways in which the library can enhance it . . .
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> Unlike academic libraries of the past, today's most successful libraries provide a variety of different types of facilities, services, and resources to meet the needs of a diverse customer base. This means that your customers should have considerable input in deciding which ideas should be implemented. When a new innovation "bombs," the reason often goes back to two basic mistakes. Customers were not closely involved in planning, and those targeted were not made aware that the library had something new and useful to offer them (Woodward, 2009, pp. 86–7).

Community partnership with academic libraries has been actively pursued for decades. In 2003, in her article on outreach, Tina Schneider noted that *Library Trends* had dedicated a full issue to outreach in academic libraries in 1958. The issue was entitled "Building library resources through cooperation" and concentrated on cooperative efforts of academic libraries with other academic libraries and different kinds of libraries in Europe. Schneider reported that in 1965 the American Association of College & Research Libraries completed a national survey of 1110 academic libraries where the main subject involved "community users and their access to the library, how community users are defined, what borrowing privileges they have, and methods of safeguarding collections." That survey concluded that 94 percent of academic libraries serve their local community in some way (Schneider, 2003, p. 200). Fast-forward 47 years, and communities are still vital to academic libraries. Since the economic downturn in recent years, academic libraries have served as centers to assist community patrons with job searching, online job applications, and electronic filing of federal forms such as taxes and natural disaster relief assistance applications.

Marketing and networking

According to *Merriam Webster's Dictionary*, marketing is "the process or technique of promoting, selling, and distributing a product or service" (Merriam Webster Dictionary, 2012). The American Marketing Association defines marketing as: "The process of planning and executing the conceptions, pricing, promotion, and distribution of ideas, goods and devices to create exchanges that satisfy individual and organizational goals" (Bennett, 1995, p. 166).

Marketing success depends on knowing the needs and desires of the target audience and acceptably delivering the desired goods or services. In order to keep and acquire new consumers, an organization should anticipate the needs and wants of consumers and satisfy them more effectively than competitors.

The methods for marketing of academic libraries and their services are as diverse as the information libraries provide. Have academic libraries satisfied the needs of their users? If librarians rely only on their own opinions of how their libraries meet user needs, the picture that emerges would not be completely accurate. Self-evaluation has its place, yet the true measure of the effectiveness of academic library services comes from the people they serve. If library users are not aware of the services that the library can provide, the users will not know how the library can help them locate information. Promoting library services in various media will inform academic library users (both those who visit in person and online users) of events and services available at their library.

Brian Mathews (2009), a librarian, public speaker specializing in promoting library services to students, and the author of the book *Marketing Today's Academic Library*, notes that gimmicks alone will not change perceptions of the academic library. Engaging in honest communication with library users and discovering creative ways to assist patrons in reaching their informational goals will continue to be a valuable part of the learning experience. Through outreach services and programs, community patrons become aware of the information available in the library in addition to the services the library offers which are not limited to its building. The academic library, in turn, learns the needs of its community. This knowledge aids in the collection development, promotion, and evaluation of the academic library. Often, academic libraries are perceived as a "know-it-all" place instead of a place where knowledge can be shared:

> We have to cast aside the librarian-knows-best mentality that comes across as eat your vegetables and take your vitamins and

> instead treat users as partners in the educational process. Our goal should be focused on the objective of student success. In fact, being user-centered is probably not enough. It is a user-sensitive library, one with genuine interest and concern toward its users that builds an ongoing and beneficial relationship (Mathews, 2009, p. 8).

In *The Customer-focused Library* Joseph R. Matthews (2009) suggests that libraries and librarians are in need of a paradigm shift. He explains that library services and collections are based on assumptions of the needs of the community rather than an absolute knowledge of what the customers want. Matthews' comments are geared towards public libraries; however, library customers often use academic and public libraries in an attempt to meet their informational needs. His viewpoint is therefore relevant and applicable to academic libraries as well:

> A paradigm is a worldview that encompasses a set of broadly and deeply held beliefs, in this case about what a public library is and ought to be. Librarians become prisoners to a library-centric paradigm and this limiting view is also held by some customers, who are wed to the traditional definition of the library as a quiet place to read and reflect. . . . I am calling for librarians to break the chains of this library-centric paradigm and develop a new worldview that has the customer at its heart (2009, p. 5).

The author continues by stating that "out-of-the-box thinking" is necessary for meeting the needs of a diverse market. Although academic libraries' main purpose is to support their parent institutions, the needs of their distance education global students and community customers are changing constantly, and they must also be addressed.

Working with the university's public relations department will aid in determining the best tools to use to connect with faculty, staff, students, and the general public. Collaborating with other departments such as marketing and graphics departments on campus has the potential to develop or improve library perceptions on campus. Often departments are so involved in their own projects and programs, they may not be aware of how the library can assist them with their informational needs. Librarians can gain the expertise from others such as the public relations department and learn traditional and non-traditional promotional methods.

Marketing plans

In their article "Developing a long-range and outreach plan for your academic library" Hallmark and colleagues explained the importance of observation, surveys, gathering data, and research and evaluation of academic libraries in order to develop a marketing plan:

> Marketing can provide an arsenal of skills to assist academic librarians. The essential marketing document to assist libraries in designing their marketing activities is the marketing and outreach plan. Information used to compile this plan includes best practices at similar institutions, local data on user preferences and suggestions, successful library marketing strategies at other institutions, and an analysis of the strengths, weaknesses, opportunities, and threats that challenge and support the library's plan to position itself as a leading information resource (Hallmark, Schwartz, and Roy, 2007b, p. 92).

Marketing plans outline outreach, media, and marketing strategies for particular audiences: "These target audiences may include students and faculty at the home institution, as well as faculty and students at neighboring institutions and broader community" (Hallmark, Schwartz, and Roy, 2007b, p. 92). The plan should be created with well-defined, clear, measurable, and time-centered objectives. By writing down goals and making them easily comprehensible, academic libraries make it easier to pursue these goals and ensure they remain relevant and competitive in their market niche – that of library users in a variety of categories. Since patron bases differ greatly, the academic library outreach marketing plan must be as flexible and diverse as the people the library serves. Academic libraries are the heart of the institutions within which they function, and without the heart, survival is impossible. If libraries are the heart of academic institutions, the communities they serve are the blood that flows to the heart. Both are necessary for the life of a campus and community, for it to be a viable and growing entity. The abovementioned article adds that data gathering and learning the desires of the academic community can assist with successful marketing plans. In addition, the authors state that certain other elements should be used to compile such a plan:

> local data on user preferences and suggestions, successful library marketing strategies at other institutions, and an analysis of the

> strengths, weaknesses, opportunities, and threats that challenge and support the library's plan to position itself as a leading information resource. (Hallmark, Schwartz, and Roy, 2007b, p. 92)

Highlighting the benefits of the academic library by branding and labeling it as a "growing organism" is far from a new concept in US libraries, and this idea is as pertinent today as it was in 1931 when S.R. Ranganathan first developed the Five Laws of Library Science, which remain timeless and relevant:

> Books are for use.
> Every reader his [or her] book.
> Every book its reader.
> Save the time of the reader.
> The library is a growing organism (Ranganathan, 1931).

The Five Laws are dated by the types of resources to which they limit themselves, specifically books, but the principles behind these laws are still paramount. Substituting the word "information" or "resources" in the place of "books" contemporizes the concepts, showing their appropriateness for the current state of libraries. Terms change to keep up with technology and the vagaries of the English language; the methods and services of academic libraries should continue to evolve and change with the times as well, but the basic philosophy remains the same. Customer-driven, sincere service, timely assistance, and evolving resources have always been a cornerstone of academic library service and are still the foundation of today's academic library outreach. As living organisms, academic libraries are constantly growing and relying on user needs to help foster this growth and improvement of services.

Branding

In order to comprehend branding, the definition of a brand must first be understood. According to the American Marketing Association, a brand is a name, term, design, symbol, or anything that identifies one seller's goods or services as distinct from other sellers. The legal term for a brand is a trademark. A brand may identify one item, a family of items, or all items from a particular seller (Bennett, 1995).

Academic libraries' multifaceted values have the capacity to appeal to traditional library users who believe libraries should only be quiet places

to read and study, as well as to modern library users who see libraries as boisterous community centers that change lives (Dowd, Evangeliste, and Silberman, 2010). Mathews describes branding as having three layers: a visual layer, a value layer, and an emotional layer. He explains that connecting the three layers together makes "a complete brand picture" (Mathews, 2009, p. 88). The visual layer includes the logos and slogans that are prominently and frequently placed to represent the library and its services to the public. Examples of corporate visual branding include images such as the Maxwell House coffee cup with the pendant drop of coffee and slogan underneath stating "Good til the last drop" or the golden McDonald's arches with the slogan "I'm lovin' it." Adding a value layer provides detail and insights into what the library would like to represent to the public. It is not a slogan *per se*, but rather an expansion and explanation of the associations the library wants to evoke with users. This layer explains why the library is the place to go. An example of this layer of branding shows students and anyone seeking information that academic libraries should be used to meet their informational needs:

> over one hundred computers and thirty software programs so you can work on assignments, group study rooms so you can practice presentations, or a silent reading room for when you need to review notes . . . these statements place value on the functionality . . . not intended to be advertising slogans, but to illustrate a rational quality that we can build into our messaging. Simply put, this is how we want students to *think* about the library (Mathews, 2009, p. 89).

The third layer of branding is intended to provoke emotions, to generate feelings with the library's constituency. It is the notion that "the brand idea is transcendent; more than just the logo and a claim of quality, it is something that becomes aligned with our own identity" (Mathews, 2009, p. 89). The emotional layer ensures that the target audience associates the library with certain things that provoke a positive emotional response – a response users will act on. Mathews stresses that this layer is where desirability is expressed. For example, "Why study alone at home when the library is filled with people who can help you? Or, Google is great for finding information, but the library is designed for research" (Mathews, 2009, p. 89). Just as with corporate companies, branding is crucial to the library's success. Branded marketing materials should be immediately recognizable, thus guaranteeing that they instantly provoke the desired associations in those who see them.

Word-of-mouth marketing

Word-of-mouth marketing is one of the oldest, yet one of the most effective, marketing strategies ever developed. Academic libraries have not had as much training in word-of-mouth marketing as businesses have; corporations have been using it for years. Consumers are passionate about companies for many reasons. They might like certain products or believe that a company needs or is worthy of support because the consumers agree with the company's values: "Although it is always good to have people like your product, having someone identify with your organization because he or she identifies it with personal values is also very powerful" (Dowd, Evangeliste, and Silberman, 2010, p. 5). It is this identification with personal values that libraries can and should incorporate into their marketing campaigns.

Reference librarians at Valdosta State University's (VSU) Odum Library used word-of-mouth marketing as well as collaborative services to promote their embedded librarian program. In 2009, professors at VSU learned about the program from other professors. The librarians shared with their departmental liaisons and professors for whom they conducted library instruction sessions, informing them that both their on-campus and online students could receive research assistance via the embedded program. The marketing was simple; in the "first few semesters it was marketed exclusively by word-of-mouth" (Wright and Williams, 2011, p. 8). During the summer of 2009, an email invitation was sent to the faculty listserv inviting them to use an embedded librarian for their online classes. This marketing effort bore fruit almost immediately: "As a result of the increased promotion, more faculty from a variety of departments did request an embedded librarian for their online courses in summer semester" (Wright and Williams, 2011, p. 8).

The success of this type of marketing at Valdosta State is but one indication of its power. Librarians should realize that every public services transaction they carry out has the potential to serve as a word-of-mouth marketing tool. Whether a patron's experience is good or bad, they are likely to tell others, and this can influence how the library is viewed and used. Those patrons who obtain the information and/or services they seek quickly and easily with pleasant customer service from the library can be very effective marketing channels indeed, drawing others to use the library and its services – and their "good press" does not cost the library a penny.

Print marketing

Brian Mathews cleverly outlines the possible print resources for marketing academic library services in his book *Marketing Today's Academic Library*, listing brochures, bookmarks, banners, fliers, table tents, maps, newsletters, campus newspapers, napkins, t-shirts, pens, calendars, key chains, magnets, water bottles, mugs, rulers, USB drives, stress balls, and frisbees as items that can be used to advertise academic library services in print. He suggests that academic libraries explore the marketing tools of for-profit industries, such as car dealerships:

> Think about how your local car dealership typically advertises. It buys television, radio, and newspaper ads; sends out direct mail; and occasionally hosts sales events. Each individual component contributes to the total advertising effort. This marketing mix, as it is commonly known, represents the full collection of promotional pieces that make up a campaign. All of these different elements function like building blocks, working together to deliver an integrated and widely distributed message (Mathews, 2009, p. 99).

Knowing the atmosphere and one's library community will aid in the selection of which print advertisements are best to use. For example, newsletters are one form of communication that can be used to publicize library events; however, not all libraries produce newsletters, or if they do, the publication schedule may be such that they are not timely enough for this use. Just because one academic library has a monthly newsletter does not mean each library should have one. Instead, it may be more useful to contribute articles to the college newspaper in order to reach the population on campus. Those libraries that produce quarterly or biennial newsletters realize that most outreach library events are time sensitive; listing information in publications to increase attendance is useless if the print source is published after the event has already been held. Nonetheless, even if they are not timely enough to serve as announcement sources, library newsletters can serve as a record of events and activities, documenting them for public information as well as for annual reports and the library's archives. Newsletter exchange between local academic and public libraries can also provide a way for each to keep abreast of the other's outreach activities and cross-promote. Academic libraries can inform their users of community events discovered through the local public library newsletter. Communication such as this between the two

types of libraries can create a supportive relationship which fosters development of outreach programs for both libraries. If a library is currently without a newsletter but has the requisite staff for a newsletter committee, it may be a marketing tool worth pursuing. This committee is responsible for determining the design, distribution, and schedule dates of the newsletter.

