

ation skills. Familiarity with computer technology also is important for instructional coordinators, who are increasingly involved in gathering and coordinating technical information for students and teachers.

Depending on experience and educational attainment, instructional coordinators may advance to higher positions in a school system, or to management or executive positions in private industry.

Job Outlook

Employment of instructional coordinators is expected to grow faster than the average for all occupations through the year 2010. Rising school enrollments, more student services, and a continuing emphasis on improving the quality of education will spur demand. Instructional coordinators will be instrumental in developing new curricula to meet the demands of a changing society and in training the teacher workforce. As more States institute standards for different grade levels, coordinators will be needed to incorporate the standards into curriculums and make sure teachers and administrators are informed of the changes.

Instructional coordinators also will be needed to provide classes on using technology in the classroom, to keep teachers up-to-date on changes in their fields, and to demonstrate new teaching techniques. Professional training for teachers will grow in importance as more individuals enter the teaching profession without an education background or experience.

Job growth for instructional coordinators also will stem from the increasing emphasis on lifelong learning and on programs for students with special needs, including those for whom English is a second language. These students often require more educational resources and consolidated planning and management within the educational system.

Earnings

Median annual earnings of instructional coordinators in 2000 were \$44,230. The middle 50 percent earned between \$32,150 and \$58,480. The lowest 10 percent earned less than \$24,370, and the highest 10 percent earned more than \$72,020.

Related Occupations

Instructional coordinators are professionals involved in education and training and development, which requires organizational, administrative, teaching, research, and communication skills. Occupations with similar characteristics include preschool, kindergarten, elementary, middle, and secondary school teachers; postsecondary teachers; education administrators; counselors; and human resources, training, and labor relations managers and specialists.

Sources of Additional Information

Information on requirements and job opportunities for instructional coordinators is available from local school systems and State departments of education.

Librarians

(O*NET 25-4021.00)

Significant Points

- A master's degree in library science usually is required; special librarians often need an additional graduate or professional degree.
- Applicants for librarian jobs in large cities or suburban areas will face competition, while those willing to work in rural areas should have better job prospects.

Nature of the Work

The traditional concept of a library is being redefined from a place to access paper records or books, to one which also houses the most advanced mediums, including CD-ROM, the Internet, virtual libraries, and remote access to a wide range of resources. Consequently, librarians increasingly are combining traditional duties with tasks involving quickly changing technology. Librarians assist people in finding information and using it effectively for personal and professional purposes. Librarians must have knowledge of a wide variety of scholarly and public information sources, and follow trends related to publishing, computers, and the media to effectively oversee the selection and organization of library materials. They manage staff and develop and direct information programs and systems for the public to ensure information is organized to meet users' needs.

Most librarian positions incorporate three aspects of library work: User services, technical services, and administrative services. Even librarians specializing in one of these areas perform other responsibilities. Librarians in user services, such as reference and children's librarians, work with the public to help them find the information they need. This involves analyzing users' needs to determine what information is appropriate, and searching for, acquiring, and providing information. It also includes an instructional role, such as showing users how to access information. For example, librarians commonly help users navigate the Internet, showing them how to most efficiently search for relevant information. Librarians in technical services, such as acquisitions and cataloguing, acquire and prepare materials for use and often do not deal directly with the public. Librarians in administrative services oversee the management and planning of libraries, negotiate contracts for services, materials, and equipment, supervise library employees, perform public relations and fundraising duties, prepare budgets, and direct activities to ensure that everything functions properly.

In small libraries or information centers, librarians usually handle all aspects of the work. They read book reviews, publishers' announcements, and catalogues to keep up with current literature and other available resources, and select and purchase materials from publishers, wholesalers, and distributors. Librarians prepare new materials by classifying them by subject matter, and describe books and other library materials so they are easy to find. They supervise assistants who prepare cards, computer records, or other access tools that direct users to resources. In large libraries, librarians often specialize in a single area, such as acquisitions, cataloguing, bibliography, reference, special collections, or administration. Teamwork is increasingly important to ensure quality service to the public.

Librarians also compile lists of books, periodicals, articles, and audiovisual materials on particular subjects; analyze collections; and recommend materials. They collect and organize books, pamphlets, manuscripts, and other materials in a specific field, such as rare books, genealogy, or music. In addition, they coordinate programs such as storytelling for children, and literacy skills and book talks for adults; conduct classes; publicize services; provide reference help; write grants; and oversee other administrative matters.

Librarians are classified according to the type of library in which they work—public libraries, school library media centers, academic libraries, and special libraries. Some librarians work with specific groups, such as children, young adults, adults, or the disadvantaged. In school library media centers, librarians help teachers develop curricula, acquire materials for classroom instruction, and sometimes team-teach.

