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Perspectives on Quality in Libraries

Thomas W. Shaughnessy
Issue Editor

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Library Trends, a quarterly thematic journal, focuses on current trends in all areas of library practice. Each issue addresses a single theme in-depth, exploring topics of interest primarily to practicing librarians and information scientists and secondarily to educators and students.

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Perspectives on Quality in Libraries

Thomas W. Shaughnessy
Issue Editor

University of Illinois
Graduate School of Library and Information Science
# Perspectives on Quality in Libraries

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Introduction

Thomas W. Shaughnessy

As all of the contributors to this issue of Library Trends will agree, writing on quality in libraries is a very challenging assignment. This is not because quality is lacking in libraries or because it is unknown or unknowable owing to its metaphysical nature, but because it has been so difficult to describe and measure. Peter Senge, in his public addresses, will sometimes ask the question: “What do fish talk about?” His answer is that we will never know, but one can be fairly certain that it is not water. Perhaps there is an analogy between libraries and quality: quality services, collections, and programs are a given; quality is a basic value of our profession; libraries strive to deliver the highest quality service even though they may sometimes fall short of this goal. In the final analysis, quality is what libraries are all about.

Part of the challenge in writing about quality is also due to the variety of ways one can approach the subject. From an engineering perspective, quality means conformance to specifications. High quality products do what they are supposed to do. While this perspective does not have much application to library services, it can be applied to equipment, software, physical plant, furniture, and other components of a library's infrastructure.

A second approach is more customer or consumer oriented. Quality becomes a judgment of the customer, but this is by no means a simple evaluative process. According to the article by Seay, Seaman, and Cohen, research has demonstrated that there are at least ten factors that influence the customer's appraisal of a product or service. It is interesting that most of these relate to the processes between the customer and the provider rather than on the quality of the products or service.
Third, quality is sometimes defined as conformance to standards. While this definition is similar to the engineering definition of quality, it differs in that standards are more reflective of so-called best practices, while specifications are typically derived from external objective criteria such as laboratory testing. Sarah Thomas, in her article on the Library of Congress' efforts to produce bibliographic records of the highest quality, addresses quality from a standards perspective. Philip Tompkins takes a similar approach in his article on quality initiatives in community college libraries.

Finally, quality can be approached from the perspective of inputs to an organization, an approach that has characterized librarianship for too long according to Philip Tompkins. Traditionally, we have assumed that the greater the inputs to our libraries, especially research libraries, the greater (that is, the higher the quality) will be the outputs. In this construction, "more" implies "better." While some library users might agree that this is correct, there are many who will disagree. According to the latter group, relevance is more important than recall.

The difficulty that libraries have experienced in coming to terms with what is quality is not entirely due to problems of definition, however. Measurement has been an equally baffling problem. Several of the contributors to this issue have addressed the matter. Williamson and Exon provide a fascinating description of an attempt by the Australian Ministry of Education to measure the quality of higher education in that country. Libraries were quickly recognized as a key factor in determining that quality, but as the assessment process progressed, the evaluators focused their attention on the colleges' and universities' internal self assessment or quality control systems rather than on external qualitative criteria. Although this federal initiative did not really succeed in measuring the quality of higher education institutions in Australia, it did succeed in bringing quality to the forefront as an issue to be addressed. Williamson and Exon describe the initiative's impact on academic libraries and some of the outstanding progress that has resulted in assessing quality.

Measurement, however, continues to be a major impediment to improving the quality of our libraries. This problem has two sides to it. First, it is not possible currently to describe the library's goals for quality in any meaningful way. This is one of the issues that Glen Holt addresses in his article on public library quality. Second, libraries do not have a tool box of tried and true methods for measuring quality or their progress toward quality over time. Some libraries have attempted to collect patron satisfaction data on a yearly basis, but the data tend to be so general in their focus that they are not very useful; nor can they be compared with patron data from other libraries due to methodological variations. Sarah Pritchard addresses this issue in an article that is sure to have a significant impact. One result of these deficiencies is that benchmarking
among libraries of the same type is impossible. We really do not know (and cannot even guess with any accuracy) which libraries excel in their overall performance. Consequently, the profession lacks models of outstanding performance or highest quality. Interestingly, we do have a wide range of quantitative measures—some of which are claimed to also indicate quality. One can speculate whether any other type of service is so devoid of performance benchmarks or service exemplars, a point that is clearly made by Alan Gilchrist and John Brockman in their article on quality initiatives in the United Kingdom. Even hospitals and clinics are now being rated against performance criteria such as morbidity. Contrast the situation in libraries with those found in the commercial sector. L.L. Bean, for example, has set an extraordinary quality standard for mail order services. Federal Express has done the same with respect to rapid mail and package delivery. These industry leaders are regularly visited by their competitors and by those in cognate service sectors to learn how such performance can be attained. Why is it that there are not similar exemplars within librarianship?

This question is raised not merely to underscore the need for greater attention to quality, performance, and measurement within librarianship and information science, but to call attention to the growing demand for greater accountability, particularly within the public sector. It seems as if all of our social institutions are being questioned as the end of the twentieth century approaches, and many are being asked to reinvent themselves. Institutional missions and charters are being evaluated and the lines that have separated these institutions (for example, type-of-library lines) are becoming blurred. Education, which had formerly been the province of the public or private sector, is now viewed as a prime growth and investment area for corporations, especially with respect to electronic or packaged learning programs. If corporations can attract students to their course offerings and deliver education as effectively as colleges, why shouldn't they? Or, if commercial document delivery services can be effective in meeting customer needs for information, questions will certainly be raised concerning the library performance in these areas. These are obviously not very sophisticated questions, but they underscore the need for institutions such as libraries to be accountable and to collect the data that establish their accountability. This not only requires a set of relevant performance measures, but it also requires that library organizations demonstrate a commitment to continuous quality improvement. This is a message conveyed by several contributors. Patricia Kovel-Jarboe, for example, takes a social science perspective and states that organizations that are committed to quality will necessarily change. In fact, she indicates that most strategies designed to improve quality can also have as their objective the redesign or reconfiguration of an organization. She surveys the literature on organizational change, comments on the
advantages and disadvantages of four types of change, and links each to specific strategies. Each strategy is designed to improve the quality of one or more organizational processes.

Barbara Stripling focuses on school library media centers. She argues that most, if not all, of the changes that have been introduced in school libraries and media centers during the past two decades have had as their ultimate objective the improvement of quality. The attention that is currently being focused on the learning process and the needs of learners for enriched interactive learning experiences presents an extraordinary opportunity for school librarians and media center staff to participate in, and contribute to, improving the overall quality of schools, their processes, and the quality of students' experiences.

Ellen Nagle takes a similar approach with respect to health science libraries. According to her article, the field of health science librarianship has embarked for many years on a course of action to improve the quality of services provided by medical libraries, to relate health science libraries more directly to clinical practice and, more recently, to new teaching methods. She argues that the broad programmatic themes within health science librarianship, while they may not have the specificity of strategies such as Total Quality Management, are nevertheless directed to improving the quality, timeliness, and relevance of library services to health care providers and educators. Unfortunately, an article which was to describe how special libraries and information centers have responded to the quality imperative was not forthcoming and therefore is missing from this issue of Library Trends.

The article by Sarah Pritchard, which was cited previously, presents an excellent review of attempts to improve and measure quality in academic libraries. Philip Tompkins echoes several of these points and at the same time argues forcefully that achieving library quality will be increasingly dependent on merging the print culture with the electronic culture.

Glen Holt reviews strategies for achieving quality in the public library sector. His article discusses the importance of the library's core values and staff training. With regard to training, he identifies ten training priorities for public library staffs which will enable staff to learn how to become essential to the communities they serve.

Two articles address methodological issues: Sarah Pritchard's and the article by Thomas Seay, Sheila Seaman, and David Cohen. The latter address quality from a public services perspective and their article is naturally oriented, therefore, toward library users. By surveying library users by means of a standard questionnaire and then classifying the open-ended comments of respondents, they were able to derive important insights and conclusions from the data. These findings underscore the importance of environmental and infrastructure issues in meeting the expectations of users.
The article by Alan Gilchrist and John Brockman echoes several of these themes but adds the perspective of Western Europe and the United Kingdom. These authors take a systems approach to quality and once again emphasize the importance of planning for quality and the entire information chain—vendors, suppliers, systems, intermediaries, and end-users. They conclude by providing data on the costs to an organization of providing products or services which do not meet the quality expectations of its customers.