It is important to consider the workload of librarians and library staff before initiating an academic library newsletter, as content generation, layout, and publishing can take a significant degree of effort and time. Some newsletters are electronic-only, perhaps the best option in an environment where the print budget is small or nonexistent. Electronic newsletters allow online users, including distance education students, to be aware of library services and events. A dual approach can also work well – using electronic as the primary method of distribution, and only printing newsletters for specific groups, such as the Friends of the Library or the top levels of university administration.

Brochures are another print method to publicize outreach services, and they function best when used as a brief communication targeting specific populations or services. The quick facts listed on brochures can be tailored for students, faculty and staff, or community users. Often academic libraries have several types of brochures to inform different groups as to the services the library offers to meet their particular needs. Brochures should feature colorful and eye-catching layout and design. Consulting with the public relations, graphic arts, or print departments on campus is another means of outreach and collaboration. Involving different departments and inviting students majoring in these disciplines to assist with the layout and design of the newsletter or brochure improves the overall look, feel, and effectiveness of print marketing sources in addition to providing students with opportunities for practical experience using the skill sets taught by their respective disciplines. The aesthetics of printed materials may be a result of various collaborations, but librarians are ultimately responsible for the accuracy of the information presented. It is important to have multiple individuals proofread all library publications to ensure a grammatically correct and pleasing manner of information presentation. This finished product can be used by those across campus, especially graphic design students, as part of their portfolios. Informal collaborations such as this are noteworthy in that they further education, job skills, and student learning outcomes while also generating new library users and improving perceptions of academic libraries and librarians.

Flyers are another method used to promote events or new services in libraries. Attention to detail is imperative with flyers: they must not be

overloaded with too much information, and a simplistic design is often most effective. Otherwise, the library service being promoted can be lost in bold fonts, loud colors, and fancy design elements. It is also vital to ensure that the five Ws are included: Who, What, Where, When, and Why. Whereas a newsletter or brochure is designed to provide more details on services, giving crucial information is the main objective of a flyer. Aesthetics are undeniably important, but if the five Ws are missing, it does not matter how attractive a printed publication is – it will not accomplish its goal. The purpose is to convey essential information to the academic library community regarding the library's services and/or events. Creating a checklist or guidelines for different types of publications can assist the library in making sure all publications have a consistent and appropriate design, as well as contain all the pertinent information.

Felicia A. Smith, librarian and author of the essay "Lifesaving library outreach" (Smallwood, 2010), knew exactly where and how to market her library and its services after she conducted a literature review. Smith wanted to know the frequent challenges confronting US academic libraries. She also wanted to have a direct impact on a group in great need of college level library support – incoming freshmen. Once Smith determined her target population for the outreach project, she was also able to work out the best place to market to this target group of incoming freshmen. On the first day of class, Smith decided to focus on communicating to undergraduate students in front of one of the most popular buildings on the campus of her university. She distributed vibrant postcards which highlighted the library's services and, perhaps more important to the freshman attention span, could be read in less than one minute. Smith also added a candy lifesaver on each card to indicate that the library can save students time and energy if they are aware of its services and contact information. Simply put, the library is a lifesaver, and Smith used this promotional marketing to provide quick facts on how the library can help students with their informational needs.

Library websites, blogs, instant messaging, Facebook, and LibGuides are just a few of the electronic marketing and networking tools available for academic library use. Electronic marketing allows for remote access to academic libraries, and it can be most effective with those who regularly utilize the library's services online. Distance education students or any virtual user can learn of the services of academic libraries simply by browsing the library's website, one of the single most important electronic library marketing tools. Mathews states that library websites are the most easily available electronic media. The library website has numerous features and can not only promote, but also offer many

research options to various types of library users through the click of a mouse. In addition to providing access to the catalog and databases,

> Your website has to be everything to everyone: a research utility, a calendar, a guidebook, a policy manual, and a directory. Users visiting the site have a wide variety of needs and therefore the web presence has to be flexible and accommodating. Your website should also serve as a chief promotional portal; it is a virtual billboard introducing users to new products and services. Ideally the website's messaging should progress along with the semester. Highlight computer access, printing, and other basic features (Mathews, 2009, p. 109).

Mathews explains the importance of customized library research guides to assist with all college subjects, disciplines, and majors. He also suggests that course management software such as BlackBoard can serve as a prime area for library marketing. Mathews concludes that when students log on to view assignments and syllabi, linking the library in this environment is natural and provides ease of use.

Electronic marketing and networking

LibGuides, a content management and information system developed by the Springshare company, are detailed extensions of the academic library website. They have gained a great deal of popularity in recent years, and offer librarians the ability to create guides and web pages to share knowledge and connect academic library users to any subject. One of the best features and, doubtless, what endears LibGuides to academic librarians is that they are designed so that LibGuide users do not have to be technically savvy to develop research guides for faculty, students, and anyone else searching for information on a particular subject. Juliet Kerico and Diane Hudson, the authors of "Using LibGuides for outreach to the disciplines," describe LibGuides as a "user-friendly tool" which can be used to create electronic resource and research guides. They state that LibGuides can also be used to create "course-specific guides, complete with downloadable handouts, multimedia tutorials, and links to important propriety databases and Web resources" (Kerico and Hudson, 2008, p. 40). Additionally, in "New library, new librarian, new student," Sara Roberts and Dwight Hunter point out that LibGuides have numerous purposes, and their uses are continuously growing.

LibGuides are used as library homepages, tutorials, and virtual pathfinders. They allow library resources to be "out in the open" (Roberts and Hunter, 2011, p. 68). One of the main advantages of LibGuides is their accessibility – they are available via Internet 24 hours a day, 7 days a week. Any device that can connect to the Internet can be used to view LibGuides. Students taking classes online and any library user not living close to an academic library can greatly benefit from LibGuides since there is no need to visit a building physically in order to use the database resources linked via LibGuides (Roberts and Hunter, 2011).

A blog is a combination of two words: web and log, and is essentially a web page updated regularly by the posting of new messages. Entries are usually displayed in chronological order so the most recent post appears first. Blogs can be created by individuals or small groups, and they usually focus on one main subject or theme (Crosby, 2010). Blogs became popular in the late 1990s with the development of web publishing tools. Precursors to resources such as LibGuides, these tools made it easier for non-technical individuals to publish on the web. Previously, knowledge of HyperText Markup Language (HTML) and File Transfer Protocol (FTP) was required to publish on the web. Tools such as blogs negated that necessity and allowed for widespread web publishing. The most effective blogs are those that do not merely relay information, but also solicit input from others, making the experience interactive. This interaction allows blogs to be labeled as a social networking tool. Other readers and bloggers share information and thus form relationships. Academic library outreach is about sharing information and creating relationships, so blogs are a natural choice for promoting the outreach activities of academic libraries to communities.

Instant messaging services are exactly what the name implies: messages delivered and received instantly, a way to chat with an individual or group over the Internet. The attraction of this type of outreach service is obvious: users want information quickly, and instantaneous communication, as Ranganathan would have it, saves the user's time. While the original technology was limited merely to text chatting, with the introduction of video chat, instant messaging can provide almost the same experience as consulting with a librarian in person. This form of outreach clearly expands services beyond the walls of the library, classroom, home, office or any building.

Facebook (*http://www.facebook.com*) was launched in 2004, and by 2009, it ranked among the most actively used social networking services worldwide. Founded by Harvard University students Mark Zuckerberg, Eduardo Saverin, Dustin Moskovitz and Chris Hughes, in the beginning,

Facebook was limited to Harvard students only. It soon expanded, and now boasts well over 100 million unique US visitors (Mathews, 2009). Facebook gets its name from a directory found in many American universities consisting of photos and names, a sort of picture directory. US university administrators distributed the directories at the beginning of the school year with the intent of helping students become familiar with each other, but Facebook as it stands today is a completely different animal from these simple directories.

Mathews says that Facebook is "designed to connect users with a wide range of applications, and many librarians have jumped in, using the software as an outreach tool" (2009, p. 111). Millions log on to Facebook daily for social interaction. Some of these individuals may never physically ask a librarian for help or give a suggestion in person, but communication can be fostered through Facebook without the intimidation or apprehension that might be felt by students or library users when consulting a librarian in person. Facebook also allows for convenience for the user by extending services to the places (in this case, online) they frequent. According to Mathews, Facebook allows "librarians to be more visible, approachable, and relatable to users" (2009, p. 112). Facebook is thus a useful marketing tool for outreach services as well as a venue for outreach itself. Mathews suggests that if librarians are embedded in Facebook, "library staff . . . is able to respond and promote library products as they are needed by students" (2009, p. 112). It is clear that embedding librarians and library services within Facebook can result in benefits to library users, but it also provides benefits to *potential* users. The connection provided by social networks allows for the provision of information services to current students and constituents, as well as those who may become students and constituents. Offering timely research responses to all users places academic libraries in a positive and proactive light.

Trends, anticipated futures, and recommendations

Outreach is essential to the future of academic libraries because it highlights the important role of academic library services to all users and potential users. Recent publications are focusing on the library without walls, the radical thinking of librarians, and the importance of giving accurate and reputable information to the public. In her foreword to

Librarians as Community Partners, Kathy Barco describes the outreach handbook as a sampler to a main course meal. She suggests that those interested in future trends for outreach should sample:

- unconventional outreach – partners such as juvenile correctional facilities, newspapers, local parks or historical agencies and employment centers;
- homeschooled teens, student athletes, teen thespians;
- multicultural, senior, and baby boomer outreach;
- library anniversaries, beach outreach, a circus collection, and a library art gallery (Smallwood, 2010).

All segments of the community have their own unique tastes, and academic library outreach must provide them with services seasoned to appeal to those tastes. These are just a few examples that academic libraries may wish to pursue in future outreach efforts.

Out-of-the-box thinking is needed to attract and gain additional academic library users, and an example of a non-traditional outreach and promotion using both print methods and Facebook as a tool, took place at McIntyre Library at the University of Wisconsin-Eau Claire. McIntyre Library wanted to dismiss stereotypical library and librarian perceptions and offer a contest which had nothing to do with the library or books. The contest was meant to get the students talking about the library in a positive manner. In February 2009, students were asked to write on the subject "How I Met My Valentine." A Facebook group was formed with the contest guidelines. These were the rules and prizes:

1. Limit your post to no more than 300 words.
2. Winners must still be together and one person must be a current student of the University.
3. At least one person from each winning couple must come to the library to claim their prize.
4. Winners must agree to have their photo and story used by the library for promotional purposes.
5. Winners' photos and their stories will be posted on the library plasma screens and library news blog.

A $50 gift certificate to a local, romantic restaurant served as first prize and was paid for by the library. Additional gift certificates ($25 and $10) for the second and third prize winners were obtained from a few other local restaurants (Jennings and Tvaruzka, 2010, p. 7).

Flyers were posted in the library and around campus. The library blog also posted about the contest, and there was a press release on the University's home page. In a matter of days, 60 couples had entered the contest and over 70 people joined the Facebook group (Jennings and Tvaruzka, 2010).

The contest was a success because of the participants. People were interested in telling their stories and winning prizes. This also allowed the library to try variations on this theme. A Halloween contest soliciting stories of one's scariest date was later instituted in response to a library user who wrote that they did not have a Valentine. Opening a dialogue, not just with regard to library research communication, but on any subject, keeps academic libraries aware of and in tune with user interests and what those users are thinking. Traditional thinking alone will not advance academic libraries to develop and meet the needs of constantly changing information seekers. Students are visiting blogs, Facebook groups, and LibGuides often to see what is going on at the library. Academic libraries that are diverse and flexible in their outreach procedures and how they promote them will reach more members of the global community they wish to serve.

Academic libraries have the ability to assist in building relationships on campus and in the community. Moreover, libraries are in a position to connect individuals with information and connect people with other people.

Libraries bring people together for academic, cultural, creative, and social causes; no one else on campus so completely fulfills that role. And so it is vital that we try to be visible on campus, not just as salesmen pitching our products, but as participants (Mathews, 2009, p. 84).

Mathews goes on to state that academic library representatives can benefit from attending events and activities on campus. Academic library representatives can also benefit from attending community events, meetings, and activities. Casual and informal information sharing between academic libraries and their communities (both on and off campus) should be used to spark the interest of under-represented populations on college campuses. Segments of the community may even become interested in college and potentially apply for college primarily as a result of the relationship these community users develop with academic library staff through outreach.

Library services can be promoted in person and electronically. Library instructions, one-on-one consultations, library tours and open houses, and social networks, just to name a few, are tools currently at the disposal of library personnel to publicize what academic libraries have to offer.

Knowing the users and what they expect and need from the library is essential to determining the best and most appropriate publicity tools to use.

Each department of an academic library can take part in the promotion of all library services, including and especially outreach. For outreach services to have a viable future in academic libraries, departmental cooperation and participation in promoting library services is paramount. It will not only serve library users, but will also keep library staff aware of the continuous changes in academic library services so that they can adapt to these changes, allowing personal and institutional evolution to better serve users and meet their needs – whenever and wherever those users may be found.

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6

Outreach in Chinese academic libraries

Shaorong Liu

Abstract: This chapter covers the origins, definition, and significance of outreach services in Chinese academic libraries, focusing especially on the limitations in scope. Emphasis is placed on the pervasive and unique influence of Chinese cultural concepts on the ideologies and implementation of academic library outreach in the country. The effect of new technologies on Chinese academic library outreach is presented, as is the evolution of the physical spaces in Chinese libraries. Trends and anticipated futures, including the extension of Chinese academic library outreach to the general public, are examined and recommendations made.