Librarians also work in information centers or libraries maintained by government agencies, corporations, law firms, advertising agencies, museums, professional associations, medical centers, hospitals, religious organizations, and research laboratories. They build and arrange an organization's information resources, which usually

are limited to subjects of special interest to the organization. These special librarians can provide vital information services by preparing abstracts and indexes of current periodicals, organizing bibliographies, or analyzing background information and preparing reports on areas of particular interest. For example, a special librarian working for a corporation could provide the sales department with information on competitors or new developments affecting their field.

Many libraries have access to remote databases and maintain their own computerized databases. The widespread use of automation in libraries makes database searching skills important to librarians. Librarians develop and index databases and help train users to develop searching skills for the information they need. Some libraries are forming consortiums with other libraries through electronic mail. This allows patrons to simultaneously submit information requests to several libraries. The Internet also is expanding the amount of available reference information. Librarians must be aware of how to use these resources in order to locate information.

Librarians with computer and information systems skills can work as automated systems librarians, planning and operating computer systems, and information science librarians, designing information storage and retrieval systems and developing procedures for collecting, organizing, interpreting, and classifying information. These librarians analyze and plan for future information needs. (See computer support specialists and systems administrators, and systems analysts, computer scientists, and database administrators elsewhere in the *Handbook*.) The increased use of automated information systems enables librarians to focus on administrative and budgeting responsibilities, grant writing, and specialized research requests, while delegating more technical and user services responsibilities to technicians. (See library technicians elsewhere in the *Handbook*.)

Increasingly, librarians apply their information management and research skills to arenas outside of libraries—for example, database development, reference tool development, information systems, publishing, Internet coordination, marketing, and training of database users. Entrepreneurial librarians sometimes start their own consulting practices, acting as freelance librarians or information brokers and providing services to other libraries, businesses, or government agencies.

Working Conditions

Librarians spend a significant portion of time at their desks or in front of computer terminals; extended work at video display terminals can cause eyestrain and headaches. Assisting users in obtaining information for their jobs, recreational purposes, and other tasks can



Librarians need knowledge of a wide variety of scholarly and public information sources in order to aid the public.

be challenging and satisfying; at the same time, working with users under deadlines can be demanding and stressful. Some librarians lift and carry books, and some climb ladders to reach high stacks. Librarians in small organizations sometimes shelve books themselves.

More than 2 out of 10 librarians work part time. Public and college librarians often work weekends and evenings, and have to work some holidays. School librarians usually have the same work-day schedule as classroom teachers and similar vacation schedules. Special librarians usually work normal business hours, but in fast-paced industries—such as advertising or legal services—they can work longer hours during peak times.

Employment

Librarians held about 149,000 jobs in 2000. Most were in school and academic libraries; others were in public and special libraries. A small number of librarians worked for hospitals and religious organizations. Others worked for governments.

Training, Other Qualifications, and Advancement

A master's degree in Library Science (MLS) is necessary for librarian positions in most public, academic, and special libraries, and in some school libraries. The Federal Government requires an MLS or the equivalent in education and experience. Many colleges and universities offer MLS programs, but employers often prefer graduates of the approximately 56 schools accredited by the American Library Association. Most MLS programs require a bachelor's degree; any liberal arts major is appropriate.

Most MLS programs take 1 year to complete; others take 2. A typical graduate program includes courses in the foundations of library and information science, including the history of books and printing, intellectual freedom and censorship, and the role of libraries and information in society. Other basic courses cover material selection and processing, the organization of information, reference tools and strategies, and user services. Courses are adapted to educate librarians to use new resources brought about by advancing technology such as on-line reference systems, Internet search methods, and automated circulation systems. Course options can include resources for children or young adults; classification, cataloguing, indexing, and abstracting; library administration; and library automation. Computer-related coursework is an increasingly important part of an MLS degree. Some programs offer interdisciplinary degrees combining technical coursework in information science with traditional training in library science.

An MLS provides general preparation for library work, but some individuals specialize in a particular area such as reference, technical services, or children's services. A Ph.D. degree in library and information science is advantageous for a college teaching position, or a top administrative job in a college or university library or large library system.

In special libraries, an MLS usually is also required. In addition, most special librarians supplement their education with knowledge of the subject specialization, sometimes earning a master's, doctoral, or professional degree in the subject. Subject specializations include medicine, law, business, engineering, and the natural and social sciences. For example, a librarian working for a law firm may also be a licensed attorney, holding both library science and law degrees. In some jobs, knowledge of a foreign language is needed.

State certification requirements for public school librarians vary widely. Most States require school librarians, often called library media specialists, to be certified as teachers and have had courses in library science. An MLS is needed in some cases, perhaps with a library media specialization, or a master's in education with a specialty in school library media or educational media. Some States

require certification of public librarians employed in municipal, county, or regional library systems.

Librarians participate in continuing training once they are on the job to keep abreast of new information systems brought about by changing technology.

