

# Skills Needed to Provide Data Services

## Data Service Skill Categories

There are generally four broad skill categories necessary to provide adequate support for data: information management, social science methodology and research, and computing. The skills of the data services staff often drive the services that we provide. The lack of particular skills may require training or cooperating with others in our organizations that have them. The overview of skills in this section, along with examples of job advertisements and position descriptions in *Data Basics: A Reference Manual* shows the range of desirable skills necessary to perform various aspects of data services. A sample page from a librarian's training manual also in that same volume provides a structure for training other staff in a library setting to provide a minimal level of data services support.

## Information Management Skills

A large part of providing Data Services is the successful and efficient management of a collection of data. Information management skills include the ability to:

- locate data files through searching print and electronic sources and through personal contacts;
- acquire data from a variety of vendors, producers, and distributors in a variety of formats;
- catalog, index and classify data files;
- provide local dissemination of documentation and data in a variety of appropriate formats;
- analyze user requests in order to determine information needs and answer questions;
- ensure future availability of data files and documentation through preservation activities.

## Social Science Methodology and Research

Knowledge of the methods and practices of the quantitative social sciences are essential in order to communicate effectively with users of data and in order to provide services for data users. Although one need not be a practicing

social scientist to build a collection of social science data, an understanding of social science methods and terminology, and how the data are collected, produced and used enhances greatly one's ability to provide services for the collection. These skills enable a data librarian to understand a discipline and how it is practiced locally and to communicate with users in an intelligent and informed way in order to help them obtain and use the information products that they need. Examples of specific skills in this category include the ability to:

- understand the process of building and collecting social science data;
- be conversant in social science research terminology (e.g., dependent and independent variables, panel study, time series);
- understand, interpret and explain documentation;
- check data for validity and consistency;
- generate statistical software "system files" and subsets of data files;
- provide consultation, orientation and training for data users.

## **Computer Skills**

Computer skills are unquestionably essential to the provision of data services, though the level of skill required does depend on what kind of services you intend to provide. Defining "adequate computer support" for your users is very important in this context. Even at a very basic level of service, a general understanding of computing is essential. Computer skills include:

- the ability to operate a microcomputer or workstation-class machine;
- an understanding of computer hardware, software and operating systems and how they operate;
- the ability to work with mass storage technologies such as computer tape, magnetic disks, optical disks and their associated file structures;
- the ability to transfer files between different systems;
- the ability to use statistical software, particularly for managing files and creating subsets.
- the ability to explain computer concepts, tools, and terminology to users and provide consultation and training in basic skills.

- the ability to efficiently effectively use the WWW to identify and locate data; to ability to acquire data with a web browser and ftp; the understanding of file transfer and file formats so that files acquired over the network can be used locally; the ability to provide information and data on the WWW including the ability to create simple web pages and lengthy lists or databases, the ability to provide special formats such as SGML, the ability to provide access to data and meta-data with cgi scripting, database access, and by running statistical software with cgi scripts.

### **Service Orientation**

All of the above skills are important in order to be able to actually do the work, but it is the desire to provide quality service to users, the "service orientation," that cements the other skills together and provides a context for applying those skills. It is the service orientation that can turn a collection of data from a warehouse into a service.