Key words: Chinese academic libraries, library outreach, library creative services, library technologies, information technologies.

Introduction to outreach in Chinese academic libraries

As one of the most important elements in a higher education institution, the academic library is "the heart of the university" and "one of the three backbones (libraries, instructors, and students) in the university," according to the *General Regulations of College and University Libraries* (revised edition). This guiding document for academic libraries in China defines an academic library as the institutional information center for Chinese higher education (Ministry of Education, 2002). It is an

important information base for both the institution and society. As an integral component of higher education institutions, academic libraries exist to serve and support the teaching and research activities of Chinese universities.

Great changes have taken place in Chinese academic libraries in the current decade. These changes can be found in library space utilization, the use of technology, the proliferation of services, patrons' information-seeking strategies, and even the mission of the library. Traditionally, in China academic libraries have been resource-oriented, and those resources were often sequestered behind closed stacks. However, stacks have opened, Chinese academic libraries are becoming increasingly user-oriented, and Chinese academic librarians are building a closer relationship with the users than has ever been seen before. Before the 1990s, only limited services were provided in Chinese libraries. At that time, each library in China, public or academic, big or small, offered the same services, and they all shared similar infrastructures and collections. The only real difference among the libraries was quantity – the number of resources and the number of users.

With the development of information technology networks in the 1990s, a variety of services began to be added to the academic library's repertoire, creating a more individualized and diverse environment. More attention began to be paid to users, their desires, and their expectations. New ideas and new service techniques were adopted. These included subject research services, information sharing services, self-services, and mobile services. Recently developed technologies such as wikis, really simple syndication (RSS), QQ (the most popular instant messaging system in China), blog, microblog, and the cloud are now commonly implemented in all Chinese academic libraries. Library services are no longer limited to the physical building; they are integrated into the teaching and research process. Library services have expanded their scope, and can now be found within academic departments as well as in the classroom.

The concept of library outreach is one that has been very recently introduced into academic libraries in China. Research into outreach methods and practices has likewise only recently been initiated. Dr Manru Wang's article "New concept of outreach services in academic libraries" provides an introduction to outreach services in China, with detailed information on individual services, subject services, online services, public lectures, and so on (M.R. Wang, 2009). Dr Zhuanhong Huang (2009) has chosen to focus on outreach service practices, including readers' advisory, building specialized databases, library orientation and

instruction, and providing library services to meet the needs of off-campus entities. Outreach services have become an important aspect of overall library services because of their unique goal – the extension of library presence into new venues not found in traditional Chinese library services.

Though still in its nascent stages, academic library outreach in China is evolving. Initially it has focused solely on campus outreach – extending services beyond the physical library building, but still contained within a very specific user base: university students, faculty, and staff. However, requests for access to the resources of academic libraries from the Chinese general public have been well received since most public universities are financed by the Chinese government. Thus, some academic libraries have also begun to open their doors to the general public as a result of these requests, and are in the beginning stages of exploring community outreach services.

It is a natural evolution for Chinese academic libraries to offer outreach services because of the changes of information organization and usage that are occurring. Outreach services, in turn, promote the library's growth and ensure its continued relevance.

The origin of outreach services

Outreach services in China can be traced back to the early 1990s, and can usually be found in non-academic areas such as the postal service, financial services, insurance services, transportation services, and so on. Libraries in China began to explore the relevancy of outreach services within the library sphere in 2007. At the Bureau of Culture national conference in Tianjin on May 15, 2007, Associate Minister Heping Zhou pointed out that libraries should not limit their services only to those they currently provided; instead, they should explore new service models in order to exploit the full potential of facilities and resources. Diversity and individualized services could be provided, extending the depth and breadth of library services (Xinhua News, 2007). Since then, Chinese public libraries have experimented with extending certain public services. The word "outreach" is not always used by academic libraries in China; instead, the term "creative service" is more popular. Theory and practice on library outreach services began to be included at national academic library annual forums. Seven nationwide committees, including the Outreach Committee, Archive and Resource

Development Committee, and Information Literacy Committee, were established by the Steering Committee for Academic Libraries of China in 2009. Meetings and conferences have been held by these committees to introduce and discuss the latest developments in their respective areas, including outreach. New ideas and practices have been introduced at the Outreach Committee meeting each year, and at the third conference held at Southeast University in 2010, the theme "Cultural Support Services" was provided by the Outreach Committee for the discussions and presentations of more than 300 participants. The fourth meeting was held at Wuhan University, and the theme was "Library Planning and Librarians' Careers" (Wuhan University Library, 2011). Also in 2011, a meeting was held at Chongqing University with the theme "Library Best Practices: Technologies and the Future." Topics such as how to use information technologies to improve library services were included in these discussions, and as a result the concept and a set of practices for outreach services are now widely accepted in Chinese academic libraries.

The definition of outreach

Outreach library services in China are add-on services; they are not the essential or traditional services offered by libraries. Essential or traditional services are provided frequently, if not daily, while outreach services are provided according to the patrons' needs. No single, universally accepted definition can be found for outreach services in China, perhaps because some essential or traditional services are not clearly identified and the coverage of what is considered an outreach service is likewise vague. Therefore, definitions of outreach services vary. Some define outreach as extended services provided by a library based on the availability of resources, librarians, facilities, and space. Others view outreach services as extended services that allow users to maximize use of the library (Wu, 2010), while still others define outreach in academic libraries as those services which improve the essential or traditional services offered to readers (Mu, 2009). Regardless of how one strictly defines outreach, it has as its foundation putting the user first, creating new ways of offering service, and/or enlarging the coverage of already offered services. In order to accomplish the goals of outreach, an increase in efficiency and change in library service methods is needed to improve traditional services and better serve patrons (Song, 2011).

Outreach services in Chinese libraries, as with any type of service in any type of library, can be brought about through two different initiatives: from the users' expressed needs or from the library's perception of user needs. When needs are clearly expressed by users, library services are extended to meet those needs. A good example in Chinese libraries is the extension of library operation hours. Far from the 24/5 or 24/7 models now demanded by users of many US academic libraries, in Chinese libraries in the 1990s operating hours were most often Monday through Friday, and some reading rooms closed for one to two hours for lunch and dinner. This understandably made it difficult to meet patrons' needs. When patrons' repeated requests for longer operation hours were assessed, libraries realized that extension was needed. Accordingly, they began to extend their operating hours by remaining open during lunch and also opening on weekends. Eventually, some Chinese libraries even moved to the 24/7 model. The extension of operating hours illustrates a precept of outreach services: that a service which is originally an extension service can quickly evolve into an essential service. Services such as an extension of operating hours are welcomed by patrons, and once this is recognized and the service is routinely provided by the library, patrons more than welcome it – they expect it. At that point, it is added to the list of essential library services and is no longer classified as outreach.

In other cases, outreach services are actively provided by a library without first having an expressed need from patrons. These kinds of services are instead offered by the library based on observation of patrons and their information-seeking behavior. Though they have not yet been requested, the library promotes certain services to patrons because the library itself has identified a need, and believes patrons could benefit from the offered services. These types of services often require a proactive effort on the library's part before patrons finally accept them. Subject-related reference service is an example of a library-initiated outreach service. Though no particular request for such a service was made by patrons, providing information retrieval and library use instruction for a particular topic was perceived as necessary by the library after observing patron information-seeking behavior. Accordingly, the library created and pushed these types of programs to the users for their own benefit. Offering outreach services in this way is always a gamble; it can take a period of time for the services to be accepted by the users, if they are accepted at all. Even when they are accepted by library users, these kinds of services are sometimes not cost-effective, and therefore cannot be easily added to the library as part of normal services.

The coverage of outreach services

The coverage of outreach services is a topic of some discussion since outreach is a relatively new concept in China. Dr Jin Liu highlighted five major areas that encompassed the realm of outreach services in China: content, space, network, culture, and concept (2008). Content relates to the concept that the content of outreach services can be seen as an expansion of traditional services: lectures, exhibitions, and training can all be added to enhance services normally offered. Space refers to a physical expansion of library presence – that library services can be extended by building branch libraries, mobile libraries, and community libraries. Network works in the same way as space, only in the virtual realm: to expand library services (e.g., virtual reference) by using network technology and the Internet. Culture refers to the extension of culture-related literature via complimentary access to a library's collection. Finally, concept is concerned with establishing new service concepts which expand beyond the library to reach people actively, rather than the traditional method of waiting for patrons to come to the library.

Liu's is an interesting delineation of basic concepts, but there is far from general agreement on the essential areas of library outreach in China. Dr Yongxian Chen, in addition to concept, content, and space, also includes time in his grouping of the main areas of outreach services (2009), while Dr Hanhua Wu used a three-dimensional model (time, space and content) to focus on contravening the limitations of time, space, and traditional service content in order to provide outreach services (2010).

These differences in coverage indicate that outreach service is dynamic, and providing outreach should be based on a library's current and specific situation. Understanding the main purpose of library services (providing information services to patrons) is vital for the creation of effective outreach. Resources, space, time, technology, and especially librarians are all integral parts of providing information services. Librarians act as a bridge between resources, space, time, technology, and patrons. Outreach services could formerly be divided into two parts: the extension of services and the extension of time, or operating hours. As mentioned above, since the operating hours in some Chinese libraries have been extended to 24 hours a day, 7 days a week, and this is now considered an essential service, there is no more that can be done in this area. Thus, the extension of services, rather than the extension of time, has become the focal point of outreach in Chinese libraries.

The connection between essential and outreach services

In Chinese libraries outreach is developed based on essential services and, in return, outreach promotes essential services. Outreach services usually begin with individuals or groups who have special needs. A service is offered to this particular audience, and when the service is accepted by all library users, it then becomes a regular service, which is part of essential services. An outreach service is usually a unique service – it may not be needed by all library users; it may not be accepted or utilized by all library patrons. When promoting these new services, if one begins with those who have an expressed need, the success of the service is simpler to achieve. It is often easier for patrons to accept new services when they hear about them and their efficacy from other patrons, rather than through direct marketing by the library staff.

In a word, essential services and outreach services *complement* each other. Creative outreach services are often so well received that they become routine and expected, promoting the development of essential services. This process results in the further overall development of the library. The best way to further this development and serve patrons is to identify the differences between essential services and outreach services, and offer both with one goal in mind: meeting users' informational needs.

The significance of outreach

Though the proliferation of technology provides a solid backbone for information development, libraries, as information providers, are currently facing a variety of challenges. In the academic library realm, information can be found through various channels, and students are also increasingly going beyond the library since libraries are no longer the only place for them to locate the information they need. More and more questions have been raised concerning the library's print sources, as well as the library as a place. During the last five years, the number of books checked out has been decreasing in several Chinese universities. Yet the key function of a library – providing resources and services – will not change no matter how the external or internal workings of the library evolve. Libraries must adjust themselves to the changing environment in order to provide needed information and services.

Collection development

One of the main reasons patrons visit libraries is the library collection. Thus, collection development is fundamental for library development. Selecting resources and building library collections should be the cornerstone of the academic library. However, Chinese libraries are facing a major challenge in collection development due to price increases in print and especially electronic resources (Table 6.1). With a finite amount of funding which has, of late, often decreased rather than increased, managing the right ratio of print and electronic resources can be another challenge.

Budget for collection development in academic libraries

The annual reports for collection development in 200 Chinese research libraries (Document Resources Building Taskforce, 2011) indicated that the budget increase ratios for these 200 academic libraries compared with the previous year are: –0.72 percent in 2006, 5.39 percent in 2007,

Table 6.1 An overview of publishing in China, 1999–2009

	Number of titles published	Growth rate compared with previous year (%)	Price (¥m)	Growth rate compared with previous year (%)
1999	141 831	8.6	436.33	9.6
2000	143 376	1.1	430.10	–1.4
2001	154 526	7.8	466.82	8.5
2002	170 962	10.6	535.12	14.6
2003	190 391	11.4	561.82	5
2004	208 294	9.4	592.89	5.5
2005	222 473	6.8	632.28	6.6
2006	233 971	5.17	649.13	5.17
2007	248 283	6.12	676.72	4.25
2008	274 123	10.41	802.45	18.58
2009	301 719	10.07	848.04	5.68

Source: National News Publication Bureau, 1999–2009

4.89 percent in 2008, 0.73 percent in 2009, and –37.50 percent in 2010. Though this makes apparent the hugely reduced ratio in 2010, an overall trend of small increases is the norm. How this funding is being allocated in Chinese libraries is also of interest, and the ratio of electronic to print resources is shown in Table 6.2.

These numbers indicate that the funding for purchasing print sources decreased from 70.72 percent in 2005 to 57.04 percent in 2010, while the funding for electronic resources increased from 29.28 percent in 2005 to 42.96 percent in 2010. The reason for the decrease in allocation for print in favor of increasing allocations for electronic is twofold: more electronic resources are available, but there are also more users creating an increased demand for electronic resources. Some Chinese universities are already expending more on electronic resources than on print. For example, in 2008 Donghua University Library spent ¥5,500,652 (RMB) on electronic resources and only ¥4,531,838 (RMB) on print. Shanghai Jiaotong University Library also shows the increasing budgetary importance of electronic resources, expending ¥10,146,600 (RMB) on electronic resources as compared to ¥16,173,793 (RMB) on print.