The articles published in this issue represent an extraordinary set of perspectives on quality. Although the literature on quality in libraries is not large, there is very little duplication in themes or treatment among the articles. One conclusion that can easily be drawn is that quality has been, and will continue to be, an issue of strategic importance to librarianship and information science. Tactics such as Total Quality Management, organizational redesign, staff training and empowerment, or systems thinking will vary from library to library. But the goal of improved services or highest quality products remains an integral part of the profession’s ethos.
Measuring and Improving the Quality of Public Services: A Hybrid Approach

THOMAS SEAY, SHEILA SEAMAN, AND DAVID COHEN

ABSTRACT

Improving the quality of public services involves quantifying patron perceptions. Using a questionnaire devised by Van House, Weil, and McClure (1990); combining it with the concept of service dimensions and service imperatives based on the work done by Berry, Zeithaml, and Parasuraman (1990); and coding patron comments from the questionnaire as either positive or negative; this project analyzes patron perceptions about library services. This model presents a method for quantifying and categorizing patrons' comments from a standard questionnaire in such a way that the results are organized into seven principal service determinants. The results demonstrate that tangibles and reliability are the key concerns of library patrons. A short discussion of prescriptive measures for improving services follows the analysis.

INTRODUCTION

If the language of the literature of librarianship is telling, librarians have adopted the strategies and techniques of the business world. Taking their lead from business, librarians talk and write about intellectual property, accountability, information resources, library managers, and marketing reference services. In the area of public services, the appropriation of this language of commerce is readily apparent where library patrons, those relics of a more genteel, even aristocratic, age, have become customers. This shift in the tone of discourse has been gradual. Still, in approximately the last ten years, responding inevitably to national, even global,
discussions, librarians writing about public services have adopted the discourse of commerce wholesale. No one should be surprised that the quality improvement movement, which gained currency as the economic competition between the United States and Japan heated up in the 1970s, has engendered adherents in libraries. Articles about quality, what it is (measurement and assessment) and how to introduce it (a process TQM) abound—e.g., Berry, Zeithaml, and Parasuraman (1985); Shaughnessy (1987); Zeithaml, Parasuraman, and Berry (1990); Dobyns and Crawford-Mason (1991); Scholtes (1992); Ross (1993); Zemke (1993); Brown and Swartz (1994); Brown, Churchill, and Peter (1993); O'Neil (1994); and Rust and Oliver (1994). The O'Neil source provides a recent critical survey bibliography of this literature.

Those who write the literature about public services in libraries reflect these two directions. The first direction, performance measurement, identifies quality with successful attainment of quantifiable goals—e.g., Beeler, Grim, Herling, James, Martin, and Naylor (1974); Baker and Lancaster (1977); Library Administration & Management Association, Library Research Round Table, Reference & Adult Service Division of the American Library Association (1980); Buckland (1983); Kantor (1984); Cronin (1985); McClure (1986); French (1987); Van House (1986, 1987); Lancaster (1977, 1993); and Walker (1992). Typically, articles and monographs emphasize the methodology of enumeration and analysis and carefully consider what outputs or outcomes should be counted. Various techniques to evaluate activities such as in-house use, materials availability, catalog use, and reference service become the way to identify deficiencies and, implicitly, the source of improvement. Though it has a shorter history, the second direction, namely the application of the Total Quality Management Process and other quality initiatives to library public services, focuses on the improvement process explicitly. To convince library managers to try the TQM approach, library pundits translate the concepts of W. Edwards Deming, the "father of the quality revolution" and his many followers into the library vernacular (O'Neil, 1994). Interestingly, reports in the library literature contrast with reports from the world of business. The introduction of quality initiatives in business is widespread, and there is an extended discussion in the literature about various experiences with the process. There is less evidence of actual application of TQM or other quality improvement strategies in libraries to adopt the process, but a recent ARL report notes that "only a small segment of [the] membership is actively involved in formal quality improvement programs" (Siggins & Sullivan, 1993, p. 196).

**Quality Movement in the Service Sector**

One reason why there has been talk about quality, and TQM specifically, in public services may be the reluctance of librarians to accept a
basic tenet—i.e., that the recipient of the service determines the efficacy of the service which is often less well understood in the library world than it should be. Do library managers believe a library can only achieve a strong reputation for quality service when it regularly attains, and perhaps exceeds, the expectations of library patrons? Librarians in colleges and universities have traditionally employed a didactic model for service, particularly reference service. Because these libraries are part of learning environments, the people working in them tend to accept the idea that the role of the staff member is to convey some special procedure to the student. More than that, it becomes the responsibility of the teacher/librarian to ensure that the student develops a range of skills necessary for success in library research. For years, reference librarians in academic libraries have made the distinction between giving the student the "answer" and teaching the procedures for finding what the student needs. The public library movement has been caught up in this debate as well. Some public librarians, through their book selection policies, reject paperback romances, gothics, or westerns for more serious books. In effect, they make choices for patrons that the patrons themselves would not make. In both cases, the library staff may operate contrary to the expectations of the library patron. The idea that "the customer is always right" may not be as pervasive in libraries as it is in the business world.

And the wider business community, especially the service sector, is well aware of the importance of success and failure as determined by those who buy the service. Albrecht (1990), whose first book, Service America!: Doing Business in the New Economy, established the groundwork for customer-focused management, uses the following definition: "Service management is a total organizational approach that makes quality of service, as perceived by the customer, the number one driving force of the operation of the business" (Albrecht, 1990, p. 10, our italics). Albrecht (1988) notes that the president of Scandinavian Airlines, Jan Carlzon, has observed that "the only thing that counts is a satisfied customer" (p. 20). No one has put this view any more directly than Berry, Zeithaml, and Parasuraman (1990) who claim that "customers are the sole judge of service quality" (p. 29).

Knowing very much about the quality of public services remains problematic for various reasons. Many marketing theoreticians have observed that services generally are intangible (Zeithaml et al., 1985, p. 42). Can a library manager—a head of reference, for example—really personally respond to reference questions and shape them, refine them, and remake them until the answers are perfect? And once she has her reference answers ready, can she bring the reference staff together and distribute the correct answers so that reference staff can give them out to the patrons? Of course not. Consider the advantages of a plant manager in the automobile industry who can, in contrast, select a part from the
assembly line and measure it against a set of predetermined specifications. That same part can be tested prior to installation. In fact, the entire automobile can be tested prior to delivery to the showroom for sale.

In the automobile example, production and consumption are two distinct aspects, both of which generate discrete data about quality. Production lends itself to measurement against a series of exact standards. As a result, there is a body of objective data about quality which comes from testing and verification. Reviewing that information allows the automobile manager the opportunity to make improvements in his product prior to selling it. The library public services manager has no such advantage. She is deprived of the means to obtain information for the improvement of library public services prior to delivering those services.

In service industries as well as in libraries, timing and the blurring of the distinctions between production and consumption limit the kind of information available about what constitutes good quality. Much of the knowledge about quality comes after the "sale," that is, after service has been given. It cannot be otherwise because the production (locating the information), and consumption (using the information) of most library services are inseparable (Shaughnessy, 1987). The quality of library public services is determined at the time the services are rendered. It comes from the people who have used the service and not the service provider, hence the subjective nature of the information about quality of services in libraries. Much of what librarians know about quality comes, categorically, from the people who use libraries.

**Measures for Customer Perceptions of Service**

A number of methods may be employed to discover how patrons perceive the quality of library services. Four widely used methods are:

- in-depth interviews with individual patrons;
- focus groups;
- unobtrusive observation; and
- user surveys.

Each has advantages. All provide subjective rather than objective information as they portray the quality of service from the customers' point of view.

