
Library Outreach Programs in Rural Areas

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ABSTRACT

OUTREACH IS THE ONLY MEANS by which library services can be effectively distributed over rural areas where the population necessary to provide the public financing of quality information service is so dispersed that a single location facility will not be accessible to large portions of the population contributing to the service. Rural areas are served by national information agencies, state information agencies, the libraries of colleges and universities, and by local public libraries—all using outreach methods. Particular efforts have been made to support distance learning activities and health information needs, and it is in these areas that new technology has been most prevalent.

Video and electronic digital media are beginning to have some effect on rural outreach activities, but most service is still provided by small local libraries or branches, by bookmobiles, by depository collections, and by books-by-mail programs. The immediate effect of the new technologies seems to be to support these programs rather than supplant them.

THE PROBLEM

Library use of outreach programs in rural areas is the focus of this article. The libraries involved are primarily facilities attempting to serve a population so dispersed and distributed as to make major use of a central facility unlikely and difficult for a portion of the people served. It is important to understand that if by rural library service we mean services

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provided by public libraries in communities of fewer than 2,500 people—the U.S. Bureau of Census' definition of rural—we are talking about libraries with budgets of about \$15,000 per year. If we include libraries that serve populations of less than 25,000, as does Vavrek (1990), we increase the average budget to only \$81,000. Such libraries are not likely to have sophisticated or expensive equipment or large numbers of highly trained and experienced personnel. On the other hand, they are likely to have personnel with close ties to the community and an excellent understanding of community needs and desires. One need only read the testimony of Hales (1992) of the Suwannee River Regional Library in Live Oak, Florida, to get a feel for the limited availability of resources to that large portion of our public libraries that serve small populations.

THE RURAL ENVIRONMENT AND ITS PROBLEMS

The problems of rural library service may be characterized in simple terms of cost and distance. Library service costs money. As a public good, its cost is distributed over a large number of people, and its services are available to all of these. Where people are concentrated, this works well enough since, for a small individual cost, a significantly effective facility in relatively easy reach of all the contributors can be provided. When the population is dispersed, a far larger area is needed to provide the resources for an effective information service facility. By the very nature of the situation, this facility cannot be in easy reach of all those who must contribute to its support, unless it is itself distributed over the distances involved. This distribution of facilities and services is what we mean by rural outreach.

THE CONCEPT OF OUTREACH AND ITS METHODS

There are a great many unserved, but potential, library patrons in rural areas. A basic willingness to do what is necessary to serve the unserved is what outreach is all about. A formal definition of the term is more difficult to find. As Weibel (1982) says:

While the term *outreach* is used extensively in library literature from the mid-sixties on, a specific definition is not readily offered. Outreach is often used interchangeably with synonyms such as *extension* and the phrases "service to the disadvantaged" or "unserved," and "community" or "inner-city service." Modifications in the goals or type of library service described can be seen over the period examined, while the interchangeability of terms and the lack of specificity of their definition remains. (p. 5)

There is, of course, associated with the term outreach, the concept that service must be proactively extended beyond the walls of the library building to the actual area of need for service. Some sense of community

involvement in library decision making is often implied as well. New service populations may require new services and new materials. As Tate (1972) said: "In many cases 'reaching out' has meant handing out the same old wares in a different way" (p. 3). In more recent years, the wares have indeed changed both inside and outside library walls. Certainly modern outreach service seems to center on delivery mechanisms to external clients. That which is delivered is generally that which is also available within the library building. Assuming that these deliverables are among those that the community needs and desires, this is appropriate. The community, of course, should be studied to ascertain whether or not this is the case, and if not, just what the needs might be.

deGruyter (1982) finds rural library use about equally divided between reading for entertainment and "trying to obtain useful knowledge." She determines that the rural library user is more active in cultural and social activities and has more education than the nonuser. A classic study is that of Bundy (1960). She found that the farmer was not a reader of books but rather a reader of a regular flow of bulletins and journals related to agricultural practices that may increase efficiency. She says: "To the farmer, a library is an agency for women and children, not geared to the farmer's interests and not planned around his convenience" (p. 146). Vavrek (1990), thirty years later, finds that seven out of ten rural library clients are women (p. 2). It would appear that rural library service, whatever delivery system it may use, has yet to appeal to the males of the rural family.