As these increasing numbers demonstrate, electronic resources are quickly becoming the majority format in Chinese academic library collections, as both resources themselves and the major component of library budgets. Vendor databases, local digitization, and specialized databases are the main components of Chinese academic library electronic resource collections. However, Internet resources and gray literature are increasingly being added as supplements to the library's electronic resources collections. This is important to note, because as non-essential

Table 6.2 Ratio of funding for purchasing paper resources and electronic resources for 200 Chinese research libraries, 2005–2010

Year	Paper sources (%)	Electronic sources (%)
2005	70.72	29.28
2006	72.46	27.54
2007	69.24	30.76
2008	65.88	34.12
2009	59.66	40.34
2010	57.04	42.96

Table 6.3 Specialized academic library databases

Academic library	Self-built specialized databases	URL
Tsinghua University Library	Craft Arts, History of Science and Technology Digital Library, Tsinghua University Education Digital Library, Tsinghua University Archive, etc.	*http://lib.tsinghua.edu.cn/database/specialcollection.html*
Peking University Library	Blog collection at Peking University, Beijing History and Geography, Historical Documentation, Dr Li Zhendao's Library, etc.	*http://www.lib.pku.edu.cn/portal/index.jsp*
Beijing Normal University Library	Primary and Secondary School Textbooks Before 1949, University Archive Full-text, Rare and Old Journal Index, Local Chronicles, Poems in Qing Dynasty, Index to Articles in Yuan Dynasty, Treasures of Ancient Times.	*http://digi.lib.bnu.edu.cn:8080/digilib/ODB/tszy.jsp*
Wuhan University Library	CADAL: Republic of China, Materials of The Three Gorges of Yangtze River, Yangtze River Resources, China Environmental Resources, Economic Information, China Ancient Poetry Dictionary, China Hydroelectric Power Engineering, etc.	*http://www.lib.whu.edu.cn/web/index.asp?obj_id=294*
Huazhong University of Science and Technology Library	Pulse Magnetic, Machinery Manufacturing and Automation, Collection of Experts' Documents, Product Collection, Photo Collection, etc.	*http://202.114.9.171/tpi/*
Sichuan University Library	Stomatology Library, Chinese Language and Literature Website Collection, Ancient Literature Collection, Sichuan Culture Collection, Tibetan Studies, China Medical Evidence Collection, etc.	*http://lib.scu.edu.cn/sculib/(S(vyylhjyfxsttrljihgpigt55))/resource/char.aspx*
Lanzhou University Library	Dunhuang Digital Library, Hu Mengli Classics, Lanzhou University Images, etc.	*http://lib.lzu.edu.cn/Html/Find/2008-12/23/20081223161065.html*
Ocean University of China Library	Digital Marine Museum, Marine Documents, University Archive, Theses and Dissertations.	*http://library.ouc.edu.cn/*

resources some of these specialized databases and other electronic resources are considered forms of outreach.

Building specialized databases

Specialized databases for individual libraries, also called library self-built databases, are exactly what the name implies – databases built by the library itself, which can be shared between libraries. While in the US this might not be the case, in China, building specialized databases is considered a part of outreach services because the target audience for these specialized databases is often different from a particular library's regular constituency. The contents of these specialized databases usually include: instructors' achievements, theses and dissertations, teaching plans, old and rare materials, university archives, and audio and video materials. As can be seen from the types of databases being developed, this particular brand of academic library outreach often extends to other departments on campus and/or even the community at large, such as with databases of old or rare materials, or those containing information from the university archives. According to a recent survey, 370 specialized databases were built by 39 Chinese research universities in 2011 (Li, 2011). Table 6.3 provides examples of some specialized databases built by academic libraries (Long and Guo, 2010).

Information-seeking behavior

With the development of the Internet, patrons have changed the ways in which they search for information. Almost every Chinese academic library circulates a yearly survey in an attempt to pinpoint trends and address them. Overwhelmingly, the results of these surveys showed that fewer students are coming to the library to carry out their research. In one such survey conducted by Nanjing Aeronautics and Space University Library, the frequency of the students' library use was: 10.8 percent used the library daily, 35.6 percent used it 2–4 times per week, 37.8 percent used it once a week, and 15.8 percent chose "other" to describe the frequency with which they used the library (Yang, 2010).

Patrons are the main focus of a library, and if there are no patrons, it is meaningless for libraries to exist. Thus, how to satisfy library patrons is a question libraries must carefully consider. It is necessary to study the information-seeking patterns of patrons, and to provide services that fit them. In China, it has been observed that those born after the

1980s never ask questions, and only believe in Baidu and Google (Peng, 2008). Since this generation now makes up the base constituency of Chinese academic libraries, libraries must find a way to impress on them that library services do not stop at checking-out books, but include librarians helping them find information in efficient ways. In order to fit patron requests, many Chinese academic libraries have modified their functionality and structure. Cafés, shops, and video games have been added to the list of library services. In addition, Web 3.0 technologies are being integrated into library services to provide better interaction, communication, and even role models for a new breed of library patron. The development of the Internet, computers, and communications have necessitated faster library development and growth. It is increasingly acknowledged in Chinese libraries that fundamental services are not enough to satisfy library users, so outreach services are necessary.

Outreach services in academic libraries

Promotion

Providing useful services is the goal of academic libraries, and promoting the library is one of the methods which can help achieve that goal. A variety of library services exist, and patrons need to be informed about them. With the development of the Internet, fewer patrons come to the physical library space, so stepping outside the library building is vital to promoting library services effectively.

In recent years, Chinese academic libraries have realized that it is difficult to satisfy patrons if services, even useful ones, are provided via limited channels. Patrons need to be informed about what librarians can do for them – that librarians can make difficult research tasks easier on the end user – and marketing the library is key. In the US, in higher education in general as well as the academic library in particular, there has been a focus in recent years on adopting a business model, with business-style marketing to accompany it. This has met with varying levels of acceptance and/or success. For Chinese academic libraries, Dr Yiwei Zhu (2001) has pointed out that the philosophy of library marketing is different from that of a business. Library marketing should focus on patrons' needs and the services the library can provide. Huimei Zhang (2003) addressed the issue of library marketing, noting that it could be extended into the areas of entertainment, aesthetics, lifestyle,

and social networking in order to create a real, immersive experience for library patrons.

There are several established methods Chinese academic libraries use in order to promote their resources and services. For example, a Library Awareness Month is celebrated every year, with various activities held outside the library. The dates of library awareness activities differ by library; some choose World Reading Day in April, others National Teachers' Day in September. Activities held can last a week or even the entire month. Here are a few examples of activities promoting library services, which are regularly held by academic libraries during Library Awareness Month.

Fudan University Library offers a chance to meet with the University Librarian, information literacy lectures, and library orientation. Library personnel even create posters to promote these types of activities, examples of which can be found on Fudan University Library's website (*http://202.120.227.59:85/library2012/*).

At Tsinghua University a theme is picked each year, and activities corresponding to these themes are held. In 2008, the theme was "Communication and Services," and the activities included collecting "My Favorite Book" lists, establishing a writing contest on the topic of the importance of libraries, and voting for "My Favorite Library Services." The theme for 2010 was "Reading Fantasy," with activities including an award for the best "Library, I Want to Say Something to You" postings, selection of "Star Readers" and more. These activities were well received. In addition to these activities, the library also provided an online, self-made movie to show students how to use the library. Students could then provide their feedback on this movie and the library services in general through the library's website.

Tongji University takes a unique approach to library promotion and outreach through its Multiple Dimensions reading program, a reading promotion activity. The library uses its equipment and resources to organize exhibitions and lectures with the goal of attracting students and promoting reading. These promotional activities have included a book display, lectures, the showing of movies, performances, classic book listings, and even writing reviews. Some of the activities can be seen via Tongji University Library's website (*http://www.lib.tongji.edu.cn/infoservices/litiyd-index.aspx*).

Another set of activities to promote reading, themed "Love to Read," was also held at Shanghai Jiaotong University Library. With the help of academic departments, students were encouraged to participate in a "Reading Plan" program and receive bonus points for their academic

courses through reading and writing book reviews. The "Love to Read" poster from Shanghai Jiaotong University Library is available at *http://www.lib.sjtu.edu.cn/view.do?id=1784*.

Adding humanistic value to the library

Liu Xiang, a prince who lived during the Han Dynasty (206 BC to AD 220) once pointed out that culture is vital for a country. As China's information storage facilities, libraries also preserve the culture of the nation. In addition, academic libraries provide physical study spaces for faculty and students. Books, periodicals, and users in an academic library setting create more than just strong academic programs – they also create a unique cultural atmosphere. This atmosphere influences students' future development, and as a consequence the future cultural development of China. At the 2009 Academic Library Service Innovation Conference, Yang Fen from Peking University Library pointed out the cultural influence of a library's physical organization. She focused on the fact that the academic library could serve as a strong cultural scaffold if the university chose to incorporate cultural characteristics with humanistic value into the library's physical space. In order to accomplish this, the library construction style could be elegant, luxurious, modern, and/or simple.

Different library architectural styles could be used to showcase different cultural elements. For example, the Shanghai Jiaotong University Library is decorated with drawings of six traditional Chinese rituals, which roughly translate to: respect, music, shoot, royal, books, and numbers. These concepts represent a basic set of competencies that ancient Chinese scholars were required to meet, and though they are no longer mandatory, they symbolize a cultural ideal. Respect refers to a scholar's moral qualifications, that he or she shows proper respect and deference to others, manners which can be taught through education. Music appreciation and the ability to play various instruments were also considered essential to a proper education, as was knowledge of literature and numbers in all their forms, from the calendar to arithmetic. The concepts shoot and royal refer back to ancient times – specifically the ability to shoot an arrow (physical and martial prowess) and handle a royal mode of transportation, horses and vehicle (the ability to drive). Including depictions of these concepts reminds current scholars of China's educational and cultural past. These cultural elements can be decorative, as in the example at the Shanghai Jiaotong Library, or functional as well as decorative. An example of this type of added humanistic value is the

Chinese character-shaped ornamental bookshelf in the lobby of the Nanjing University Library. The character (Chinese for "book") bookshelf provides an added cultural level and enhances the library's reading atmosphere. Figure 6.1 shows a Chinese character-(book)-shaped bookshelf at Nanjing University Library.

Subject services

Compared with the traditional reference services offered in Chinese academic libraries, subject service is a pioneering service. Subject services require subject specialist librarians, librarians specifically trained and educated to better understand the users and resources of a particular subject area. Because of their particular skill set, subject librarians can provide professional assistance better tailored to individual users. Though the idea of subject specialties has been a mainstay in US academic libraries for some time (and, arguably, one that is now falling out of favor), it is a comparatively new service in Chinese academic libraries. Therefore, the type of subject services offered tend to vary by library.

Tsinghua University Library initiated and sponsored the development of advanced subject service electronic bulletin boards in October 2008. In the development of this service, professor Xuefang Yu from Tsinghua University

Figure 6.1 Chinese character-(book)-shaped bookshelf at Nanjing University Library

Library theorized that a subject librarian should become the main component of subject services and more research should be focused on subject-related services; and no standards were required for subject services since the services may vary widely by library depending on user subject needs (2008).

At China Academic Library and Information System (CALIS) subject librarian training in October 2008, Professor Jing Li Chu expounded on the history and details of subject services, specifically that subject services were established based on users' requests and subject specialists act as a bridge between library resources and patrons. Service patterns are based on teaching particular types of research, and collaboration between librarians could be used to provide personalized information services.

Several suggestions regarding subject-based services have been proffered by the Chinese Academy of Sciences Library, which has been providing science subject services for a significant period of time:

- adjusting the library's mission and role is needed, breaking through the concept of the library as a physical building and promoting the library's transformation;
- subject services are based on individual needs;
- subject services are a universal knowledgebase service;
- facilitating the development of users' information searching skills is necessary;
- cooperation between subject specialists is needed;
- subject services will be the most important services provided by a library, and a library should adjust its organization and structure accordingly (Tumo Blog, 2011a).

Characteristics of subject services

These are the characteristics of Chinese academic library subject services:

- Services are not limited solely to the library building.
- In addition to contacting users, providing reference services, and providing instruction sessions, subject services are also integrated into academic curriculum support.
- Different users will be treated differently according to their research abilities.

In order to provide this individualized subject service based on users and their needs, various tools can be utilized. These include: web pages, blogs,

instant messaging, social networking groups such as Facebook, games, videos, and electronic bulletin boards. The main point to be understood is that however and wherever users communicate, librarians should be integrated, making themselves a part of users' communication patterns so that they can effectively offer service. Various academic libraries in China provide examples of this. Shanghai Jiaotong University Library has presented a series of subject services to attract users' attention and to promote users' understanding of the library. Subject service programs include help with genealogy research (dubbed the "Family Tree Exploration" program), Information Commons + Innovation Community (IC^2) innovation support plan, IC^2 human expansion plan, a love of reading award, a program entitled "In Search of the Library," and the founding of a University Scopus Club (a library subject service club in blog format, which allows subject librarians to post the latest subject-related news). All have been well received (Shanghai Jiaotong University Library, 2012).

Chinese academic libraries have also been experimenting with subject blogs. The mass media and communication subject specialist at Tsinghua University has created a blog focusing on the latest library news, a weekly new book update, troubleshooting technological and research problems, and a section on learning and living (Tumo Blog, 2011b). The computer science blog of Huazhong University of Science and Technology is another example of library participation in social media; it lists news, academic achievements, upcoming academic activities, databases in Chinese and foreign languages, online instruction, and online real-time questions and answers. The chemistry blog of Shanghai Jiaotong University lists information on hot topics for chemical research, academic conferences, research guides, an exchange platform for information searching skills, and how to use chemistry-related software. Huaihai Engineering Institute provides a marine engineering and food engineering blog (*http://blog.sina.com.cn/hhitxkgy*), which offers subject navigation, library services, a librarians' diary, research information, and recommended websites.