*Interviews with Individual Patrons*

The in-depth interview technique involves spending a large amount of time in a one-on-one encounter. Although it is often done by telephone, it is most effective in person. "In the in depth interview, the interviewer usually listens for aspects of the experience that people seem to feel strongly about and tries to find out more about the nature of their
feelings" (Albrecht, 1988, p. 163). Using in-depth interviews usually involves the use of predetermined questions that are open ended. However, it is not a haphazard approach. "If listening to customers is to be a useful effort and not simply an activity trap, you have to decide to whom you're going to listen, what it is you should be listening for, and when, where, and how you can best acquire the information" (Zemke & Schaaf, 1989, p. 30). The advantages of interviews are:

1. the presence of the interviewer tends to ensure that all questions are correctly interpreted by the respondent;
2. it may be possible, by means of "probing" questions, for the interviewer to check on the accuracy of the responses;
3. the interviewer may be able to collect unsolicited observations from the person interviewed; data unanticipated in the interview schedule may thus be collected. (Lancaster, 1993, p. 228)

The technique also allows individuals to respond in their own words (Stewart & Shamdasani, 1990, p. 13). People are often more amenable to answering questions in person than on paper; there is greater spontaneity in the responses; and answers are more complete and revealing than questionnaire answers. Much of the success of this method depends upon the interviewer. A neutral interviewer is essential, and it is important that interviewer bias or misconceptions do not enter in the recording of the responses. An interviewer should be perceived as knowledgeable in the field. "Moreover, the professional who understands the area of inquiry is more likely to ask better follow-up questions and, thus, to obtain more insight into the problem at hand (Baker & Lancaster, 1991, p. 379). A tape recorder is useful if it is acceptable to the person being interviewed (Baker & Lancaster, 1991, p. 380). After a number of interviews, a pattern usually emerges, and the same answers will reoccur. At the point that nothing new seems to be discovered, the researcher starts compiling the results. "The preferred end result is an attribute list that defines the total service experience as the customer perceives it" (Albrecht, 1988, p. 163).

The down side of in-depth interviews is that they require a great deal of intellectual and emotional energy on the part of the interviewer; focus groups are more efficient (Valentine, 1993, p. 301). In-depth interviews are also relatively time consuming. One good in-depth interview may take up to several hours (Albrecht, 1988, p. 163). Interviews are expensive as well and cannot be conducted anonymously. They may even require an independent interviewer (Lancaster, 1993, p. 229).

**Focus Groups**

A focus group "generally involves 8 to 12 individuals who discuss a particular topic under the direction of a moderator who promotes interaction and assures that the discussion remains on the topic of interest"
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(Stewart & Shamdasani, 1990, p. 10). "They are called focus groups because the discussions start out broadly and gradually narrow down to the focus of the research. They are not a rigidly constructed question-and-answer session" (Young, 1993, p. 39). The researcher selects participants in the group because they have certain characteristics in common which relate to the topic of the focus group (Krueger, 1994, p. 6). Historically, marketing researchers have employed focus groups in library settings to discover why people do not use library services (Baker, 1991, p. 377). The focus groups provide a fresh objective picture from the customer's point of view:

The focus group interview provides a way for the substantive expert/theorist to be exposed to a fairly intensive stream of human reactions and responses. Sometimes one isolated comment is enough to change the theorist's focus, to see the problem from a new perspective, and to shape a better mental model of the causal mechanism. (Moran, 1986, p. RC17-RC18)

Themes emerge naturally from the spontaneous response of participants. "The groups essentially ran themselves while the individual interviews required more finesse on the part of the interviewer" (Valentine, 1993, p. 301). In a group setting, it is often possible to elicit data and insights that would be less likely to occur without the group interaction process. Moreover, direct involvement in the research process feels empowering since customers often believe that they drive service modifications (Packer et al., 1994, p. 30). In fact, "the American Management Association has found that, except for the use of toll-free telephone numbers for customer responses, the focus group approach is 'the highest rated method of staying close to the customer'" (Bohl, 1987, p. 21. Quoted in St. Clair, 1993, p. 78).

Despite these advantages, there are some drawbacks. Young (1993) cautions:

Remember: the information from a focus group may not accurately reflect the attitudes of an entire population; participants in focus groups are not necessarily a representative sample; focus groups should only be part of the research process;....Focus groups can be misleading for several reasons. The most common reason are the moderator's lack of questioning skills expertise, a bad discussion guide, and focus group participants who don't resemble the target market....On the negative side, scheduling groups was a nightmare. Between room availability, moderator availability, and guessing what would be good times for students and faculty, it was difficult to schedule groups. (p. 393)

Focus groups may also be expensive since moderators are often paid experts, and participants are often paid as well (Valentine, 1993, p. 300). The consensus of most of the literature is that focus groups are a valuable...
tool to supplement the research process. For extensive reviews of this method, the reader may want to refer to Krueger's (1994) *Focus Groups*, Morgan's (1988) *Focus Groups as Qualitative Research*, or Stewart and Shamdasani's (1990) *Focus Groups: Theory and Practice*.

**Unobtrusive Observation**

The library literature began to report the use of unobtrusive observation in the early 1970s (Crowley & Childers, 1971). Typically, this technique involves a surrogate patron or proxy asking factual questions followed by librarians reviewing the answers for accuracy. The retail community practices a similar process called "the mystery shopper" (Brokaw, 1991). Theoretically, this method evaluates service as it is most likely to be delivered, and it compensates for the tendency of staff to do better because they know they are being evaluated. Most of the studies that used unobtrusive observation involved the measurement of reference service, and all have yielded disappointing results. The average percentage of correct reference answers is 50 to 60 percent (Lancaster, 1993, p. 159).

While unobtrusive observation presents a realistic snapshot of service, and the resulting information may be used to improve service, its drawbacks may outweigh the benefits. Childers (1987) points out that this technique tends to measure only one facet of service (factual reference questions, for instance) and then use the results to judge the entire operation (p. 73). Moreover, most studies do not have direct patron perspective. Instead, libraries evaluate the results. Ironically, there may be occasions when patrons seem satisfied, although they actually receive inaccurate or incomplete answers (Baker & Lancaster, 1991, p. 245). People impressed or pleased by one quality in a person or service (i.e., friendliness) tend to overestimate other qualities such as accuracy. This phenomenon, the "halo effect," works in reverse when a patron dislikes something about a staff member and therefore rejects as unacceptable any information that is accurate or helpful ("devil effect" or the "reverse halo effect") (Sutherland, 1989).

Schrader traced citations in the library literature to the work of Crowley and Childers (1971) to evaluate the impact of unobtrusive procedures in the profession. He concluded that unobtrusive observation had not yet become a standard method for evaluating reference and library services (Schrader, 1984, p. 208). Nevertheless, both Lancaster (1993) and Baker and Lancaster (1991) present unobtrusive observation as one of the key methods of evaluating service. However well this method presents a way to acknowledge the existence of service problems, Schrader (1984) surmises that there is a lack of professional commitment to reference service excellence (p. 210). Another possible reason why unobtrusive observation has not been embraced may involve the ethics and fairness
of measuring staff performance at random and without the knowledge of the staff. Few colleagues or managers willingly will choose single events to judge the totality of a department's performance. This "keyhole" or "snapshot" approach may provide false perceptions especially when judged by outsiders rather than by patrons. It also adds needless pressure to a service situation which depends upon ease, rapport, trust, and empathy. This stress may actually undermine the staff/client relationship.

Unobtrusive observation works best when combined with incentives such as bonuses for employees and free services or products for surrogates (Brokaw, 1991, p. 94). Timing should be considered to measure moments of weak and strong staffing (Childers, 1980). Safeguards may be implemented to protect privacy, to ensure the use of summary data only, and to have as the primary reason for such evaluation to be improving the quality of service through training and self improvement (Katz & Fraley, 1984).

User Surveys

"A user survey is just what the name implies, a survey of users, and its purpose is to enable those responsible for the planning and delivery of information services and products to have quantifiable data about the services" (St. Clair, 1993, p. 80). Surveys can easily be distributed to a large number of people and thus enable the researcher to make valid judgments about a large customer base (Albrecht, 1988, p. 164). As Summers (1985) points out in his review article, surveys are easy to do, relatively easy to understand, relatively inexpensive, and assistance from consultants is readily accessible and, despite trends, continue to be embraced by the field of librarianship. He concludes that surveys are "the oldest and most enduring method of research on libraries" (p. 41).

There are negative aspects as with any approach. Patrons may misinterpret questions. Sometimes researchers doubt whether respondents have answered truthfully or accurately, and there is no practical way to check (Lancaster, 1993, p. 227). Moreover, problems with low user expectations and failure to reach nonusers may also present obstacles (Schlichter & Pemberton, 1992, p. 259). Another problem is that "many people dislike questionnaires and either fail to complete them or do so in such a hurried and careless way that the results are of little value" (Baker & Lancaster, 1991, p. 187).

Pitfalls in the administration of the survey include inadequate sampling methods, problems involving timing, and little effort to evaluate the effectiveness of completed surveys (Summers, 1985, pp. 41-43). Other problems reported by various authors include vague or varying methods of measurement, lack of valid ways to compare data from different surveys, lack of a scientific approach to design, and lack of detail in information reported (Lancaster, 1977, p. 308).