The traditional library outreach mechanisms provide books and other materials to those who are unlikely or unable to reach the physical library. Philip (1989) lists branches, mail delivery, and bookmobiles as the prime methods but also considers depository collections and other institutional outreach services involving delivery of materials to facilities whose inhabitants cannot easily access what is necessary to meet their information needs. The truly rural library will be hard pressed to provide traditional library outreach mechanisms since its budget may simply not stretch to cover such expense. Outreach in libraries with budgets below \$81,000 a year will rely on their staff's knowledge of community needs and their ability and commitment to personally provide services outside the library's walls. Books by mail and bookmobiles are far from low cost delivery systems. Boyce and Boyce (1989) found that:

If we assume a ten year vehicle life, an initial cost of \$45,000 and \$2,000 per year for maintenance then the mobile facility costs \$6,500 per year or about fourteen cents per circulation. No reliable estimate of fuel costs is available but if one assumes \$50 per week that would add \$2,500 to the annual costs and raise the cost per circulation to twenty cents. (p. 46)

This, of course, does not mean that there are not significant outreach services in rural communities. Many library systems have a county wide or larger region of responsibility, and some such systems have both significant urban and rural localities within their service areas. If the service area is large enough and the population willing and able to provide tax revenues for the service, rural outreach is feasible and can be very effective. In fact, despite the economics, bookmobiles and deposit collections are to be found in the smallest service areas.

What does an underfunded library serving a rural population do when faced with the need, or perhaps the mandate, to provide more than traditional ready reference, recreational, and self-help materials? It copes. For instance, let us consider the rural library faced with the 1990 Americans with Disabilities Act. All libraries are required by law to provide services to the disabled and to have accessible facilities. While the situation has not been broadly studied, Deason et al. (1992) conclude that rural libraries are neither accessible nor do they have materials for use by disabled patrons.

In his study of eighteen facilities in three rural public library systems in Louisiana, Bodin (1994) found that all but one facility had major structural problems and, thus, could only achieve compliance with considerable expenditure; all facilities exhibited less serious and costly problems. However, these libraries did have large-print materials and closed and open captioned videos, and access to the State Library of Louisiana's extensive collections of specialized materials. Most important, they had a positive attitude of service to the disabled and were willing to go to considerable lengths to get information and materials to those who found traditional access a problem. This often meant telephone consultation and that most basic of outreach service, personal delivery of materials by library personnel.

It is certainly technically possible to provide rural communities with wide access to information sources by electronic means. This involves equipment costs and communication charges that will be beyond the means of many of the rural unserved. However, the farmer or the rural business person who has a personal computer and modem for other purposes has access to a growing number of library collections and services. The small rural public library also can have this access if it can afford such equipment and telephone charges.

The Association of Research Libraries (1993) surveyed its membership concerning services to remote access patrons (RAPS). Of the 108 libraries surveyed, 75 responded and, of these, 72 indicated that some form of remote access to their collections or services was currently available. Most allow access to their OPACs without password or charge, and a large number provide remote access to their CD-ROM workstations without passwords. This survey indicates that RAPS are not only students,

faculty, and staff located away from the campus, but that many are not affiliated with the university in which the library operates. Distance learners and the handicapped are taking advantage of these services, which include not only electronic access but circulation, interlibrary loan, reference service, and delivery by electronic means, by commercial courier, by their own library delivery system, and by the post office.

The usefulness of CD-ROM technology for rural outreach is both unclear and unexplored. Moore (1988) suggests that CD-ROM is an ideal vehicle for bringing databases to rural libraries. Certainly this medium makes costs predictable and could put access to business and technical information in small rural libraries. However, a wide scope of databases would still be quite expensive, and it is unclear how such systems can assist in document delivery. Except for their availability on bookmobiles, as reference databases, and particularly in the form of system-wide or broader OPACs, it is yet to be determined what place the CD-ROM medium has in rural outreach.