These are other subject librarian blogs:

- accounting subject blog: *http://blog.sina.com.cn/subjectlib*
- materials discipline blog: *http://blog.lib.sjtu.edu.cn/smse*
- machinery and power engineering blog: *http://blog.lib.sjtu.edu.cn/me*
- ship ocean and construction projects blog: *http://blog.lib.sjtu.edu.cn/naoce*
- humanities blog: *http://blog.lib.sjtu.edu.cn/shss*
- media and design blog: *http://blog.lib.sjtu.edu.cn/smd*

- Michigan joint institute blog: *http://blog.lib.sjtu.edu.cn/umji*
- agriculture and environment blog: *http://blog.lib.sjtu.edu.cn/ae*
- subject librarians' blog: *http://blog.sina.com.cn/xuekeguanyuan*.

As can be seen from this list and the blogs described above, subject specialist librarians in Chinese academic libraries are busily using Web 2.0 functionalities as outreach tools to reach specialized audiences.

Collaborations

Faculty members and graduate students usually have some level of involvement in subject services in Chinese academic libraries. A faculty liaison system has been established in some universities, a system that is strongly encouraged by the university administration. Faculty volunteers are recruited, and given various titles, such as library consultant or library expert. They then liaise with the library to help with collection development. While this is often done individually, some universities also group the volunteers together into a library consulting committee. Some library–faculty outreach collaborations are rather holistic, but others are more formalized. For example, Tongji University Library has specific criteria and responsibilities for its library consultants, and in order to make sure all involved are aware of them, they are posted to the library's website. The consulting committee at Tongji consists of senior professors and subject experts, and their main responsibilities are to evaluate the library collection and the library's annual report, to recommend core resources for possible purchase, and to provide suggestions for future collection development.

On-campus collaborations are not limited only to library–faculty collaboration. In addition to the involvement of faculty members, many university libraries also hire graduate students from specific departments or subject disciplines to serve as subject services assistants. While many of these are students hired according to traditional student worker guidelines, some of those serving as student subject services assistants are volunteers.

Outreach and new technologies

Self-service

The idea of allowing users to do more for themselves might seem strange when viewed in light of other outreach services, but self-services as part

of outreach in Chinese academic libraries have been developed in recent years. New technologies have made possible some self-services which users find to be more convenient than services previously performed for them by library staff. Most self-services also provide the library with benefits as well – they are easily standardized and require less labor and cost in the long run. By using self-services, the library can effortlessly extend operation hours. Self-service can also provide greater privacy protection and completely eliminate any potential conflict between users and librarians. For these reasons, but mostly because of their convenience, certain self-services have been welcomed by university students.

Self-services, when originally implemented in Chinese academic libraries, were limited only to circulation, the checking out and returning of books. This was partially due to the technological limitations of book security strips, found in most academic libraries before 2005. However, with the introduction of radio frequency identification (RFID) in 2005, libraries had the technology to track and manage their collections better, making the idea of self-services more acceptable among library administrators. By July 2010, there were approximately 52 academic libraries in China using RFID. Other technological advances, such as Book Box, have helped libraries expand their areas of self-service. Book Box allows users 24/7 access and the ability to check out books whenever they want, regardless of library hours. These kinds of book boxes are usually placed outside the library, at easily accessed locations such as convenience stores.

The circulation of books is not the limit of self-services that Chinese academic libraries are now offering. In addition, registration for library privileges, storage lockers, copying, printing, scanning, and lab reservations have all been added to the realm of academic library self-services. Users can now take advantage of these services in a time and manner that is convenient for them, and library personnel are only involved in the back end. Wu and Wang noted that self-service can provide the perfect combination of modern technology and human benefit (Wu and Wang, 2008). Many academic libraries are finding that it can also be a best practice for many user-centered services.

The mobile library

The idea of the mobile library is built on wireless network capability, the Internet, and multimedia technology. Through the use of various mobile devices, it provides access with no constraints imposed by time, location, or space. Since 2009, many Chinese academic libraries have begun to implement and offer mobile services. Some of the pioneers in this practice

Table 6.4 Universities and their mobile services

Library	Mobile services provided	URL
Tsinghua University Library	Texting, multimedia messaging, Wireless Application Protocol (WAP), client application, audio, video, user experience survey	*http://lib.tsinghua.edu.cn/m/index.html*
Peking University Library	Texting, book return reminders, book recall, library events	*http://www1.lib.pku.edu.cn/doc/duanxin/duanxin.htm*
	Digital resources retrieval, catalog searching	*http://162.105.138.102:8089/ddlibopac/register.shtml*
Fudan University Library	OPAC, texting, WAP services, reference	*http://www.library.fudan.edu.cn/services/mlib.htm*
Dalian University of Technology Library	Catalog searching, new books, best books, recommended reading lists, public notices, lectures information	*http://opac.lib.dlut.edu.cn:8081/m/opac/search.action*
Beijing University of Science and Technology Library	Catalog searching, digital collection and database searching, library news, library recommendations	*http://bjlg.ddlib.com/ddlib/*
Beijing Normal University Library	Catalog searching, subscribing to library information, including account information	*http://www.lib.bnu.edu.cn/mobile.htm*

include Beijing Normal University Library, Tongji University Library, Shanghai Jiaotong University Library, Fudan University Library, Xi'an Jiaotong University Library, Tianjin University Library, East China Normal University Library, and Hebei Normal University Library. The number of services which these libraries now offer via mobile access is impressive. From their homes or elsewhere with their mobile devices users can now check the library catalog, renew their books, find exhibition information, browse service guides, instant or text message librarians, utilize online references, browse new books and read them and other library resources, receive online search training, and view streaming media. The services vary by library, with some, such as Tsinghua University Library and East China Normal University Library, even providing mobile versions of all their electronic resources and databases (Yuan, 2011). Table 6.4 enumerates some of the mobile services offered by different Chinese university libraries.

Mobile services are widely requested by library users. While mobile services have a world of potential and new mobile access points are being explored daily, many Chinese libraries are still in the initial stages of implementing these services, and challenges have been encountered. Information security is a major concern, and addressing issues such as authentication and users' privacy are of vital importance to offering mobile services successfully. There are also certain concerns over barriers to mobile service access, such as intellectual property protection and service fees.

Cloud computing

The relatively new concept of cloud computing provides opportunities for the extension of library services. Accordingly, research and practices for using cloud computing technology for library services are under development. W. Shun proposed the establishment of a national joint cataloging service as well as regional library automation systems through the use of cloud computing technology (Shun, 2005). Wang Wenqing also proposed a cloud model for CALIS, a digital library service platform which allows for dynamic management and distribution to meet different digital library needs of varying levels (W.Q. Wang, 2009). CALIS has also recently implemented a virtual reference platform for participating academic libraries. This was instituted in 2011 by using advanced program interface technology, and has been of great assistance to small and medium-sized libraries, helping them increase the quality of their reference services.

Library 2.0

The idea of Library 2.0 originated almost simultaneously from several different authors and sources, including Dr Paul Miller in 2005. The term is a derivative of Web 2.0 and represents a specific type of model for libraries – a shift from traditional methods of service delivery. With the continued development of Web 2.0 technologies, applications for blogging, social tagging, and RSS have been widely used in academic libraries in China (Baidu Zhidao, 2007). Attention has been drawn to the concepts and practices of Library 2.0 in various sources in library literature. In their article "Library 2.0" Fan and Hu pointed out the applications of Web 2.0 technologies for library services, a series of practices and new services that can establish the library as Library 2.0 (Fan and Hu, 2006). The importance of this trend is evident in the fact that literature in other languages on the topic of Library 2.0 has also been translated into Chinese, including Michael Casey's running dialogues on Library 2.0 found on blogs and various other sources. These additions to the mass of literature on the subject have had a great influence on the development of Library 2.0 in academic libraries in China (Miao, 2009).

National conferences on the concept of Library 2.0 in China were first held in May 2006 with the theme "Web 2.0 and Information Services." The discussion covered the definition of Library 2.0, technological applications, practices, and the future of Library 2.0. Three years later, another national conference was held at Chongqing University. Since libraries were now more familiar with the concepts and practices of Library 2.0, more mature discussions on the applications of Web 2.0 and library services using the Web 2.0 applications were held. The overall result was that Library 2.0 as a movement gained momentum in Chinese academic libraries. Jinan University Library's Web 2.0 system, Chongqing University's ADLIB 2.0 system (a platform that allows users access to acquisitions, cataloging, reference, circulation, and so on), and Xiamen University Library's wiki + blog system are all examples of Library 2.0. concepts – blogs, microblogs, instant messaging services, and so on – which have become popular, fully integrated services in Chinese academic libraries.

The microblog, developed in 2010, though a comparatively new service, has proved to be one of the most significant communication tools used by academic libraries in China because of its popularity and convenience. Microblogs are now widely used by academic libraries for library and patron communication. Library news, lecture information, and reference services are posted via microblogs at Chongqing University

Library, Xiamen University Library, Tsinghua University Library, and Chongqing Medical University Library. These microblogs have been embraced and closely followed by the students at these universities, much like the Twitter feeds of many US libraries.

The microblog at Xiamen University Library is another way of reaching out to other departments on campus – it is not limited strictly to library information, and it links to campus activities from other academic departments, offering a one-stop shop platform for the students. Still other academic libraries reach out not just to other departments, but to other universities. The microblog at Chongqing University Library posts links to information and resources at other academic libraries for students' reference (Yang and Wu, 2011). A few sample blogs are listed below:

- Tsinghua University Library blog: *http://t.panjk.com/index.php?m=ta&id=1891371401*
- Xiamen University Library blog: *http://weibo.com/xmunews*
- Hebei Normal University Library blog: *http://q.weibo.com/689295*
- Chongqing University Library blog: *http://weibo.com/cqulib*
- Tongji University Library blog: *http://weibo.com/tongjiunivlibrary*
- Micro Group blog: *http://q.weibo.com/244543* (2012-2-16)
- Baoding College blog: *http://t.qq.com/bdulib*
- Guangxi Arts Institute blog: *http://gxai.net/index.php?m=ta&id=1891371401*.

Blogs and RSS are not the extent of Library 2.0 technologies currently in use in China. There is a fascination with human–robot interaction in Asian countries, and libraries are also following this trend. Robots have begun to be used in academic libraries for providing services. One such example is the "Cool Service" from Tsinghua University Library. As part of the library's Library 2.0 applications, Tsinghua uses automated responses, "robots," to provide library services. The "Cool Service" content offers services through the medium of chat or instant messaging with a robot platform as communication – there is no human component, no living, breathing librarian on the other end. The software is programmed to answer users' queries all on its own. Maps of the collection, instant messages, RSS, self-training, and library information can all be accessed through the platform. An example of the interface for the "Cool Service" can be accessed at *http://166.111.120.164:8081/programd/*.

The concept of Library 2.0 is not merely the adoption of certain technologies within the library realm, but more an idea of evolution, a change from passive to active service, from being book- or resource-oriented to being people-oriented. These ideas have resulted in the incorporation of simple-to-use technologies geared towards individual development, and have moved library services from the library physical space to any realm where librarians can integrate themselves, including and especially the web and its many forms of communication.

Community service

In the US, while community users may not have full circulation privileges, most universities, as publicly-funded institutions, open their libraries and resources to the public. However, in China, whether academic libraries need to be open to the public is a controversial topic. Currently, most academic libraries in China are not open to the public at large. The *General Regulations of College and University Libraries* (revised 2002 edition) by the Ministry of Education has stated that, if possible, academic libraries should open to the public. Despite this, because of space, personnel, and resource limitations, very few academic libraries in China have acted on this suggestion. This has become a point of contention, even resulting in ongoing debates between academic libraries and the Chinese mass media, making the subject of general accessibility a hot topic in recent years.

In order to provide a better understanding of this debate, an overview of the library status in China is necessary. In China, the collections of 1794 public university libraries totaled 660 million volumes of books, while the collection of all the public libraries in the country was 400 million. The ratio for database access from academic libraries is 65 percent of the total database access while the ratio for public libraries was 28.6 percent. The book per capita for public library users is 0.27 copies. This means that a single public library must serve an average of more than 400,000 people with limited resources (Helongjiang Daily, 2007).

By contrast, despite significantly more titles and volumes, collection usage percentages are relatively low at academic libraries when compared with public libraries in China. The average circulation rate for academic libraries was less than 40 percent; in some universities, the circulation rate was even less than 20 percent, roughly equal to more than 400 million books which are never used. Circulation rates can be even

worse during winter and summer vacations when there are few students at academic libraries (Douban Community, 2007).

Relegating these resources to gathering dust on the shelf when they could be used by the Chinese public would seem to be counterproductive, and there are those in academic libraries who wish to promote public access to their collections. Director Ni Xiaojian from Capital University proposed the opening of all academic libraries for public access at the 2006 Beijing Municipal People's Congress. He noted that there are severe resource and service limitations in public libraries, and therefore collections of academic libraries at public universities should not belong only to a particular university or academic department. Every citizen should have the right to access an academic library since the library resources belong to the government. It is the responsibility of academic libraries to share their resources and services with the public. Director Li Xiaobin from Harbin University of Technology pointed out that resource sharing between public and academic libraries could be an idea worth pursuing; however, exploration of issues and challenges and preparation would be needed for academic libraries before they opened their doors and collections to the public. A satisfactory collection and qualified personnel, a capable library automation system, well-educated patrons, and the cooperation of government were all deemed necessary for the effective use of academic library collections by the Chinese public (Zhang, 2012). As is evident in the stated views of these academic library directors, academic libraries should open to the public – but the general consensus is that most academic libraries are not yet ready, and greater preparation is needed.