Of course, there has been much discussion about the proper design of surveys. Both close-ended and open-ended questions should be asked,
but open-ended questions can yield information especially useful in determining what new services should be offered (St. Clair, 1993, p. 81). Much of the literature about surveys describes the design of the questionnaire instrument. It may be difficult to design questionnaires that are both user-friendly and yet detailed enough to provide needed information to analyze failures (Baker & Lancaster, 1991, p. 194). The entire questionnaire design issue is best summed up by Van House et al. (1990), "users are very resistant to lengthy questionnaires" (p. 26). Adapting a standard instrument which has been rigorously tested, such as the one by Van House, Weil, and McClure, obviates many issues and saves valuable time and resources. Despite its drawbacks, the user survey is a time-honored method to reach library users:

A well-conducted library survey can produce a considerable number of data that are of potential value in the evaluation of library services. This is especially true if the survey goes beyond purely quantitative data on volumes and types of use, and general characteristics of the users, and attempts to assess the degree to which the library services meet the needs of the community served... At the very minimum, however, a well-conducted survey can provide a useful indication of how satisfied the users are with the services provided, and can identify areas of dissatisfaction which may require closer examination through more sophisticated microevaluative techniques. (Lancaster, 1977, p. 309)

**Methodology**

For many years, the Public Services Division at the College of Charleston Library has been collecting information from people who use the library about their overall satisfaction with services, facilities, and collections. One day each fall and spring semester, the library staff distribute a questionnaire (the General User Satisfaction Survey) developed by Van House, Weil, and McClure (1990) and published in *Measuring Academic Library Performance: A Practical Approach*. This survey is part of a manual which grew out of a recognition that there was already a sizable literature on performance measures. The Association of College and Research Libraries Board of Directors, through its Ad Hoc Committee on Performance Measures, concluded that the academic library community needed a practical manual of measures specific to academic libraries (similarly, the Special Libraries Association is also developing an instrument for assessing service quality in special libraries) (White & Abels, 1995, p. 37).

The goals of the committee were:

1. To measure the impact, efficiency, and effectiveness of library activities
2. To quantify or explain library output in meaningful ways to university administrators
3. To be used by heads of units to demonstrate performance levels and research needs to library administrators
4. To provide useful data for library planning (Van House, et al., p. vii.)
In the manual, the authors actually present fifteen specific measures that evaluate the effectiveness of library activities, including general user satisfaction, materials availability and use, facilities and library use, and information services. The manual provides specific step-by-step directions for data collection and analysis. Because the forms for the questionnaires, collection and tabulation forms, work sheets, and summary are included in the manual, and because the method requires only a basic knowledge of mathematics, it is ideal for use by librarians who want to concentrate their efforts on surveying and analyzing data rather than developing new untried methods and measurement instruments. The authors believe that their measures fit all types and sizes of academic libraries and can be replicated in various library settings in an easy and inexpensive manner.

The experience at the College of Charleston with the use of the first of these measures, the General Satisfaction Survey, has thoroughly confirmed the authors' claims about the ease with which the survey can be administered and the data collected and analyzed. Library staff, usually student workers, distribute the questionnaire (see Appendix A) at the library entrance. Not everyone entering the library accepts a questionnaire. Those respondents who complete the form deposit it in one of several boxes placed throughout the library. Typically, the student workers give out over 500 questionnaires during each survey period. During the two most recent semesters that the survey has been distributed (Fall 1994 and Spring 1995), the student workers distributed 1,464 forms of which 805 (55 percent) were completed. Data collection and analysis, following the procedures outlined in Van House et al., took several weeks and was largely completed by student workers.

The profile of the survey respondents demonstrates a high degree of congruence between the mission of the College of Charleston (undergraduate education in the liberal arts and sciences), and those using library services and collections. Undergraduates comprised approximately 88 percent of the respondents while graduate students (4 percent) and faculty (4 percent) made up the next largest group of people served. The respondents self-identified with the general disciplines:

<table>
<thead>
<tr>
<th>Fields of study</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>24%</td>
</tr>
<tr>
<td>Sciences</td>
<td>26%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>26%</td>
</tr>
<tr>
<td>Other</td>
<td>24%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

The College of Charleston staff found the high number of people identifying sciences as their field of study surprising, since only 15 percent of the degrees granted each year are in science and mathematics. The profile of the survey respondent is an undergraduate student working primarily in the sciences, social sciences, or humanities.
The first question on the survey asks students and faculty to indicate what they did in the library and how successful they were with seven particular activities.

<table>
<thead>
<tr>
<th>Activities</th>
<th>% Who Performed Activity</th>
<th>Average Rating of Success (5-point scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looked for Books</td>
<td>42%</td>
<td>3.8</td>
</tr>
<tr>
<td>Studied</td>
<td>66%</td>
<td>4.1</td>
</tr>
<tr>
<td>Reviewed Current Literature</td>
<td>20%</td>
<td>3.5</td>
</tr>
<tr>
<td>Did a Literature Search</td>
<td>35%</td>
<td>3.9</td>
</tr>
<tr>
<td>Asked a Reference Question</td>
<td>24%</td>
<td>3.9</td>
</tr>
<tr>
<td>Browsed</td>
<td>26%</td>
<td>3.4</td>
</tr>
<tr>
<td>Returned Books</td>
<td>16%</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>44%</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Students and faculty may identify more than one activity with each library visit. They can study and return books in the same visit. Clearly, a majority of the people responding to the survey, more than two-thirds, went to the library simply to study while 42 percent, the next highest activity reported (exclusive of "other"), went to look for books. The high number of those responding to "other" is probably indicative of the large number of people who use a microcomputing laboratory located in the library building. The information about success is extraordinarily constant. Asked on a scale of 0 to 5 to indicate how successful they were from "Did Not Do" (0) and "Not at All" (1) to "Completely" (5), students and faculty success levels fell between 3.4 and 4.1 (again exclusive of "other") for the various library activities. For example, students and faculty report a high degree of success whether they looked for books (3.8) or studied (4.1). While some distinctions are discernible, the consistency of the data seems to conceal more than it reveals. Overall, the people who use the library state that they enjoy much success whatever they are doing.

Subsequent questions on the survey query respondents about ease of use and satisfaction. To the question, "How easy was the library to use today?" 85 percent indicated that the library was either "mostly easy" or "very easy" while only 3 percent found it "not at all easy" or "not easy." Similarly, 77 percent of the respondents answered that they were "mostly satisfied" or "very satisfied" with their visit to the library. The overall impression that the quantifiable data reveal about library ease of use, satisfaction, and success, seems quite positive. Furthermore, the data have remained constant over a long period. The data reported in this article come largely from the 1994-1995 academic year, but the library staff have administered this survey eight times over four academic years. In Fall
1991, the first semester the survey was used, 82 percent of the respondents found the library "mostly" or "very" easy to use and 77 percent were "very" or "mostly" satisfied. However satisfied the library clientele might be, the library staff were not. Those reviewing the results from the library survey felt that there could be some discontinuity between these data and other evidence on the survey about the expectations, successes, and failures of library patrons.

A final statement on the questionnaire encourages students and faculty to make open-ended comments. The phrase "OTHER COMMENTS? Please use back of form" typically provokes responses from approximately half the people completing the questionnaire. When library staff members began distributing the questionnaire, they were surprised by the willingness of respondents to provide narrative, open-ended statements and for some time were not quite sure how to use this information. Each semester, the Assistant Dean for Public Service collects the information into a document and reviews it with the public services staff. The quality literature has always recognized the value of this type of customer feedback. Zemke and Schaaf (1989) state: "[c]omplaints are analyzed as bellwethers on developing problems that can be nipped in the bud—and as opportunities to get back in the disgruntled customer's good graces by showing concern and responsiveness" (p. 33).