It would appear that Internet connections are crucial to provide low cost access to such facilities by rural libraries and their patrons. The concept of the public network or free net seems a logical solution to the connection problem. Such networks are operated largely by volunteers and supported by donations from their members and from the business community in their areas. Prairienet, for example, a public access community computing system in Illinois, is free to Illinois residents and available to those out of state for \$50 a year. It provides a great deal of public interest information provided by businesses and other organizations, as well as general Internet access and e-mail service. If access to such systems could be established in rural states on this Illinois model, a rural library would need only a modem, a computer, and a telephone line to make connections. If funds could be generated to allow 800 number access to such a net, the possibilities for rural service seem great indeed. Wilson (1994) demonstrates a clear movement in this direction by describing the National Public Telecomputing Network as "an association that represents 38 Free-Nets operating in 41 states and 8 countries, and 116 formal organizing committees interested in creating local Free-Nets" (p. A17).

We may speculate, however, that the farmer has other sources for his information, particularly the U.S. Department of Agriculture Extension Service, and that information needs in rural areas that can be served by libraries are those of recreational reading and perhaps those in the areas of health, commerce, and education. This limits the perceived value to libraries of investing in electronic access. On the other hand, where the infrastructure for electronic service has been made available, as it has in

North Carolina, information to meet the needs of small business is both available and in use statewide in rural libraries (McGinn, 1990). There is little indication that these services are available outside the physical library, however.

DELIVERY SYSTEMS FOR RURAL PUBLIC LIBRARY SERVICE

Bookmobiles

While there is great potential for electronic delivery of library service to rural patrons, the prime focus of rural library service remains the bookmobile. There are over 1,100 bookmobiles operating in the United States, and 75 percent of bookmobile stops are in communities of less than 5,000 people (Boyce & Boyce, 1991, p. 31). The users are 63 percent female and 51 percent of users are below the age of eighteen. Inter-library loan and reader's advisory services are very common bookmobile services. Over half of the bookmobiles provide reference service, but less than one-third provide community information and referral services. Of the bookmobiles in operation, 23 percent (259 vehicles) are operated by libraries in service areas with a population below 25,000 and so can certainly be considered rural (U.S. Department of Education, 1992, p. 23). Many bookmobiles operated by libraries with larger service areas still serve rural populations.

As reported at two recent national bookmobile conferences, bookmobiles and bookmobile services are changing. The trend in bookmobile design is to incorporate features which accommodate physically challenged patrons and which comply with the requirements of the Americans with Disabilities Act. "Half of all bookmobiles being sold are equipped with wheelchair lifts" (Alloway & Hill, 1993, p. 18), while lowered floors, kneeling vehicles, functional steps, and grab bars are also increasing vehicle accessibility to the physically challenged. These new features reflect the changing focus in the outreach programs that many public libraries are adopting to better serve the disadvantaged or other targeted groups such as the elderly or children in day care.

With the addition of various electronic technologies, "bookmobiles are now capable of providing service equal to that available at a small branch" (Alloway, 1992, p. 43). Cellular and data packet radio technologies make online circulation and catalogs possible; CD-ROMs provide access to reference materials and databases; and, very shortly, mobile satellites (MSATs) may make it possible for bookmobiles "to access on-line information including patrons records and library collections, as well as allow for CD-ROM full-text searching and eventually perhaps, linking up with Internet" (Alloway & Hill, 1993, p. 18). More and more new bookmobiles are being designed to accommodate FAX machines and photocopiers.

Libraries that are involved in one sort of outreach activity are likely to be involved in other attempts to bring library service outside the walls of a central location. Many library systems that offer bookmobile service also utilize deposit collections and books by mail.