The Chinese mass media, on the other hand, has offered a different view concerning academic libraries and public accessibility. In January 2012 in an article entitled "Academic libraries should open to the public during university's winter and summer vacations," L. Zhang reported that People's Congress representatives advised academic libraries to open to the public during summer and winter vacations to facilitate better use of the libraries' resources (2012). Zhang investigated several academic libraries and found that a few academic libraries did provide fee-based circulation privileges to the public, but most Chinese academic libraries closed their doors to the public. Within the academic sphere as a whole, reception of an open-door policy for the public has been mixed. Faculty members and students have proved hesitant to support the "open to the public" proposal, stating fears of possible disorganization and disruption that the public could bring to campus.

As can be seen from these recent debates, it seems that off-campus outreach services for Chinese academic libraries are still in their initial

stages, and no resolution is visible on the immediate horizon. Until Chinese academic libraries actually take the first step and open their doors to the public, there is certainly no question of developing outreach services for or marketing to that public. Research into the proposition and appropriate practices to address outreach services in academic libraries should prove to be an area of focus for library literature in the near future. Chinese library expert Guojun Liu once proposed that libraries belonged to every citizen. As Chinese academic libraries continue to develop, the dream of opening their doors to the public will most likely become a reality in the near future. When it does, services targeted at the public at large will necessarily become a part of Chinese academic library outreach.

The library as a space

One of the primary functions of a library is to provide a designated space for certain types of activities – traditionally reading, research, and study. The advent of digital resources has allowed libraries the luxury of using their physical spaces in different ways. While in the past current periodicals shelving might take up an entire room, these same resources in digital format can reduce that to the space required for a single computer workstation – or even less. This has allowed libraries to rethink their physical spaces and how to fill them, often with outreach services and activities. This extra space in Chinese academic libraries now often functions as space for entertainment or other campus activities. These types of activities and services have been added to academic libraries in addition to their traditional function as facilities for the storage of books and other resources. Whereas digitization has freed up some space, academic libraries in China are being given additional space as well. In 2009, the total space for 468 university libraries was 9.25 million square meters, an average of 19,800 square meters per library. This is a 1900 square meter increase per library when compared with an average of 17,900 square meters per library in 2008, and a 3000 square meter increase per library when compared with an average of 16,800 in 2007. Even more additional space was added to libraries in 2010, increasing the total space for 506 academic libraries to 11.06 million square meters, an average of 21,900 square meters per library. Figure 6.2 shows the newly added space in Chinese academic libraries from 2006 to 2010 (in 10,000 square meters). All numbers are gleaned from the *2009 Academic Library Development Report* (Steering Committee for Academic Libraries of China, 2011).

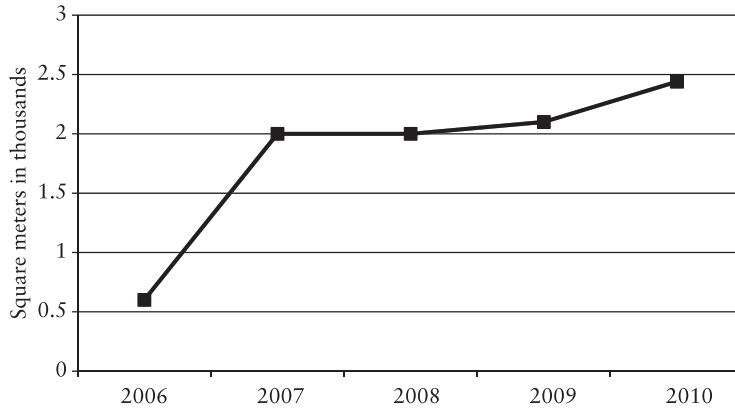

Figure 6.2 Newly added space in Chinese academic library buildings by square meter, 2006–2010

This space comes in two forms: entirely new library buildings added to campuses, and additional space added to existing academic libraries. This is an attempt, at least partially, to further accepted concepts of modern library extension services, which could not be provided without additional room. These types of services include displays and exhibits, group discussion or study rooms, rooms designated for leisure reading, cafés and other eating establishments, specialized reading rooms, and lecture areas. All of these new additions to the library's scope have required an extension of space and services, adding or repurposing space based on the needs of students and faculty members. These spaces are given different names to attempt to define their new scope, with information commons, learning commons, and academic commons being popular terms for spaces now found in (or in some cases entirely replacing) academic libraries. The Digital Humanities Center at Xiamen University Library is a unique space for humanities research, science research, teaching, and experiments. The IC^2 at Shanghai Jiaotong University Library is another example of a space provided specifically to meet individual needs. It serves as a personalized learning environment, a group interactive environment, an environment for provision of information services, a space geared towards achieving specific goals, and a knowledge access environment (Guo and Cheng, 2008). As can be seen from the different ways in which spaces are being added, repurposed, and renamed, the extension of services in Chinese academic libraries begins in the library spaces themselves. The library as a space has been and

continues to be adapted effectively to meet user needs in academic libraries in China.

Trends, anticipated futures, and recommendations

While academic libraries in China have made great steps in the outreach services they offer, they are facing new challenges in the digital age, and service reforms are needed. Jianxiong Ge, Fudan University Library's director, foresees several possible future trends that will affect academic libraries in China (Ge, 2011). First, they will become comprehensive spaces – libraries, museums, and archives will combine into a single space with multiple purposes. Academic libraries in China will become universal – they will break through boundaries, leaving behind the past limitations of time and space to become centers for reading, studying, consultation, and entertaining. Lastly, libraries will individualize: they will establish a personalized environment for individuals and specific groups, making the library and its resources accessible anywhere, anytime, any resource for any user. The question is, in what way will outreach services fit in with this future model?

Embedded services

Library services are closely connected with patrons' needs. To find the most information in the least amount of time is the pursuit of most patrons. Embedded services that focus on problem solving and close interaction with patrons could be ideal for this pursuit. In "Embedded desktop service system and its application," Zhang and Zhang (2008) point out that embedded services could be established on the infrastructure already in place for web resources, local resources, and subject resources, providing information in real time without interrupting the user's current research conditions. RSS, desktop tools, and a multitude of new technologies being developed daily can all be used to achieve this goal.

In addition to using technology to provide embedded services, a recent trend has been for librarians to attempt to embed themselves in the teaching and research process on the faculty end of the spectrum. Based

on the need for certain resources and searching skills within a particular discipline, librarians began their communication with academic departments. They stepped out of the physical library building, working closely with other departments on campus for collection development and to help faculty and students with their research.

Professional service teams

Professional library services are needed across campus. General lectures on how to use the library can only be of help at a very basic level. In-depth, specialized information services are needed by students and faculty members, and the library can meet these needs by forming teams of professional librarians to provide these specialized services. Intelligence and knowledgable subject specialists working together with librarians in technical services can form an effective team. This type of professional teamwork could be one of the most important factors for the future development of library services.

The future of library services has almost no limitations, and librarians will be the professionals spearheading innovations in service (Chu and Zhang, 2008). Cooperation among librarians from different departments in technical and public services will be vital for the furtherance of innovation in academic library services.

Socializing and sharing

Although, as detailed above, the debate of opening academic libraries in China to the public has not yet been resolved, extension of academic library services to the general public should be a future trend. As the information awareness of the public increases, its information demand will increase as well. Academic library resources and professional librarians could help to meet the increasing demand from the public. Resource and service sharing among the universities in China could and should become a reality. Opening the academic library to companies and other institutions could provide a jumping off point, a segue to opening the library to the general public. Sharing collections with these companies and institutions could create a win-win situation for all parties involved, but further research is needed in this area in order to prepare and explore all options adequately.

Conclusion

Though the advent of the digital age has engendered a host of challenges and an evolution of library services in China, academic libraries still play an important role in bridging the gap between resources and users, and one of the ways they do this is through continually evolving outreach services. Professional librarians can assist not only with resource identification and location, but also in evaluation – in determining the authority of information found in the morass of this overwhelming information age. Like traditional library services, library outreach services must also adapt and evolve in order to meet users' needs. There is a need in Chinese academic libraries for outreach services offered by professional librarians. Since these services are based on users' requirements and an attempt is made to tailor them to those requirements, there is a great deal of variety in what is offered and delivery methods. As they constantly evaluate users' needs, librarians and library administrators will need to offer effective extension of services – and keep the library, as a Chinese institution, relevant and thriving.

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7

Conclusion: A comparative analysis of US and Chinese academic libraries

Hanrong Wang, Bethany Latham, and Charlcie Pettway Vann

Abstract: This chapter provides an overview and comprehensive examination of the previous chapters in this work and a comparative analysis between library services in the US and China in the three areas covered in this book: instruction, government documents, and outreach. This analysis highlights the similarities and differences in these areas of academic library services in the two countries, providing a historical and ideological understanding to further current and future library practices.

Key words: library instruction, Chinese academic libraries, information literacy, government documents, government information, library outreach, creative services, library technologies, US academic libraries.

Introduction to the comparative analysis of academic library services in the US and China

A reading of the preceding chapters of this work provides separate historical overviews, current practices, and anticipated futures in instruction, government documents, and outreach for US and Chinese academic libraries. Few comparative studies have been done between aspects of US academic libraries and Chinese academic libraries, and none

incorporating or focusing specifically on these three areas. A comparative analysis of these sections follows, highlighting similarities, but focusing primarily on the differences in theory and practice between Chinese and American libraries. An examination of these differences and the factors that have influenced them provides a better understanding of the historical and current state of academic library services in both countries, and can be used for development and planning to meet future challenges.

Instruction

Historical and ideological foundations

The variances in the higher education and publishing systems in the US and China have resulted in vast differences in the performance of instruction and information literacy between the two countries, as well as dissimilarities in the ideological foundations of their respective academic libraries. The US boasts a long history and a systematic infrastructure of literature, personnel, theories and supporting theories, and rich practices, which have given the library use instruction in American academic libraries a predominant position in the world. With the new university system which was built after the establishment of the People's Republic of China in 1949, academic libraries in China are attempting to catch up. The universities and academic libraries in China were originally greatly influenced by the former Soviet Union in 1950s through to the 1960s, but are currently modeling their instructional ideologies more on those in use in the US.

In the US, the establishment of library instruction programs was based on the individual librarian and/or faculty members' observations. Building on these observations, instruction programs were actively developed for curriculum support and to support the university mission. Both the curriculum and most mission statements in US higher education have, for centuries, fostered the idea of academic freedom. If one ponders the question of why library instruction has existed for such a long period of time in US academic libraries, to encourage academic freedom is the best answer. Library instruction in American academic libraries does not simply teach or provide students with information searching skills. Instead, by teaching students how to use the library via various instruction programs, a greater goal is achieved – that of training students to be independent researchers so that they can freely conduct research by themselves.

In China, by contrast, the main impetus for incorporating library instruction as a current service in academic libraries is identified as the pressure occasioned by the information explosion – a causation that comes from outside the academic library and higher education sphere, rather than an internal one, as in the US. Though globalization and competiveness in a global economy are stressed in many Chinese universities today and information literacy is a main component for success in these areas, the lack of a mission statement in many universities has resulted in ambiguity when it comes to the goals and objectives of library instruction programs. There is also less perceived interest in Chinese academic libraries in improving an individual's research ability. The current concept of the need for information literacy in Chinese academic libraries was largely imported from the US or other countries by scholars and practicing librarians. There is no doubt that Chinese academic libraries are quickly catching up in the provision of library instruction, especially with the encouragement of the Chinese government. However, defining or redefining the university mission, as well as library goals, may be necessary before the Chinese academic library's function as an educational institution can be advanced, and library instruction programs which better benefit students can be formulated and promoted.

Definition and development

Bibliographic instruction, library instruction, library use instruction, and information literacy are alternative terms, which all describe the same basic concepts, and these terms have been in use in American academic libraries for quite some time. Though the scope of each term may be slightly different (some terms denote wider coverage) these terms are, generally speaking, interchangeable in an academic environment. Librarians in American libraries often prefer to use the term "library instruction" since it seems to be easier for users to understand. In China, the terms "user education" and "information literacy" are more common.

With more than 300 years of experience in higher education in the US versus slightly over 60 years of experience in new China, differences in the development of library instruction in the two countries are apparent. The development of library instruction was slow but solid in American academic libraries. From the observation of the necessity for instruction to the establishment of the library instruction for-credit course, from new student orientation to instructional software, continuous, steady development of instructional theory and practice has garnered prestige

for library use instruction in American academic libraries. Instruction experiences shared between librarians continue to promote the expansion and development of library instruction. This process has been ongoing in the US for quite some time, while it has only just begun in China.

Instruction was first developed by faculty members and librarians in the US, and these librarians played an important role during the process to create, prepare, and promote instruction programs. In some universities, for various reasons, it was and is not an easy matter to gain administrative support for a new program, such as instruction. Instruction programs in the US were established via a faculty-to-administrator process – from the bottom to the top of the administrative chain. In China, on the other hand, library instruction was more an administration-to-faculty/librarian process, a top-to-bottom process in which administrators at the national and university level played an extremely important role for the adoption and promotion of library instruction. This is evident from an examination of the documents disseminated by Chinese government entities, such as the 2010–11 *National Medium- to Long-Term Plan for Education Reform and Development* and the *Beijing Information Literacy Index*.