Recently, the library's administrative staff decided to carry out a more formal analysis of this information because the quantifiable information about satisfaction, ease of use, and success was not helping to determine where service improvements could be made. In order to improve library services, the library staff needed to know more about what students and faculty expected from their library. The open-ended comments have become the basis for further research on what library users want. In an effort to classify these comments, the administration turned to the work of three experts in the field of service quality. Berry and his associates (1985) have been studying the determinants of quality service for the last decade. Writing in the Journal of Marketing, Zeithaml et al. (1985) suggested that, regardless of the type of service, customers used basically similar criteria in evaluating service quality (p. 46). In their early work, they identified ten overlapping determinants of service quality which categorize and define quality of service as perceived by customers. Subsequently, they refined their analysis, combining these variables into five "principle dimensions customers use to judge a company's service" (Berry et al., 1990, p. 29). Analysis at the College of Charleston, which is grounded in the work of these researchers, found that seven categories most accurately reflect the range of service expectations that library users have. Table 1 that follows is taken from the work of Parasuraman, Zeithaml, and Berry (1980) but adapted with changes to illustrate the dimensions or aspects of quality within library public services.
RELIABILITY involves delivery of the promised library service dependably and accurately. It means that the public services staff member performs the service right the first time. It also means that the library collections contain information appropriate to the needs of patrons. Specifically it involves:
- giving correct answers to reference questions
- making relevant information available
- keeping records consistent with actual holdings/status
- keeping computer databases up and running
- making sure that overdue notices and fine notices are accurate.

RESPONSIVENESS concerns the readiness of library staff to provide service. It also involves timeliness of information:
- making new information available
- checking in new journals and newspapers promptly
- calling back a patron who has telephoned with a reference question immediately
- minimizing computer response time
- reshelving books quickly
- minimizing turnaround time for interlibrary loans.

ASSURANCE refers to the knowledge and courtesy of the library staff and their ability to convey confidence. It involves politeness, friendliness as well as possession of the skills to provide information about collections and services.
- valuing all requests for information equally and conveying that sense of the worthiness of the inquiry to the patron
- clean and neat appearance of staff
- thorough understanding of the collection
- familiarity with the workings of equipment and technology
- learning the patron's specific requirements
- providing individual attention (Will a staff member go with a patron to the bookstacks when the patron indicates that she is having trouble locating a book?)
- recognizing the regular patron.

ACCESS means that there are sufficient numbers of staff and equipment as well as hours of operation:
- waiting time in circulation check out lines is minimal
- computer terminals, OPACs, etc. are available without waiting
- library hours meet expectations
- location of the library is central and convenient.

COMMUNICATIONS means keeping the customers informed in language they can understand and listening to them. It may mean that the library has to adjust its language for different consumers—increasing the level of sophistication with a well educated one and speaking simply and plainly with a new library patron. It involves:
- avoiding library jargon
- discerning what information a patron wants through “question negotiation”
- developing precise, clear instructions at the point of use (next to indexes and abstracts or within computer databases and catalogs)
- teaching the patron library skills
- assuring the patron that her problem will be handled.

SECURITY is the freedom from danger, risk or doubt. It involves:
- physical safety within the library and surrounding area (Will I get mugged on my way back to the parking lot?)
- confidentiality (Are my dealings with the library private?).

TANGIBLES include the maintenance of the physical facilities and serviceability of the equipment. They encompass various environmental elements surrounding the services and the collections:
- condition of the building (heat, light, etc.)
- condition of equipment such as microfilm readers, copiers, computers used to provide library public services
- impact of other patrons in the library.
The process for organizing the comments from students and faculty began with coding. Working in group sessions, the authors of this article classified and categorized each comment. The process had two aspects. First, the authors placed the comment into one of the seven service quality categories or determinants. At times they found some of the comment classification decisions difficult because of the lack of clarity and information about intention. Nevertheless, the authors did classify most of the comments. Second, the authors assessed each comment for its positive or negative attribute. They found this categorization to be direct and without the ambiguity inherent in classification into service determinants. Some examples illustrate how the process worked as well as what its limitations were. The response, "People here are helpful" received the coding, "assurance/positive." The comment reflects the expectation that the staff possess the skills to provide information and therefore is "assurance." Moreover, it reflects satisfaction since the expectation has been met and can be categorized as "positive." Sometimes the coding decisions were not so straightforward and provoked some lengthy discussions about intentions among the authors. The comment, "I wish there was more instructional material," seemed at first to the researchers to be a "communications" service determinant but, after some reflection, was finally coded "reliability." The sense of the researchers was that the service failure was not so much confusing instructions (communication) as the lack of instructions or an access failure. Sometimes the authors could not classify the comments. The authors did not include comments like "it is a beautiful day" in the analysis because these referred to nonlibrary matters. But many comments which clearly referred to the library like "all I had to do was study" still could not be classified because of a lack of information about the service expectation.

Even these responses, though the authors characterize them as uncodable, confirm some of the conclusions about the data developed from the specific quantifiable questions in the survey. Many responses simply stated that the person came to the library to study. The authors were tempted to code these statements as "reliability/positive" since the perception of the library service as a "study hall" seems to have been met, but they did not, although they do indicate that many students expect the library to serve as a study center. The comments simply did not contain enough information for accurate coding. But these comments do reinforce conclusions drawn from other parts of the survey. The data from the part of the survey that queries patrons about their specific purpose for coming to the library revealed that 66 percent of the people use the library just to study.

Some responses described services outside the library sphere. Although the survey clearly states that it is a library survey, there are many
comments about a microcomputing laboratory that the library houses. These responses have been separated out from the uncodable responses having to do with library services so they can be distinguished as appropriate in the analysis of responses and results. When a student noted "Knew what I was doing" or "Didn't have enough time," a variety of service successes or failures can be read into the response. Did the student know what he was doing because of clear precise instructions from a reference librarian? Did the student not have enough time because she had been searching without success for a misshelved book? Or was the lack of time a question of an obligation outside the library? Because of the lack of adequate information, the responses were unencodable. Such comments indicate the limitations of survey analysis and the importance of other types of analysis such as focus groups, which allow more opportunity to discern exactly what the library patrons believe to be the determinants of service success or failure.

FINDINGS

The library staff collected 805 completed questionnaires over two semesters. Surprisingly, 529 of the respondents wrote comments at the bottom of the questionnaire. Of these, 429 commented on some aspect of library activity, and 404 could be classified into one of the seven service determinants. The questions were categorized into two groups: those that were essentially positive statements about library services and those that were negative. In contrast to the findings from the quantifiable scaled questions about success, "Ease of use" and "Satisfaction" seemed to indicate evidence of positive experiences; most of the unstructured comments were negative. Approximately 55 percent of the responses were negative and the remaining 45 percent were positive. The unstructured responses generate a very different picture of the library. These responses generally fell into one of the seven broad categories (see Table 2).

Many comments (32 percent) fell into the tangibility determinant category (see Table 1 for a description of this category). The responses often had to do with quiet or the lack of it in the building. One respondent noted, "it could always be quieter" while another said, "quiet and comfortable." Several others mentioned the temperature in the building. Sometimes the comments indicated that machines like photocopiers or microfilm readers did not work. Some were quite specific such as the student who found that the study room needed a chalkboard. Tangibility responses roughly divided equally into positive and negative (14 percent positive and 18 percent negative). The relative evenness of the positive and negative responses surprised the library staff, which had become fairly inured to complaints about temperature and noise. The fact that there were almost as many positive comments about tangibility as negative, and that tangibility totaled 32 percent of the classifiable
Table 2.
Library Service Dimensions

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Responses</th>
<th>% of Total Responses</th>
<th>% of Total (total = 404) Minus Uncodable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>64</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>-</td>
<td>7</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>Tangibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>58</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>-</td>
<td>72</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>25%</td>
<td>32%</td>
</tr>
<tr>
<td>Access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>8</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>-</td>
<td>29</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Reliability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>49</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td>-</td>
<td>77</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
<td>24%</td>
<td>31%</td>
</tr>
<tr>
<td>Security</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>0</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Communications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>6</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>-</td>
<td>19</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Responsiveness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>2</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>-</td>
<td>11</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Uncodable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>65</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Non Library</td>
<td>60</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>125</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>529</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL (Minus uncodable)</td>
<td>404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL (Minus non-library)</td>
<td>469</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
responses, indicates the environment in which people work and study, even when the environment is a good one, remains a paramount patron concern. Effective library service as perceived by the clientele at the College of Charleston depends on maintaining a comfortable quiet facility with ancillary equipment in working order.