Books by Mail

The postal service has provided a special subsidized rate for library materials to rural areas since 1928. Lawson and Kielbowicz (1988) provide an excellent history of U.S. government support of the dissemination of library materials through the post office. Actual books-by-mail service began in the 1960s at the North Central Regional Library in Wenatchee, Washington, when Mike Lynch sent an annotated catalog of paperback titles to each system patron with a rural mailbox as an address. Using a business reply card, books could be requested and would later be mailed with return postage enclosed. Since the postal service is required to pick up packages at RFD boxes, the system works well in rural areas and, in conjunction with other outreach methods, has spread nationwide (Knott, 1973).

Thus books-by-mail is a fairly recent innovation by libraries seeking to provide outreach service to patrons residing in remote areas or to those temporarily restrained from obtaining traditional library service due to personal injury, illness, or physical limitation or to family care demands which keep the patron homebound. While the scope of materials accessible through books-by-mail programs may be varied, the most cost efficient and most frequent focus for the programs is in the circulation of popular reading materials. The criteria used to determine eligibility for service and the parameters used to define collection scope and material format (hardbound versus paperback books) were found by Philip (1989) to be significant factors in the success of a mail delivery system.

Schillinger (1993) found that the number of books-by-mail programs had increased from 75 in 1975 to 101 in 1988. His circulation data indicate that these programs serve primarily adult readers. However, the library can control the material made available in this mode and, if children's materials are not in the catalog, they will not be requested. Recent material on books-by-mail programs is quite sparse, but an excellent implementation guide, prepared by the Monterey County California Library (Sulsona, 1987), is available as an ERIC document.

Deposit Collections

McMahon and Fiscus (1992) report that, in the Northwest Territories of Canada, books-by-mail is supplemented by the use of fifty to seventy-five book deposit collections that are circulated by an on-site volunteer. But the Canadian arctic is not alone; deposit collections still exist throughout North America. While there are occasional references to such collections in the literature, no publication has been identified that would constitute a direct study of deposit collections in the last decade.

To be effective, such collections need to be serviced and maintained on a regular schedule by a central library facility. McCallan (1980) points out that deposit collections are "totally at the mercy of the host facility" and often "revert to an unattractive and unused pile of old best sellers" (p. 530). This is certainly a danger, but the deposit collection remains relatively popular. The term used in the U.S. Office of Education, National Center for Educational Statistics (1992) report is "other outlets." "Other outlets" is defined as "organizations or institutions with small and frequently changed collections of books and other library materials" (p. 110). Of the 8,978 public libraries contributing to this report, 1,301 maintain at least one deposit collection, and there were 6,598 such collections reported. This actually exceeds the number of branch libraries and is six times the number of bookmobiles (p. 20). Of these deposit collections, 30 percent of them (1,955) are associated with libraries serving areas with fewer than 25,000 people and can therefore be considered rural service outlets. In fact, since many library systems with a service population larger than 25,000 still have significant rural settings in their service area, the actual availability of deposit collections in rural areas is certainly larger.

Deposit collections, books-by-mail, and bookmobiles are all alive and well as rural outreach mechanisms in the last decade of the twentieth century.

Video as an Outreach Mechanism

Television has been used as a medium for distance education and is a means of promoting and publicizing library service in rural areas. In fact, as described by Chepesiuk (1985) and by Menard and Triche (1988), local public access channels have made it possible for public libraries to broadcast story hours and other in-house programming. Since cable is not available for many rural patrons, this form of outreach has limited potential for rural audiences. Videotaped library programs delivered by other means do not have this drawback. Videos are certainly part of many circulating collections, and tapes of local government bodies, which have been broadcast on cable public access channels, are often made available for circulation. Interviews with authors and artists are a common library video production, as are story times and other library programming efforts.

While Smardo (1982) has found some evidence that videotaped story times are not as effective as live story programs in fostering the development of listening skills in preschool children, video story programs can provide rural libraries with a means to expose children to professionally presented programs as well as outstanding children's books that may not be in the local library collection. By borrowing program videos, such as those produced by the American Library Association, even the smallest library with access to a VCR and a television set can present polished story times.