Experienced librarians can advance to administrative positions, such as department head, library director, or chief information officer.

Job Outlook

Employment of librarians is expected to grow more slowly than the average for all occupations over the 2000-10 period. The increasing use of computerized information storage and retrieval systems continues to contribute to slow growth in the demand for librarians. Computerized systems make cataloguing easier, which library technicians now handle. In addition, many libraries are equipped for users to access library computers directly from their homes or offices. These systems allow users to bypass librarians and conduct research on their own. However, librarians are needed to manage staff, help users develop database searching techniques, address complicated reference requests, and define users' needs. Despite expectations of slower-than-average employment growth, the need to replace librarians as they retire will result in numerous additional job openings.

Applicants for librarian jobs in large metropolitan areas, where most graduates prefer to work, usually face competition; those willing to work in rural areas should have better job prospects. Opportunities will be best for librarians outside traditional settings. Nontraditional library settings include information brokers, private corporations, and consulting firms. Many companies are turning to librarians because of their research and organizational skills, and knowledge of computer databases and library automation systems. Librarians can review vast amounts of information and analyze, evaluate, and organize it according to a company's specific needs. Librarians also are hired by organizations to set up information on the Internet. Librarians working in these settings may be classified as systems analysts, database specialists and trainers, webmasters or web developers, or LAN (local area network) coordinators.

Earnings

Salaries of librarians vary according to the individual's qualifications and the type, size, and location of the library. Librarians with primarily administrative duties often have greater earnings. Median annual earnings of librarians in 2000 were \$41,700. The middle 50 percent earned between \$32,840 and \$52,110. The lowest 10 percent earned less than \$25,030, and the highest 10 percent earned more than \$62,990. Median annual earnings in the industries employing the largest numbers of librarians in 2000 were as follows:

Elementary and secondary schools	\$43,320
Colleges and universities	43,050
Local government, except education and hospitals	38,370

The average annual salary for all librarians in the Federal Government in nonsupervisory, supervisory, and managerial positions was \$63,651 in 2001.

Related Occupations

Librarians play an important role in the transfer of knowledge and ideas by providing people with access to the information they need and want. Jobs requiring similar analytical, organizational, and communicative skills include archivists, curators, and museum technicians; and computer and information scientists, research. The management aspect of a librarian's work is similar to the work of managers in a variety of business and government settings. School librarians have many duties similar to those of school teachers. Other jobs requiring the computer skills of some librarians include database administrators and computer systems analysts.

Sources of Additional Information

Information on librarianship, including information on scholarships or loans, is available from the American Library Association. For a listing of accredited library education programs, check their homepage.

► American Library Association, Office for Human Resource Development and Recruitment, 50 East Huron St., Chicago, IL 60611. Internet: <http://www.ala.org>

For information on a career as a special librarian, write to:
► Special Libraries Association, 1700 18th St. NW., Washington, DC 20009.

Information on graduate schools of library and information science can be obtained from:

► Association for Library and Information Science Education, P.O. Box 7640, Arlington, VA 22207. Internet: <http://www.alise.org>

For information on a career as a law librarian, scholarship information, and a list of ALA-accredited schools offering programs in law librarianship, contact:

► American Association of Law Libraries, 53 West Jackson Blvd., Suite 940, Chicago, IL 60604. Internet: <http://www.aallnet.org>

For information on employment opportunities as a health sciences librarian, scholarship information, credentialing information, and a list of MLA-accredited schools offering programs in health sciences librarianship, contact:

► Medical Library Association, 6 N. Michigan Ave., Suite 300, Chicago, IL 60602. Internet: <http://www.mlanet.org>

Information on acquiring a job as a librarian with the Federal Government may be obtained from the Office of Personnel Management through a telephone-based system. Consult your telephone directory under U.S. Government for a local number, or call (912) 757-3000; Federal Relay Service (800) 877-8339. The first number is not tollfree and charges may result. Information also is available on the Internet: <http://www.usajobs.opm.gov>.

Information concerning requirements and application procedures for positions in the Library of Congress can be obtained directly from:

► Human Resources Office, Library of Congress, 101 Independence Ave. SE., Washington, DC 20540-2231.

State library agencies can furnish information on scholarships available through their offices, requirements for certification, and general information about career prospects in the State. Several of these agencies maintain job hotlines reporting openings for librarians.

State departments of education can furnish information on certification requirements and job opportunities for school librarians.

Many library science schools offer career placement services to their alumni and current students. Some allow nonaffiliated students and jobseekers to use their services.

Library Technicians

(O*NET 25-4031.00)

Significant Points

- Training requirements range from a high school diploma to an associate or bachelor's degree, but computer skills are needed for many jobs.
- Increasing use of computerized circulation and information systems should spur job growth, but budget constraints of many libraries should moderate growth.
- Employment should grow rapidly in special libraries as growing numbers of professionals and other workers use those libraries.