The survey respondents were almost as likely to make comments about the library’s reliability (31 percent). Statements like “journal selection is poor” or “didn’t have what I needed” tended to be quite common. The people who use the library frequently indicated that they expected to find information, a book or journal article, but were disappointed. Less often they were pleased: “I knew what I was looking for and where it was.” These responses seem largely to be questions about information expectations, namely, that the collection should have certain books or journals and in fact did or did not have these items. Reliability, as the students and faculty understand it, is a question of having appropriate information. The relationship between favorable responses about reliability and less favorable responses was not as evident as with tangibility. Only 37 percent of the reliability comments were positive. These negative reliability responses, particularly those of faculty and students who characterize their difficulties as caused by inadequate library holdings, contrasted with the data from the earlier part of the study. If 85 percent of the students and faculty find the library easy to use and 77 percent consider their visit very satisfactory, why did so many people have negative service perceptions about reliability, especially expectations about collections that remain unfulfilled?

Characteristics related to the courtesy and knowledge of library staff did not have quite the same salience to survey respondents. About 18 percent of the respondents wrote comments that could be classified as “assurance.” These comments overwhelmingly tended to be complimentary like one student who wrote “all these happy, smiling people; I am biased in favor of the library,” or as another stated, “people are helpful here.” Positive comments outnumbered negative comments eight to one and, overall, where 18 percent of the comments were classified as “assurance,” only 2 percent of these comments were negative. The contrast between the positive/negative ratios for assurance and all other service dimensions is startling. In every other case, negatives outnumber positive ones, but the people who use the College of Charleston Library do not perceive either the knowledge or courtesy of the library employees to be at the root of their service failures.

Only 9 percent of the survey respondents cited the next principle service dimension, “access,” in their comments, and negative comments outnumbered positive ones by approximately three to one. Patrons recognize when there are (in)sufficient numbers of staff at staffing points or hours of operation. One complained, “the library needs to stay open
until at least 2 A.M.!” while another urged, “more people needed at info desk.” Overall, access issues, like hours of service, were less important than the library staff expected. The analysis of the survey comments placed the issue of the overall significance of extended library hours of operation in context. While library hours may become issues with politicized constituencies, like the faculty library committee or student government, there was little evidence that the survey respondents perceived hours as a problem.

The remaining service dimensions, communications (6 percent), responsiveness (3 percent), and security (<1 percent) had relatively less impact on the perceptions of survey respondents. Some people felt the need for additional directional information such as the students who wrote, “provide a map of the library to help search; please include call numbers” or “is there a sheet of instructions available to find an index of past journals that are on microfilm?” The relative lack of comments about communications left library staff wondering whether the extensive commitment to effective communications—in person, through many library handouts, and especially through well-tested online instructions for catalog and database use—was working or whether it was simply not perceived as an important service dimension. The perceptions about responsiveness tended to fall into two categories. Some responses noted the lack of current information on a subject, and others found waiting for a given service, such as circulation check-out, a problem. While there were only two responses about security, both were disconcerting (“A strange bald headed man kept following me” and “it’s scary”) though perhaps the sincerity of the responses is questionable.

For the first time, the library staff has been able to organize expectations from people who use library services and collections into seven principal service dimensions. If the literature is correct, the judgments that students and faculty make should become the sole basis for evaluating service quality. The library staff know what students and faculty expect in the way of library services. Customers assess quality by comparing service outcomes with their personal expectations of what they think library service should be (see Parasuraman et al., 1985, 1988, 1994; Brown & Swartz, 1989; Carman, 1990; Brown et al., 1993; Teas, 1993, 1994). Others suggest that quality should be measured in terms of customer satisfaction or attitude (see Bitner, 1990; Bolton & Drew, 1991; Cronin, 1992, 1994; Cronin & Taylor, 1992; Taylor & Baker, 1994).1

The results of the effort to classify the comments stand in contrast with the quantitative data about satisfaction and ease of use. What was consoling, namely that overall satisfaction or ease of use ranged consistently between four and five on a scale, now must be qualified. More likely than not, this discontinuity stems from the halo effect. Thus the survey comments become the better basis for defining quality library
services. When library patrons express their expectations about public services, and library managers make a commitment to fulfilling those expectations, the key question becomes how to meet those expectations.

**ACTION**

Gathering information about what people expect is, however, only the beginning. Patron expectations about services have been classified not simply for library managers to consider but for action. A library develops a positive image of service quality when librarians implement a system for meeting these externally defined expectations. Writing in the *Sloan Management Review*, Berry et al. (1990) suggest various service imperatives for every company in the service sector interested in quality improvement. What follows—some programmatic directives for libraries—is based largely on this work. Five imperatives, defining the service role, hiring and retaining service-oriented employees, providing an accommodating environment, reliability, and “doing it right the first time” have widespread applicability in libraries.

**DEFINING THE SERVICE ROLE**

Understanding the expectations of library patrons begins with the classification of service expectations into the seven service determinants, but additional research into patron expectations is critical. Moving beyond the framework of customer expectations and continuing the research process, the library staff can obtain a better understanding of the relative importance of the service determinants. For example, the survey indicated that less than 1 percent of the responses commented about security, but the survey excluded students and faculty who do not use the library. A new survey mailed to a sample of all students might provide different information about security if those most concerned never enter the building. Research about the service expectations of these potential patrons may be crucial to the growth of public services and improved service quality.

Research also clarifies and reinforces the service role for employees when that role has been poorly articulated. Libraries, like many non-profit organizations, have ambiguous service missions because library managers have accepted a multiplicity of service obligations. Surely the volume of activity in many reference, interlibrary loan, and circulation departments overwhelms the staff, but the failure to identity service priorities also contributes to problems with work load. Research about patron expectations can help by identifying which service priorities are most important to library users. Positive comments from surveys reinforce positive service behavior. Research can help library staff develop service standards, the basis for measuring staff performance. Whatever service standards emerge from the research effort, library managers need to
communicate the results of the research about patron expectations at every opportunity through internal publications, meetings and workshops, performance appraisal, and hiring decisions.

**Hiring Service-Oriented Employees**

Clarifying the service expectations of library patrons for library employees through research works best when the library administration has hired and retained employees who have the desire and ability to provide excellent service. Libraries have been slow to recognize that a reputation for quality is built on the perception that library patrons have about library staff as well as the service itself. There can be a mismatch between the type of people hired and the type needed. Once the service role is defined, it should be used when hiring new employees. “This requires having written service standards for the various positions, written ‘ideal candidate’ profiles that reflect the service standards, and extensive line involvement in actual hiring decisions” (Berry et al., 1990, p. 32). Once library managers understand the service standards for a position, they would do well to examine some of the essential qualities these standards represent. For instance, for the following positions:

- **Reference**: friendliness/approachability/curiosity/perseverance
- **Circulation**: friendliness/accuracy/dependability/focus/self-confidence/attention to detail/tact
- **Interlibrary loan**: Efficiency/organization/perseverance/research orientation/focus
- **Special Collections**: Carefulness/neatness/security orientation/focus
- **Shelving**: Accuracy/focus/physical fitness/ability to work without supervision

Sometimes the question of whom to hire becomes intertwined with the tendency of libraries to delineate role responsibilities into professional and paraprofessional. Nowhere is this phenomenon more apparent than in the circulation function where the vast majority of patron/staff exchanges takes place. Judging from the results of the research presented here, it is the circulation desk that is the most visited service point. Only 24 percent of the respondents asked reference questions, whereas 42 percent looked for books and 16 percent returned books (there may be some overlap in these activities). Circulation is the area where library patrons form many of their perceptions about the library. Some library patrons even (mis)take the students working in circulation for librarians. There is often an expectation of in-depth professional assistance available at the circulation desk. The response most public service managers have developed is some effort to teach circulation staff and student workers...
to refer questions to the reference desk, but some consideration to hiring service-minded paraprofessional or professional staff may be more appropriate. Imagine, for example, a librarian positioned at the circulation check out position asking library patrons whether they found what they needed as they leave the library.

Larger questions about faculty status and professional versus paraprofessional work lie outside the scope of this article. Nevertheless, many library administrators remain “conflicted” when making hiring and retention decisions because they must bring many variables besides commitment to quality service to bear on these decisions. Public service units may want to minimize the impact of variables such as publication record or fixed distinctions between paraprofessional and professional work. They should recognize variables such as valuing all requests for information equally or familiarity with the equipment and technology when they make new appointments. Hiring and retention decisions become opportunities to find and keep the service-oriented people. Managers in public services who fail to find these opportunities cannot sustain service quality for long.