There is little in the literature to indicate that television is a significant force in rural library outreach. However, it is certainly in use, and public access channel television could be the public library's new "superbookmobile"—an economic outreach service with the capacity to accommodate a broad range of programming that would reach a significant number of new and potential library users. While regular public access programming may still be beyond the ability of small libraries with limited budgets, consortiums of libraries, such as the Library Cable Network in suburban Chicago reported by Ward (1992), can pool their resources to provide effective programming that combines budget and staff effort supports. In any rural environment where cable public access channels are available, the potential to pool such resources would be great.

The public library is not alone in its attempts to provide information services to rural areas. Colleges and universities that are involved in distance education need to provide library service to their remote students. Such students become remote access patrons. The U.S. Department of Agriculture has long been involved in the provision of information to the farm family, and the need for health care information in rural areas has been addressed by the medical community. These institutions all provide services that fit the definition of library outreach.

Rural Health Care Information Systems

Fresh air and fresh garden produce, highways free from traffic snarls, and views of open space lead many of us to perceive that life in the country is healthful. The reality of maintaining good health or returning to health after illness, however, may be more difficult for the rural patient due to the lack of quick and easy access that the rural health professional has to up-to-date medical and health information (Drukenbrod, 1993, p. 35; Dorsch & Landwirth, 1993, p. 377). Reliable health information for the layman is scarce (Paterson, 1985, p. 73), but access to existing consumer health materials is even more scarce, particularly for populations served by rural libraries.

Rural medical professionals, like their urban counterparts, face the constant challenge of providing patients with quality care. Studies show, however, that the rural practitioner is less likely to search the medical literature to answer questions that arise in practice than the urban professional who also underuses the literature (Dorsch & Landwirth, 1993, p. 378). Distance from urban medical centers and medical libraries, along with the lack of telecommunications equipment and prompt document delivery systems linking the centers to rural areas, contribute to the underuse of the literature by rural professionals. The lack of training by many practitioners in searching medical online databases where they are available has also reduced the easy availability of health care information.

Several recent research projects have demonstrated the potential that various techniques and technologies have for providing rural health professionals with access to the medical literature and the information avail-

able at research centers and libraries (Ferguson, 1987, p. 65; Drukenbrod, 1993, p. 35; Moore, 1992, p. 44; Dorsch & Landwirth, 1993, p. 377). Among these are five electronic information delivery systems funded through grants from the Fred Meyer Charitable Trust, Division of Library and Information Resources for the Northwest.

At Eastern Oregon State College, a simultaneous remote searching system (Drukenbrod, 1993, p. 35) links by telephone the terminals at nineteen multitype libraries and one countywide educational service district with the master terminal at the college's search center. The system makes possible the simultaneous transmission of online database information to or from the center's master terminal to that of a second terminal at one of the remote locations. Thus a health practitioner at one of the remote sites can telephone requesting the center's reference staff to conduct an online search, watch the search in progress from the remote terminal, and interact with the librarian by the transfer of keyboard control to refine the search strategy.

In Montana, a statewide document delivery system is being implemented using telefacsimile equipment to deliver business, law, medicine, education, and government information to a variety of service sites, including nonlibraries (Brander, 1987, p. 71). The Faxnet Project provides for the timely delivery of information to rural areas with limited access to information networks, databases, reference assistance, and collections. Although a strong library network exists in Montana, the state has no major research library and must rely heavily on interlibrary loan of resources from out-of-state sites to meet its citizens' information needs. The project proposal calls for the establishment of six permanent telefax sites in Helena and sixteen which rotate on a statewide basis.

INFONET is a minicomputer-based union list and resource sharing network under development at the Oregon Health Sciences University. The unique contribution of INFONET is that the remote end-user will have access to the pooled resources, both professional and bibliographical, of sixty health sciences libraries in Oregon and southwestern Washington. The rural practitioner will also be able to request online database searches and receive the results in either hard copy delivered via postal mail or over the network in electronic form. The rural client will also be able to use electronic mail to request answers to ready reference questions (Johnson, 1987, p. 76).