Theory and practice

In American academic libraries, instruction is a solution librarians found to solve students' information-seeking problems, to help these students. American librarians' endeavors in instructional practices have ranged widely – if they could think it up, they have explored it. Face-to-face and remote instruction, individual and group instruction, special user target groups (such as new student orientation) instruction, assignment- or project-related instruction, and instruction as credit and non-credit courses have all been initiated in the US. In Chinese academic libraries, instructional practices have only been pursued in some of these areas – the most popular being the new student orientation program and elective course options.

Despite its long history in US academic libraries, it is commonly accepted that there has been a lack of theoretical support specifically for library instruction in the US, forcing practicing librarians to rely on either related educational or psychological theories (or both) to support their instructional practices. Their instructional practices have, in turn, provided examples and factors to further the future theoretical development in instruction. By contrast, modern information theory and teaching theories have been completely incorporated into most instruction

sessions in China directly from librarians' practices; development has been swift.

Though in both the US and China instruction focuses primarily on enrolled students, instruction programs in the US serve a wider population, which may extend even to community members or local high school students. In China, instruction is available only to currently enrolled students since most Chinese academic libraries are not open to the public. Similarities between the approaches in the two countries can be found in the definition of information literacy as a major library instruction program that most academic libraries currently provide, and information literacy standards have been launched for higher education in both countries.

As for the actual content of instruction, differences and similarities can be found when comparing the countries. Information awareness, information searching skills, and fair use are emphasized in both countries. Likewise, teaching students how to use the library catalog, indexes, and databases is included in the instruction given in both countries. Instructional content on the organization of knowledge and how to do research are stressed more in American academic libraries, along with the fair use of information, while information ethics receive greater emphasis in Chinese libraries. Most library instruction in both countries is taught as a one-shot session, though the progressive model which allows more detailed and in-depth information searching strategies and resources to be introduced to students is gaining popularity in the US, as it seems to better further students' academic progress.

Though it has not historically been the case, today, there are fewer major differences in instructional practices for information literacy to be found in the two countries. It took only 30 years for Chinese academic libraries to establish and promote formal library instruction, whereas this same goal took almost 300 years for American academic libraries to accomplish. The credit for the development in Chinese academic libraries belongs to the involvement and administration of the Chinese government, which kick-started the swift installation of library instruction programs in almost all Chinese academic libraries during a short period of time.

Differences can be found in instruction scheduling in both countries. In most US academic libraries, instruction requests come primarily from teaching faculty, while in China, the instruction sessions are usually decided by the library itself. This may indicate that there are weaker connections between faculty members and librarians in academe in China. Instructional technology has been widely used in both American and Chinese libraries, and instruction librarian positions can be found in

both countries, as can continuous training opportunities for these librarians via workshops, conferences, and other venues.

The construction of a universal evaluation system for the effectiveness of library instruction in China has been suggested as a logical future course, but American libraries take a more individualistic approach. The evaluation process in US academic libraries is usually conducted by individuals (most often those teaching the instruction sessions) in order to identify the problems, progress, and effectiveness of individual instruction sessions.

The significance of instruction and future trends

Historical tracing provides a view of the development of instruction programs in US academic libraries. Generation by generation, students and community members have benefitted from the library use instruction programs which slowly came into being in American higher education institutions – fostering the transformation of most of these patrons into independent library and information users. Though there is a focus on promoting the ability to research independently, the most significant area of library instruction in China is identified as promulgating the concept of ethical use of information to Chinese college students.

The prosperity of today's library instruction, a picture of growth in Chinese academic libraries, harkens back to that found in this area in American academic libraries during the 1960s and 1970s – the technology is simply more advanced. Unquestionably, academic libraries in China and the US are attempting to take maximum advantage of the development of technology to automate their library systems and services, including library instruction services. Chinese libraries play a more active role in this than do their American counterparts – departments for research and development can be found in many Chinese academic libraries, while academic libraries in the US rely more heavily on commercial products for information literacy. This is illustrated in the popularity of products such as Literati, developed by OCLC and Credo Reference. It exemplifies the type of collaborative research platform that supports research effectiveness and information literacy, a type of tool that American academic libraries buy, but do not create themselves.

Today, thousands of colleges and universities of various levels can be found in the US and China. The differing histories and missions of the institutions in the two countries result in different ways of teaching and learning styles, as well as the transmission of knowledge in general in

higher education. What is certainly true for both countries is that, with the ceaseless advancement of technology, librarians and practitioners in China and the US must continually rethink and reconsider the future of library instruction in order to create and maintain relevant programs.

Government documents

Historical and ideological foundations

Given their respective governmental ideologies and structures (a representative democracy versus a Communist state), it is unsurprising that there are vast differences in the way government publications are handled in China and the US. Though China as a country is much older than the US, the range of its government documents is intentionally limited almost exclusively from 1949 (the advent of the Communist state) to the present. The US Government, by contrast, has a government information system that dates back nearly 200 years, almost coinciding with the founding of the country. The respective governmental precepts greatly affect key areas in the study of government publications in these countries. The US considers free and convenient access to government publications to be the right of every citizen. Access must be provided so that citizens are aware of what their government officials are doing, a necessity for an informed electorate – the idea that transparency in governance is essential for a functioning democracy. Therefore, the US Government has in place a system to provide public access free of charge to government publications. This system is structured to make use of libraries in general, but academic libraries in particular, as primary repositories of government information. It is centralized, it is free, and those at the end of the distribution chain, the libraries, are given the choice by the government to select which publications they wish to receive. The responsibility of tailoring their government document collections to the constituencies they represent rests with these libraries; they must manage their collections effectively, keeping them current and ensuring the information they contain is useful.

One would expect China to regulate their government publications much more closely than the US does – to have a direct and centralized structure, under strict governmental control, that addresses every aspect of the government publication spectrum. Given how many entities are under governmental control in China which are not governmentally regulated in other countries (e.g., the General Administration of Press

and Publication), it borders on astonishing that China does not possess an official government publication facility, the equivalent of the US Government Printing Office (GPO). Without such an entity, a centralized distribution system is difficult, if not impossible, to implement, so it is not as surprising that China does not have such a system, and has not fully utilized libraries to further distribution of government documents to the public. Another reason this is expected is due to governmental ideologies which have negated the impetus for transparency and public access to information. Instead, the atmosphere in China has traditionally been one of exclusivity. For the better part of 60 years the level of access to government information has been extremely limited. Public access was intentionally restricted, and the use and viewing of government publications was tightly controlled. Only recently has *The Decree of Government Information Openness of the People's Republic of China*, formally enacted in 2008, provided opportunities for freedom of government information in the country. It is also interesting to note that whereas the provision for access to US government information has always been promulgated at the national level, the momentum which drove China to expand access started at the municipal and provincial levels and filtered up to the national level. Given the relatively short time period government information in any form at any level has been open to the public, it is no revelation that China has not yet formulated or instituted a standardized distribution system.

Definitions and scope

Contrasts are encountered in the very definition of what constitutes a government document in the two countries. In the US, a government publication is a matter defined by federal mandate. The Depository Library Act of 1962 specifies that any document published as "an individual document at Government expense, or as required by law" is a government document, and with the exception of certain classified information, must be made freely available to the public (US GPO, 1962, pp. 352–6). In China, there is no such statutory language, and no official government publisher, so defining and conceptualizing government publications can be problematic. While the terms "government information," "government publication," and "government document" are all practically synonymous in the US, this is not the case in China. Different terminology brings with it different connotations: documents defined as government publications are usually classified as such because

of their authority – and that authority is held by Chinese government agencies at all levels, essentially every administrative branch of local, county, regional, municipal, provincial, and national government. Thus, there is less of a distinction between federal (national) government publications and those produced at a more local level, what would be the equivalent of state, county, and city government publications in the US. Authority does not rest with one centralized government office, and there is therefore much less uniformity among Chinese government publications and how they are distributed. There is also no responsibility for vetting the authority of governmental publications and authenticating them, such as that which rests with the US GPO.

Another difference between the two countries is the scope of government publications. While the US started small with its government documents and confined them almost exclusively to the legislative sphere (the *Congressional Record*), that soon blossomed to include administrivia of all kinds, but also a vast array of informational products in science, health, technology, demographics, land management, commerce, economics, emergency management, arts, humanities, and much more. In fact, there are currently few subject areas that US government information does *not* cover. China has limited the range of its government publications, and they are primarily composed of administrative documents (meeting minutes, resolutions, treaties, rules and regulations, judicial documents, and so on) compiled into gazette format. Since one of China's focal points is being competitive in a global market, it has relatively recently added to this administrivia by expanding into the literature of science and technology (e.g., research, technical reports, and so on). Whereas in the US, the expansion of government publications into a multitude of subjects is done with the primary motive of informing the end user, the publication and distribution of science and technology literature in China adds an additional stage. These publications are meant to inform, but to inform with the purpose of furthering Chinese innovation, research, and economic growth.

Funding and distribution

Just as there are no statutes delineating what constitutes a government document in China, there are likewise no series of laws governing distribution of government publications. There are several channels through which Chinese government information can flow: government gazettes, official government websites, press releases, newspapers, radio,

and even television. Since the late 2000s when a modicum of public access was granted by governmental decree, the approach has been to distribute printed documents directly to the public by placing them in public venues. In the US, ignoring the exception of random fugitive documents, there is only one channel through which government publications are primarily funneled, and that is the GPO. The focus has always been on providing free access. This is the basis of the US depository system, and it is meant to be symbiotic – depository libraries must expend their human resources to manage collections of government information, and in return those publications are provided free of charge. The US Government, as return on its investment, acquires subsidiaries to do the distribution and maintenance of government information collections for it; libraries serve this purpose without further expense to the GPO.

China has customarily not figured the cost of government publications into the equation. Chinese libraries that wished to create collections of government publications had to do so at their own expense, buying them from the government. The government often went so far as to take away the element of choice, requiring libraries to subscribe to or purchase certain government gazettes for public access by their constituencies. Relatively recently China has realized that complimentary dissemination allows for more pervasive access to government information, but still libraries are not the primary link in this chain. Government gazettes are distributed free of charge to entities that serve as depositories, but libraries are only one of a variety of public access points which serve in this capacity. There is no method in place and no delineation of who can receive complimentary documents; it is not a matter of statute like those which govern depositories in the US. For this reason, Chinese libraries have little choice or say in the matter. The government selects which publications it believes should go to a particular audience, based on either subject matter or timeliness, and it disseminates them directly to that audience, through the venue it thinks will most quickly and effectively provide distribution. The number of depository sites in China is expanding, especially since 2002 when more government officials and offices (e.g., local congresses, the courts, prosecutor offices, and central committees) were given the authority to appoint depositories. Sometimes this venue is a library, oftentimes it is not. If a Chinese library wishes to build a collection to meet perceived user needs, it must still purchase a great many of the government publications it needs. The purchase by libraries of government publications is not unheard of in the US – libraries in the US which do not have depository status do have the option of buying certain government documents. However, only a fraction of those

documents distributed through the Federal Depository Library Program are available for sale, and generally American libraries acquire their documents through depository status rather than direct purchase.

Print access

Access to print government publications is handled differently in Chinese and US academic libraries, mainly because of the precepts governing Chinese universities. Academia in China is more insular than that in the US, especially when it comes to library resources. Though in recent years Chinese academic libraries have expanded their hours of operation and the hours their reading rooms are open, their facilities in general are available *only* to those with a university affiliation – students, faculty, and staff of the university. As is readily apparent from a reading of the outreach section of this work, Chinese academic libraries do not, as a rule, open themselves up to the public. Thus, while they may provide some access, they do not truly provide public access to government documents, because by and large they do not open their doors to the general public at all.

By contrast, American academic libraries are much more inclusive. It is typical for those from the surrounding community to use their collections, even if they are not granted full circulation privileges. Most database licensing agreements negotiated for US academic libraries include clauses to allow for walk-in use, because these libraries know that others besides their students, faculty, and staff utilize their resources from within the library building. More than this, if a library is a designated federal depository, it is required by law to provide free, unimpeded access to its government documents to any member of the public. For such a depository to restrict access only to those with a university affiliation would be a violation of the law.

How this public access is provided within US academic library collections differs depending on the library and its local practices. Since US government publications are disseminated from the government with a Superintendent of Documents classification number, many libraries choose to shelve them separately from the main library collections because of this disparate classification system. A few take the extra step of creating the requisite call numbers so they can be integrated into the regular library collections, an effort which often yields greater and easier use of the collection. Chinese government publications, though they are divided according to type by the government (e.g., red header documents),

do not come with a classification system as such. They are therefore free to be processed in the same way as books and materials for the general collection in Chinese academic libraries. While many US libraries have separate acquisition, cataloging, collection development, and even service methods for government publications, this is not the case in Chinese libraries, which treat them exactly the same as regular materials. This type of integration results in greater use for these publications in Chinese libraries.

Development, digitization, and preservation

US academic libraries and government information librarians are an active voice in the Federal Depository Library Program. Through listservs, direct contact via the Depository Library Council, and community bulletin boards such as those maintained on the Federal Depository Library Program Desktop, they make their voices heard to each other and to the GPO, Public Printer, and Superintendent of Documents. There are partnerships and/or initiatives they undertake to support the development and preservation of access to government information (e.g., the Association of Southeastern Research Libraries' Collaborative Federal Depository Program), especially in the digital realm (e.g., the CyberCemetery web archive). In this way, they influence the course of government information in the US. However, they must always operate within governmental mandates handed down from the GPO, and they do not typically develop their own databases of government information nor take it on themselves to digitize or digitally store government information, even when digital deposit is offered by the government. This is because of a lack of resources rather than lack of initiative – most US academic libraries can barely manage their own digital projects, much less take on the entire weight of the US Federal Government. Instead, it is seen as the responsibility of the GPO and other government agencies, and they have stepped up with products such as FDsys and other content management systems, to address concerns raised by the depository community and their own needs. There is a necessity for even more to be done, especially in digital organization and preservation, but the depository community tends to address this more by lobbying the GPO than attempting to handle the situation itself. Every US depository library is mandated to have a government information web presence, but more often than not these websites are compilations of links to tools, portals, and resources created by the government or paid vendors, not the depositories.