**Tangibles**

The majority of comments from the survey concerned tangibles. Attention to the details of maintaining a library's physical facilities and equipment, more than any other variable, determines what library patrons think about service. Bitner (1990) shows “that physical surroundings and employee responses can significantly influence important consumer responses” (p. 79). In the questionnaire comments, students often noted the need for more machines, more pleasant heating and air conditioning, and a desire for a quiet atmosphere. As Bitner points out, these elements are controllable, and they “may influence customer evaluations, and ultimately affect perceptions of service quality...” (p. 69). Measures such as hiring student monitors for quiet areas, regular communication with the maintenance department, and budgeting for equipment and furnishings, are relatively easy to implement. The building and its contents are not a static entity but a key variable in quality service.

**Reliability**

While comments about tangibles made up the largest single category of comments from the survey (32 percent), comments about reliability followed closely behind (31 percent). More importantly, negative comments about reliability (15 percent of the total) exceeded negatives about tangibles or any other service determinant. More than any other variable, the failure to meet the expectations about the reliability of library services prevents a library from sustaining a reputation for quality. This analysis confirms the work of Berry et al. (1990) who, when they sampled
nine service industries, found reliability "the single most important feature in judging service quality" (p. 34). When a library breaks a service promise, students and faculty lose confidence in the library’s ability to deliver services accurately and dependably. In the world of factory production, the reliability issue, which has plagued U.S. industry, has been attacked through initiatives designed to produce “zero defects” (Crosby, 1979, pp. 170, 233). The equivalent attitude for service industries generally, and libraries in particular, should be a “do it right the first time” attitude. Not just a homily that library managers preach to staff, this attitude should become part of the hiring, training, research, communications, and rewards functions within the library.

Public services managers recognize certain types of service problems stemming from lack of dependable information but may do little about them because they just do not seem “important.” Computer generated circulation notices can overwhelm or inure library patrons when they contain inaccurate information. Sending a patron an overdue notice for a book that has been returned undermines the credibility of the entire library operation. Tolerating these defects also confuses and frustrates library staff who must spend valuable time with patrons sorting out the problems and who come to believe inaccurate holdings records are allowable. Doing it right the first time means sending fewer notices. Sending notices after the shelves have been checked results in sending fewer notices and receiving more book returns.

Other reliability issues may be far more difficult to remedy. Many of the negative comments about reliability from the survey referred to inadequacies in the collections. In some cases, the library staff did not purchase what students or faculty members wanted. In many other cases, these comments surely come from students or faculty who went to the online catalog and/or the bookstacks and simply failed to locate information that was available in the collection. To some library managers, these situations do not present any opportunity to “do it right the first time.” However, the possibility that students can come into the library, look for information, not find what they want, and leave should not be acceptable to service-oriented managers. Library managers should find ways to encourage staff to ask patrons if they found what they needed. Reference librarians who look for opportunities to accompany patrons to the bookstacks will in effect be doing it right the first time.

CONCLUSION: THE QUEST FOR QUALITY

The quest for quality in public services begins with a focus on patrons or customers. Librarians have measured service in terms of quantities of services performed, turnaround time, or services per patron. Now they may choose another direction. Librarians committed to quality improvement allow patrons to judge service quality and take steps to meet
patron expectations. This approach involves research. One research method presented here is the distribution of questionnaires, such as the one designed by Van House et al. (1990), collecting comments, and placing these elements in a conceptual model that classifies service perceptions into seven service determinants. Armed with some appreciation of service quality as perceived by patrons, managers in public services can take four steps to establish a reputation for service quality. First, they should develop an in-depth research program which allows them to set up service standards and to make choices about the services. Data produced through research then become the basis for improving and refining specific library services and defining a service standard. Second, the library administration needs to hire staff who meet the stated service standards. An effective quality improvement program depends on having service-oriented people in place as service providers. Third, library managers must take steps to provide a conducive environment for study by providing enough copiers, computer equipment, printers, comfortable seating, and clean surroundings. Finally, the staff in public services should adopt the “do it right the first time” attitude. Dependability and accuracy, more than any other characteristics, influence patron thinking about the quality of library services. “Quality should be the central goal and of highest concern—‘acceptable’ quality levels, errors, and poor materials must be completely eschewed throughout the production system or service delivery process” (Akande, 1992, p. 4).

Public service librarians who want to improve the quality of services should accept patrons’ judgments. Pleasing patrons means asking for their perceptions of service in a programmatic way, correcting problems, and emphasizing a “do it right the first time” attitude. The necessity for implementing quality improvement strategies cannot be overstated. “Not only are libraries competing for customers within this changing information delivery marketplace, they are reexamining their budget and their very existence” (White & Abels, 1995, p. 36). By responding to the real needs of patrons, librarians can earn a reputation for quality and thrive in the highly competitive information age.
APPENDIX A

FORM 1-1
GENERAL SATISFACTION SURVEY

PLEASE HELP US IMPROVE LIBRARY SERVICE BY ANSWERING A FEW QUESTIONS.

1. What did you do in the library today? For each, circle the number that best reflects how successful you were.

<table>
<thead>
<tr>
<th>Successful?</th>
<th>Did not do today</th>
<th>Not at all</th>
<th>Completely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looked for books or periodicals</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Studied</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Reviewed current literature</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Did a literature search (manual or computer)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Asked a reference question</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Browsed</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Returned books</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Other (what?)</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

2. How easy was the library to use today? (Circle one):

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all easy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very easy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Why? ___________________________________________________________________________

3. Overall, how satisfied are you with today's library visit? (Circle one):

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Why? ___________________________________________________________________________

4. Today's visit was primarily in support of (Check one):

- 1. Course work
- 2. Research
- 3. Teaching
- 4. Current awareness
- 5. A mix of several purposes
- 6. Other: ___________________________________________________________________

5. You are (Check one):

- 1. Undergraduate
- 2. Graduate student
- 3. Faculty
- 4. Research staff
- 5. Other staff
- 6. Other (what?): ___________________________________________________________________

6. Your field (Check one):

- 1. Humanities
- 2. Sciences
- 3. Social Sciences
- 4. Other (what?): ___________________________________________________________________

OTHER COMMENTS? Please use back of form.

NOTES

Using a two part questionnaire consisting of 97 statements addressing expectations about service that should be offered, followed by 97 statements addressing perceptions about actual service received, Parasuraman, Zeithaml, and Berry (1988) developed an instrument called SERVQUAL. The formula is \( Q = P - E \), where \( P \) and \( E \) are the ratings on corresponding perception and evaluation statements. SERVPERF is another model developed by Cronin and Taylor (1992) and Cronin (1994). Cronin seems to think that performance-based measures are more useful than the gap measure between perceptions and expectations. Teas presents a more complex NQ model. Carman (1990) makes the point that the work by Parasuraman, Zeithaml, and Berry is not completely generic. At any rate there is active debate about the SERVQUAL model, but most seem to agree that the pioneers are Parasuraman, Zeithaml, and Berry, and it is their model which is the most often used for discussion and comparison. The SERVQUAL model was not adaptable for the study investigated in this article because the Van House questionnaire was selected from the outset.

REFERENCES


Quality in Bibliographic Control

SARAH E. THOMAS

ABSTRACT

THE QUALITY OF CATALOGING IS AN ISSUE that has engendered much discussion over decades of bibliographic control. Juxtaposed against the standard of full, accurate, and timely bibliographic records is the pressure to produce reliable access in a cost-effective manner. In reviewing the definition of quality at the Library of Congress (LC), the relationship of quality cataloging to copy cataloging, minimal level cataloging, the core bibliographic record, and outsourcing, the author concludes that the definition of quality is dynamic and dependent on the values and needs of catalog users.

QUALITY IN BIBLIOGRAPHIC CONTROL

For most of this century, catalogers and catalog administrators have struggled with the concept of quality cataloging. In a speech before the American Library Institute in 1941, subsequently published in Library Quarterly, Osborn (1941) described a “crisis in cataloging” (p. 410). With thoughts so contemporary that they could still be relevant, Osborn, chief of the cataloging department at Harvard University and a representative on a three-member panel appointed by Librarian of Congress Archibald MacLeish in 1940 to assess cataloging and processing at the Library of Congress, asserted: “Cataloging has become elaborate, highly technical, a skill too often existing in and for itself” (p. 395).