Optical scanning technology is another of the new technologies being investigated for its potential to transport medical information to rural users in a rapid manner. Using microcomputer technology that is compatible with IBM PCs, the Pacific Northwest Land Grant Universities are testing the viability of transmitting digitized documents as a routine interlibrary loan service. If service expectations can be demonstrated by this project, the present constraints to rapid document delivery posed by

the slowness of the postal system, the expense of special delivery services, and the lack of versatility of telefacsimile machines can be overcome (Johnson, 1987, p. 79).

The Alaska Teletext Project at the University of Alaska in Fairbanks provides users with timely statewide information delivery twenty-four hours per day. Requested information is converted by optical character recognition (OCR) into a digital format which is broadcast on an unused portion of a television channel. The digitized information is pulled off the television signal by decoder/receivers at local sites and laid into microcomputers. Optical character recognition accommodates the conversion of text but not maps, graphics, or scientific notation.

The National Library of Medicine recently awarded thirty competitive contracts to increase the outreach efforts that regional medical libraries direct toward health professionals in rural communities. One of the projects, Grateful MED Outreach, not only provided health practitioners with document delivery (LONESOME DOC) and information service, but also provided them with training in searching NLM's online bibliographic databases. Nearly 100 allied health professionals employed at eight rural Illinois hospitals participated in the eighteen month project conducted by the Library of the Health Sciences at the University of Illinois College of Medicine.

During one-month trial periods at each of the hospitals, project participants learned the basics of database organization, search strategy preparation and controlled vocabulary use, as well as the mechanics of searching NLM's databases by using the menu-driven computer software package developed for Grateful MED. The software managed the online search for the user, from dialing access to the NLM computer, logging on with the user's code and password, conducting the search online, logging off NLM's computer, to automatically downloading the search results to the searcher's computer disk (Dorsch & Landwirth, 1993, p. 377; Drukenbroad, 1993, p. 43).

Public interest in health and health care issues is at an all time high and is reflected by the growing demand for national health insurance, the fitness craze, and the proliferation of diet programs. The demand for information regarding health maintenance, disease prevention, and illness is also on the rise. While the popular and professional health literature devoted to medical self-care is extensive, neither public nor medical libraries have taken an active role in providing the consumer with health information. Serving the consumer is not the medical library's mission—providing medical staff with quick access to current health care information is. Public libraries do help consumers make educated health decisions by collecting nontechnical medical materials. But developing core collections of medical materials appropriate for, and of benefit to, lay people is not generally within the expertise of the public librarian nor compatible with limited library budgets, particularly rural library budgets.

Several consumer health information consortiums do include public libraries, but these generally service urban areas. Of the projects to develop consumer health information collections in public libraries, three are notable for serving rural areas. Rees, at Case Western Reserve University, purchased books for ten Ohio library systems through his Info Health Project funded by a Library Services and Construction Act (Title I) grant. In Syracuse, New York, the Consumer Health Information Consortium prepared two duplicate traveling medical collections containing about fifty selections for lay persons and/or professionals for loan to libraries that expressed interest. A Medical Information Services Pilot Project by the Onondaga County Public Library in New York established a traveling medical collection to help smaller neighboring libraries evaluate the usefulness and appropriateness of specific titles for purchase (Pater-son, 1985, p. 74).

LIBRARY OUTREACH AND THE U. S. DEPARTMENT OF AGRICULTURE

USDA extension services make programs available to public libraries when they are requested and also provide copies of some of their publications to libraries for distribution on the same basis. Farmers generally obtain agriculture information via extension agents from land grant colleges and universities. The farmer and the extension agent are male; the public librarian is generally female. There is a patron perception that the hard data come from extension and the fluff from the library. Lynch (1989) believes that libraries will have the most success by interacting with the home economists in the human ecology side of the extension service rather than with the agent. At any rate, most existing cooperation appears to be informal and based upon relationships initiated by the librarian.