Since China has no rigidly structured depository system or centralized body such as the GPO to which it can delegate these types of responsibilities, Chinese academic libraries and librarians have stepped in to bridge the gap. Chinese academic libraries have been integral in developing database tools which further the use of Chinese government information. They have built digital infrastructures and developed platforms to promote the use of Chinese government information. While FDsys, America's one-stop shop for government information, was built entirely by GPO, in China various libraries collaborated to construct the Chinese equivalent, the China Government Public Information and Service Platform. These types of portals serve a specific purpose: to aggregate government information through one easily used search engine, thereby facilitating access. So far, FDsys would appear to be the more comprehensive of the two, since it voyages into areas China's Platform does not: specifically authentication and preservation.

And this is where another major difference lies between the two countries – the focus on authentication and preservation, a uniquely twenty-first-century problem engendered almost entirely by digital formatting. There is more in the scholarly literature and the cacophony of the Internet regarding these issues in the US than in China, but all the talk has not necessarily equaled action. The GPO has done much with certain digital documents (primarily legislative) in the realm of authentication. There is also a modicum of security with regard to preservation: these documents are available, authenticated, and preserved through FDsys. However, the vast majority of digital government information is not currently funneled through the FDsys system. It resides on individual agency servers, and no provision whatsoever is made for its permanency. Until it is, depository librarians may clamor, but this information is still in great danger of disappearing. Even in the tangible realm, where provision *was* made for permanent legacy collections by means of the regional libraries, this attempt has not borne fruit. Few, if any, regional depositories hold 100 percent of the government documents published and distributed through GPO in tangible format, as was originally and continues to be their mandated remit.

In China, the idea of authentication appears to be almost a non-issue – it is not found in the literature nor does it seem to be a major concern for those dealing with Chinese government information. There is no structure whatsoever for authentication or validation of government information, and even relying on a specific publisher is not an option, since China has no official government publisher and government

documents can be printed or digitally created at all governmental levels. Likewise, there is currently no plan formulated for the widespread preservation of Chinese government information. This is one area the US and China unfortunately have in common. China continues to work towards providing true open access to government information, and until this goal is reached, other issues, such as authentication and preservation, must take a back seat. Information must be made widely available before Chinese libraries can even begin to worry about the issue of preservation.

Outreach

Historical and ideological foundations

Outreach services in Chinese academic libraries are currently in an early stage of development. Though they date back to the early 1990s, it was only in 2007 that Director-General of the National Library of China and Vice-Minister of Culture Heping Zhou encouraged Chinese academic libraries to expand their services in order to explore the full potential of their resources. Since governmental encouragement in China carries great weight, China's public libraries acted on Zhou's suggestion and began to extend more of their services to the community; academic libraries followed. By 2009, the exploration of library outreach services had become a topic in national academic library annual forums in China.

The development of outreach services in Chinese libraries originated with two separate ideologies: the expressed needs of library users, and the library's perception of users' current informational needs as well as potential future informational needs – a perception based on observation. Both of these methods have been used as foundations for outreach programs in Chinese academic libraries. It is accepted that there is a risk when academic libraries initiate outreach services or programs without prompting from the users, but the payoff is often well worth the risk. It is also acknowledged that users may not immediately embrace the service or buy into the service at all, even when given time to explore its usefulness. If this happens, the new service will not become a part of essential or traditional services and will most likely be discontinued. The benefit of this trial and error process is that the library learns what is not wanted and can therefore attempt other activities, services, and events which better serve its users.

In the US, academic library outreach services can be traced much farther back, to the late 1950s. In 1958, the journal *Library Trends* dedicated its January issue to academic library cooperation and the cooperation of other types of libraries; the Association of College & Research Libraries also conducted a national survey in 1965 focusing on community users and their access to academic library collections (Schneider, 2003). Of the 1100 academic libraries that responded, 94 percent indicated that they served community users in some capacity. This survey is the foundation of many studies concerning academic library outreach in the US, and shows the origins and pervasive nature of this service in the country. Mirroring the situation in China, it was the public libraries which first led the way in outreach services, leaving academic libraries to follow. Academic libraries in the US were quick to note that library users from any sector of the community could share knowledge, and communities and academic libraries benefited from communicating with each other.

A majority of academic libraries in the US have the term "outreach" in their mission statement, and if they do not have the specific term, the mission statements often still feature descriptors of outreach listed not only in the library's mission, but in the mission statement of the institution as well. Moreover, academic libraries in the US currently have a different student base than do their Chinese counterparts – specifically a multicultural one. This has greatly affected outreach services offered; US academic libraries have long been involved in various informal forms of outreach as a result of the cultural and ethnic diversity of the country. In order to reflect the numerous cultures which make up the US melting pot, many academic libraries have engaged in a wide range of promotional methods to open up library services to these groups, recognizing that including peoples of all cultures, races, and economic backgrounds adds to the richness of US academic libraries. Ongoing outreach services allow US academic libraries to keep open lines of communication with various constituencies and to evolve by staying abreast of how the public perceives their services. The challenge encountered with offering outreach in this way is balancing the time and creativity of organizing outreach services without compromising the excellent service offered to an academic library's primary users – the students, faculty, and staff of the university. This is not an area in which Chinese academic libraries are currently comfortable operating. The idea of community users becoming primary users because of creative outreach efforts is accepted in the US, but the Chinese academic library has yet to expand its ideology to include this prospect.

Definitions and scope

The majority of academic libraries in China view outreach services as add-on services, those which are not essential or traditional services. In addition, the word outreach is not commonly used by academic libraries in China; the term "creative service" is more generally accepted. Outreach is a vague term that can be defined in a variety of ways; its meaning changes depending on the mindset and limitations of the academic library using it. In China, outreach services are generally provided when primary library users, most often students, express a need. Outreach services as defined in this way are not daily services, and they are determined by the availability of the resources, librarians, facilities, and space of the library. Library users' needs are the primary purpose of outreach services in academic libraries in China, and it must be noted that these users do not include the community or anyone else who would be considered a non-primary library constituent – Chinese library outreach is aimed almost exclusively at the university's students and faculty. This is the principal and most important difference between outreach efforts in the US and China: the scope of Chinese efforts is intentionally and severely limited.

The users are considered to be the key element in the success of Chinese academic libraries, and taking the initiative to meet their informational needs is a priority which sometimes results in outreach, especially to other on-campus departments or in the creation of extended online services. Essential and add-on services complement each other, and are woven into the fabric of the total goal of Chinese academic libraries: to provide accurate, beneficial, and timely service to current users. As delineated, these users are primarily students, and there is no impetus to expand this user base. The result is that, historically, there has been no measurable impact by China's academic libraries on their local communities. In the past, China's universities and their libraries have not thought it their role to offer services to the community. However, this view may be changing as the Chinese media and even the government begin to push academic libraries to open their doors and their resources to the general public. If and when this happens, Chinese academic libraries may also find that they gradually move towards offering outreach services beyond the university, to the community at large.

Though on-campus outreach initiatives are also common, the primary definition of outreach in academic libraries in the US involves moving beyond the library building to reach and interact with the community the library serves. Academic library communities are not limited to the students, faculty, and staff of the university, or even the local neighborhood;

the community is global. In the US, there are public and private universities and there are numerous outreach procedures to communicate with existing users, but also potential users. Since this global population is so diverse, factors such as the education, culture, ethnicity, and socioeconomic status of those being targeted impact the outreach events and activities offered by US academic libraries.

Theory and practice

Academic library outreach services in China are unique when compared with those of academic libraries in the US. Both countries hold the belief that academic libraries are the heart of higher education institutions and that connecting users to information is the library's primary purpose. In addition, both China and the US are aware of the importance of familiarizing themselves with their users' expectations. However, China has a unique culture, and this permeates every aspect of its higher education structure, including the academic library. Many academic libraries in China include cultural, spiritual, and traditional themes in the design and architecture of their library buildings, and as might be expected from a country with a Communist form of government, Chinese academic libraries demonstrate a holistic approach to education and literacy. The six historical traditions of Chinese scholars are concepts and skills which are completely foreign to non-Asians, tenets embraced in ancient times to develop well-rounded students. These students possessed moral values, an appreciation of music, physical health, a persistence and determination to succeed, an adoration of literature, and an acknowledgment of mathematics and its importance to society. These six rituals, represented even today in Chinese academic libraries, perpetuate the strong cultural environment first envisioned by ancient Chinese educators.

Academic libraries in China are owned by the government, yet most of these libraries are not open to the public. China's universities' current constituents are apprehensive about the advent of general public use of their libraries for a number of reasons. Since China makes up over 19 percent of the world's population, space, personnel, and resource constraints are concerns which currently bar community and general public use of its academic libraries. Yet with an expressed need from that community and the general public, as well as increasingly vocal backing from elements of the Chinese government and mass media, public use of China's academic libraries is a controversial issue that can no longer be

ignored. Academic libraries' concerns are understandable, but there may come a time when the decision is removed from their purview, and they must consider the ramifications now in order to prepare themselves for the future. Some university libraries have taken tentative steps in this direction. Although general access to academic libraries in China is limited, the University of Hong Kong established the Hong Kong University Library Circle of Friends in 2003. This fee-based library outreach service is available to Hong Kong citizens and institutions, with the goal of increasing literacy in the community (Sidorko and Yang, 2011).

A large part of successful outreach programs is promotion, and China does a superb job with internally marketing the academic library and its services to students and faculty. Innovative self-service options have assisted students, faculty, and staff in learning what services and materials are available from the library and how to use them, as well as moving these materials into venues outside the library, making utilization more convenient. Book boxes, machines in various locations on- and off-campus which dispense books at any time, and self-checkout options illustrate the ways in which Chinese academic libraries are extending services through advances in technology. This provides users with anytime access to resources while freeing up librarians to focus on other aspects of library services. As is the case in the US, online access to China's academic libraries is another way of making library research convenient for users, removing the limitations occasioned by the physical library building and allowing users to search for information at any time and in any location with an Internet connection. In addition, China's academic libraries use a variety of activities to promote student-centered learning, such as:

- lectures on various academic and cultural subjects;
- book displays;
- cultural performances;
- historical displays;
- promotion of reading programs.

As is illustrated by the practices above, the Chinese approach to outreach is fairly insular; very few reach beyond their university users. The US, by contrast, has a more external approach to outreach. The general public or community is a vital constituency, essential to the total success of the academic library in the US. Developing and maintaining a strong relationship between the academic library and the general public improves awareness of academic library services, as well as allowing the library to serve the community while keeping abreast of existing and potential user

needs. During these times of financial uncertainty, many US universities have adopted a business-like model in reaching out to the community. The purpose is to create shared learning opportunities, but also to generate revenue for the library and university. For example, when academic libraries form positive and strong relationships with the public, university enrollment can increase, thus increasing the university's revenues. The library can also form relationships with potential donors, which can then further even more outreach services.

There is greater cultural diversity in the US, and this has proved beneficial for academic libraries and their outreach efforts. Celebrating and promoting literacy creates opportunities for many different types of outreach services and programs. US academic libraries participate in countless types of outreach, such as:

- providing literacy to senior citizens;
- celebrating library anniversaries;
- collaborating with other campus departments to assist student athletes;
- combining efforts with high schools to prepare potential students for college research;
- partnering with local businesses to promote literacy;
- reaching out to under-represented ethnic groups on-campus and in the community.

Future trends

In China, academic libraries may combine their physical space with that of museums or other cultural centers to help alleviate space constraints. The library will work towards being universal, providing multiple services such as research, reading, studying, and entertainment not only to students, but to anyone interested in learning. Though finding a solution which adequately addresses all concerns may be a challenge, community access to Chinese academic libraries will cease to be controversial and become a reality. Continued collaboration and embedded services with other campus departments will keep the academic libraries in China modern and relevant in the future. China's continual advancement in technology will enable its academic libraries to prosper and be a significant force for years to come.

As for the US, Lara Ursin Cummings, a librarian at Washington State Libraries and author of "Bursting out of the box: outreach to the

millennial generation through student services programs," states that new areas of academic library partnerships will be established on campuses, partnerships where there previously was no collaboration (Cummings, 2007). Non-academic services on campus can provide another point of service for students, and academic libraries should aim to be truly embedded in the entire college experience. Residence halls, recreation centers, cafés, and student health centers, just to name a few, are places where information should be accessible. The library must reach out to all departments to show students and the college community that the library and its resources are everywhere its patrons are. One step further than Cummings' conclusion involves going beyond the campus and out into the community. Out-of-the-box thinking may be off-the-campus thinking. Since many students commute or work off-campus, connecting with local businesses and agencies not only embeds academic libraries on the main campus, but also allows them to partner with the entire community. Building relationships on- and off-campus should be the focus of US academic libraries both now and in the future. Many US campuses have experienced an increase of non-traditional students; therefore, academic libraries must plan non-traditional outreach services to reach these students as well as potential students – anyone and everyone. To meet the growing demands of all users' information needs, academic librarians must position themselves outside of the library building, extending library resources and services while continuously learning to use and even creating new technologies. The end result will be a thriving academic library, which meets and exceeds user expectations, no matter who or where that user may be.

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