The National Agricultural Library in Beltsville, Maryland, is the chief agricultural library in the United States and contains one of the world's greatest collections of agricultural material. Of the 2 million volumes in the library's collection, approximately 40 percent are works published in other countries and in languages other than English. In addition to U.S. Department of Agriculture publications and other materials published about agriculture and agriculturally related topics, the collection also includes agricultural periodicals and serials, state agricultural publications, and documents published by state extension services and experiment stations (Howard, 1989).

The mission of the library is not only to serve as a research center but also as a library of last resort for anyone in need of agricultural information that is unavailable in local or state information centers or libraries. Such interlibrary loan requests are initiated by a local library serving the information seeker after all other attempts to locate the information have failed. Access to the library's collection through interlibrary loan is usually provided with photocopies of the desired material on a cost basis.

The library also provides users with bibliographic access to agricultural information through its online database, AGRICOLA. As reported by Howard (1989), the database is available to the public in several formats, including machine-readable tape; paper form—i.e., *Bibliography of Agriculture*; and online via DIALOG, BRS, and DIMDI; providing access by other advanced electronic technologies is also being developed. NAL's outreach activities are focused by its information centers.

The Rural Information Center is a unique cooperative venture as a joint project of the Extension Service and the National Agricultural Library. It is one of twelve such centers which perform traditional library activities with a particular topical focus within the NAL but also is responsible for proactive approaches in developing strategies for outreach, dissemination, and the use of new technology (Frank, 1989). The Rural Information Center has the responsibility for providing information and referral services to local rural government officials, particularly in the area of development. This is a responsibility that local public and state libraries have often assumed. It remains to be seen whether this cooperative effort between extension and NAL will be able to integrate its efforts with existing public library services.

Off-Campus Library Service for Rural Students

Rural Americans, regardless of their level of employment or economic status, share many of the complex challenges of everyday life experienced by their urban counterparts. Unlike urban Americans, however, rural residents have fewer educational and informational resources to assist them in meeting those challenges. New technologies and regular developments require the small business person to keep current with management and production skills and compel the teacher to learn ways of incorporating the new technologies into the school curriculum to prepare today's students to adapt to tomorrow's technologies. Health care providers, whether they be doctors, nurses, or allied health care professionals, must undergo continual training and keep up to date with medical research findings and health care practices to maintain competency in the provision of basic health care. To be successful, today's farmer must have access to information about farm management, production skills, and product marketing. Rural residents, whether they are engaged in continuing education for improved job performance, enriching their lives through lifelong education, or pursuing higher education beyond the secondary school level, need access to information and library resources generally not available to them in their local rural library if one exists. Rural libraries generally have small collections, lack professional journals and current scientific and technical information, and have limited reference collections (Wilde, 1984, p. 22).

Rural residents are limited in their pursuit of educational opportunities by their physical distance from the centers of higher education found in metropolitan areas. They are prevented from seeking further education

and training because of full-time work schedules and family responsibilities. Universities and colleges are striving to meet the educational needs of rural students through branch universities, extension courses, and course teleconferencing. While branch universities, extension courses, and course teleconferencing make course instruction for a university education possible for many rural students, these instruction methods do not provide access to the library and information resources necessary for self-directed learning, nor do they generally provide instruction in their use.

A few college and university libraries provided support to distant learners as early as 1916, and over thirty universities were providing library extension services in the 1950s (West, 1992, p. 551). To meet the rural student's critical need for information services and university library materials, many more college and university libraries, some in cooperation with public libraries, are devising delivery systems to meet off-campus information and collection needs. The American Library Association has recently revised and reissued guidelines for programs attempting to serve these students (West, 1992, p. 551).

Kascus and Aguilar (1988) listed four options for providing access to library and bibliographic services. These options involved the development of a branch library, the use of a local public library, or the development of a trunk delivery system, which was a type of bookmobile service for students. The fourth option proposed that the campus library assume centrally all responsibility for distant students (West, 1992, pp. 551-552).

One successful experiment to develop the public library as a resource center for the rural student has been the Intermountain Community Learning and Information Services project conducted by Utah State University and funded by the Kellogg Foundation. The intent of the project was to implement a delivery system based on use of telecommunications and a multistate network for resource sharing which would serve the informational needs of rural students in Utah, Montana, Colorado, and Wyoming. By becoming community learning and information centers, these local rural public libraries became the informational resource partners in the delivery of extension education (Wilde, 1984, p. 22; West, 1992, p. 552). Other examples of cooperative academic and public library programs designed to serve the rural student include Laurentian University in Canada, which utilizes public libraries for depository collections (Emmer, 1987, p. 71); and the College of Siskiyous in California, which produced a combined COM catalog of all local and area resources—including college, public, and school libraries—for use by students at all of its seventeen off-campus teaching sites (Emmer, 1987, p. 74). Colleges and universities have also devised a number of other information and resource options using a variety of technologies for serving the off-campus student. Online catalogs, such as that available for the library at

Pennsylvania State University, provide students at remote locations with direct-dial access using terminals and modems for searching the holdings of the library's collection (Emmer, 1987, p. 74). Access to database searching is provided to the students of many off-campus programs through toll-free numbers to library online search services (Emmer, 1987, p. 76). Other extension programs permit students to make telephone requests for reference service and interlibrary loans directly to university library staff.

Dirkwood Community College in Cedar Rapids, Iowa, installed a twenty-four hour telephone answering service to handle incoming ILL requests (Emmer, 1987, pp. 76-77). The Elmer E. Rasmuson Library at the University of Alaska, implemented an Extended Campus Services Center that functions as an information broker and delivery service to the thousands of students who pursue their coursework primarily through audioconferencing. The center originally intended to use electronic communication technology, such as electronic mailboxes and dial-up networks to the library's online catalogs, to service the rural students. But the students did not use these technologies, most likely because they were not familiar with them. Telephone service to the university library with a librarian assigned to work with the Extended Campus Service students has been successful. A distance education course to train rural students in information-seeking skills and the use of telecommunications to access the electronic library was instituted in 1991 (West, 1992, pp. 558-59).

University libraries are also using a variety of approaches to provide bibliographic instruction at off-campus locations. Western Michigan University has a bibliographic instruction program utilizing computer-assisted instruction while, at the University of Maryland, librarians working with course instructors integrate bibliographic instruction into specific courses (Emmer, 1987, pp. 79-80). Videotaping library resource orientations and bibliographic instruction are other options universities are using to provide their off-campus students with access to library resources.

Without a doubt, electronic information and education technology can provide the rural student with access to educational opportunities and the vast range of library and informational resources needed to support distance learners. However, the costs of equipment and communication must be contained at a reasonable level.

CONCLUSION

If we consider rural outreach service to be the distribution of library facilities and services over the distances involved in low concentration areas of population, we can conclude that a great deal of work has taken, and continues to take, place. National libraries like NLM and NAL have considerable efforts underway in their areas of interest. Many state library

agencies have a strong interest in promoting service in rural areas, normally by supporting and assisting local public library facilities. A great many academic libraries whose institutions are involved in distance education are looking for various ways to provide library service to support these efforts and are developing concerns for their remote access patrons.

The backbone of library service to rural areas is still the public library. The traditional delivery systems—bookmobiles, books-by-mail, and deposit collections—remain of prime importance, although services and programs available from bookmobiles have evolved and continue to change. The availability of new technology on these vehicles has increased their potential.

This technology has also increased the opportunities for the small rural library to interact with the larger world of information resources. With the growth of free nets, it is currently uncertain whether library facilities will be required for broad information access in rural areas since many users will have access in their homes. However, it seems likely that, in the near future, public access points will be necessary for a great many users. Certainly the professional assistance these can provide is unlikely to be available from other sources.

Electronic access is unlikely to have much effect on the role of the library as a source of recreational reading material in rural areas, although the potential does exist for electronic browsing of library fiction catalogs coupled with e-mail requests filled by U.S. mail or bookmobile delivery.

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