At LC, Osborn found a situation described by MacLeish (1944) in a report on the reorganization of LC:
there was...an unprocessed arrearage in the Library of 1,670,161
volumes—that is to say, better than a million and a half of the six
million volumes and pamphlets (exclusive of maps, music, manu-
scripts, prints, etc.) estimated to be held by the Library of Congress
at that time were not represented in the public catalog. And what
was worse, the arrearage was piling up at the rate of thirty thousand
books and pamphlets a year. (p. 28)

It is ironic, if not poignant, that fifty years after the appointment of
MacLeish, a new Library of Congress encountered a distressing similar
situation—an arrearage of startling proportions and LC procedures much
as Osborn had described. LC catalogers followed a particular set of LC-
specific rules, the Library of Congress Rule Interpretations, with a ten-
dency to follow a "vast set of particular precedents, rather than general
principles, which might be applied in a common sense manner"
(Gallagher, 1991, p. 11). It was also considered that the best means
of becoming fully acquainted with LC practice was to be employed as an LC
cataloger (Gallagher, 1991).

The conclusion drawn by Osborn and his fellow committee mem-
bers in their report to MacLeish was that LC practice led to backlogs and
other regrettable consequences. These consequences are summed up by
Gallagher (1991) in her analysis of Osborn's (1941) "Crisis in Catalog-
ing" as bibliographic records "not expressing a shared context in mean-
ing, functioning as a barrier to the patron, unnecessarily legalistic, par-
ticular rather than general, and too detailed" (p. 17).

The word "quality" does not enter into Osborn's discussion of the so-
called crisis in cataloging. Rather, Osborn employs the concept of per-
fectionism to describe a hyper-emphasis on exactitude and precision—in
this case, quality gone awry by being taken to an extreme. That today's
problems so closely mirror those of a half-century ago, despite dramatic
technical advances and a growing body of literature about library patrons
and catalog users, gives one pause.

At the Library of Congress, an institution which is surely seen by
most, if not all, practitioners of cataloging as the sine qua non for biblio-
graphic control, every record is deemed a sterling example of "quality
cataloging"—i.e., every full original cataloging record. For the past de-
dcade, the standard for quality cataloging has been altered, some would
say eroded, by compromises that include tolerance for, and even the
embracing of, such cataloging practices as minimal-level cataloging, col-
lection-level cataloging, copy cataloging and, most recently, the core bib-
liographic record. To review the changing values in this area of biblio-
graphic control, it is useful to examine these cataloging variations and
their relationship to a corresponding shift in the definition of quality
associated with them. Quality is not immutable but is rather a standard
of excellence that reflects the values of the individuals proclaiming it.
Thus, in the 1990s, the Total Quality Management (TQM) literature defined "quality" as deriving from the customer's perception of quality, recognizing that the goodness of results could have various characteristics including timeliness, accuracy, and detail of information (Younger, 1991).

Inside the Cataloging Directorate of the Library of Congress, passionate debates about the essence of quality cataloging have taken place, and catalogers and reference librarians alike have argued that anything less than the full original cataloging record created by specialists at the Library of Congress introduced corruption into LC's online catalog, and that the distribution of cataloging other than this type was a disservice to other libraries depending on LC for the solid foundation on which they constructed their own online public access catalogs and other bibliographic files. Searchers in LC's online catalog expected a homogeneity that only LC cataloging could provide, and which was an essential aspect of reliable retrieval. And, if libraries external to LC relied heavily on LC cataloging for copy, didn't LC have an obligation to provide records of the highest quality for others to copy? These are sensible arguments, and these have strong proponents. Most frequently in discussions about quality, speakers juxtapose the word "quantity" against the word "quality" as if they are opposites. To increase production or quantity is to threaten quality. At this point in the debate, people usually begin to get enmeshed in the definition of quality.

Although the American Heritage Dictionary defines "quality" in terms of excellence or superiority, in the bibliographic world, quality cataloging often means something far more specific. Under the aegis of the Cataloging Forum at the Library of Congress, several LC staff members have presented their views on quality in cataloging (Cataloging Quality..., 1995, p. 17). In the flyer announcing the Cataloging Forum of October 17, 1994, Susan Morris, then senior cataloger in the Social Sciences Cataloging Division, stated: "Quality in cataloging is measured by the degree to which a library's catalog fosters access to materials which benefit the user," while Lee Avdoyan, Near East and Armenian Specialist in the African and Middle Eastern Division, defined quality cataloging as "the consistent creation of a comprehensive bibliographic record, aimed at the highest level of researcher, yet retrievable by all users both now and (with minimal adaptation if necessary) in the future" (Library of Congress Cataloging Forum, 1995, p. 3). Mann (1994), a reference librarian at the Library of Congress, noted in a recent Cataloging Forum opinion paper:

The quality (or lack of quality) of cataloging and classification may be judged insofar as these operations foster (or undercut) three goals:

a) promoting predictability of retrieval, as opposed to guess work
b) promoting serendipity in retrieval
c) promoting depth of access to books. (p. 4)
After asking all interested staff to complete the definition "Cataloging quality is ...," Barbara Tillett, chief of the Cataloging Policy and Support Office, Cataloging Directorate at the Library of Congress, summarized the responses as "Cataloging quality is..."

- accurate bibliographic information that
- meets the users' needs and provides
- appropriate access in a
- timely fashion (Cataloging Quality is..., 1995, p. 28).

The difficulty in resolving the question of what quality cataloging is lies partially in the subjective dimensions of the definition. While accuracy is seldom disputable, the needs of users are varied, and there is insufficient documentation of what these needs are. Similarly, appropriate access is a fuzzy characteristic if there is confusion about user needs. By focusing on measurable aspects of the bibliographic record—such as accuracy and adherence to rules and rule interpretations—catalogers weighted heavily the creation of individual products that minimized the subjective nature of their professional assignments.

At the Library of Congress, for example, until 1992, catalogers adhered to rigid standards for bibliographic description, subject analysis, and content designation. Deviations from norms prescribed in the Descriptive Cataloging Manual or other official documents were judged as errors, and even a very modest number of infractions could cause the cataloging to be rejected and result in promotions being withheld or less than satisfactory performance ratings given. Records passing muster were high quality cataloging, while records with too many errors were clearly inferior. The absolute standards became identical with quality, and hundreds of LC's catalogers were trained to these standards and strove to uphold them.

LC's standards for quality cataloging codified certain principles that have been traditional in cataloging for many years. Cutter's Rules for a Dictionary Catalog, published in their definitive edition in 1904, cited the purpose of a catalog as an instrument to enable a user of the catalog to find a book of which the author, title, or subject is known; to show what the library holds; and to assist in the choice of a book (Cutter, 1904, p. 12). LC's standard for excellence placed a premium on adherence to rules contained in the Anglo-American Cataloguing Rules, The Library of Congress Rule Interpretations, the descriptive and subject cataloging manuals, and the MARC Format for Bibliographic Description. The essence of these rules was the achievement of predictability, thereby enabling the catalog user to locate library materials effectively. The importance of this insistence on consistency should not be underestimated. LC's own internal consistency, applied to catalog records produced for its own
catalogs, coupled with its catholic collections, led to the widespread use of its cataloging card sets distributed through the Cataloging Distribution Service by other libraries which were able to rely on this dependable standard. Similarly, the employment of the MARC format for content designation nourished the growth of large bibliographic databases such as OCLC, RLIN, and WLN through the sharing of bibliographic records, another advantage of an agreement on a standard.

Throughout the years, the standards for quality have changed, becoming more explicit and more objective. An internal LC document tracing the history of quality review (QR) notes that: “In the 1979 version of QR, a distinction was made, for example, between major and minor errors, the former being assigned three points and the latter one point” (Quality Task Force of the Library of Congress to Cataloging Directorate Staff, personal communication, April 15, 1995). In 1985, this distinction was eliminated, and all errors were given an equal scoring weight of one point. In the 1985 version of QR, errors were defined (to put it very broadly) as mistakes of commission or omission involving access points of a record (including access points on related authority records) but excluding mistakes in capitalization, diacritics, and non-ISBD punctuation; access points included, for example, the main entry heading, title proper, added entries, series tracings, and cross references. “Mistakes in nonaccess areas of a record were generally not counted as errors” (Descriptive Cataloging Quality Control..., 1995, pp. 1-2).

The importance of creating a quality record that complied with the guidelines set forth was underscored by the many layers of review that the records received on their way to distribution and the relationship between the numbers of errors found and the adjectival rating ranging from outstanding to unsatisfactory, depending on the accuracy of the cataloging and its conformance to rules. Authority headings were considered to be so critical to an excellent record that they underwent exhaustive cycles of revision. In the days of manual catalog card creation, the cataloger prepared cards for new headings, filed them in the Official Catalog, and initialed and dated the record. Next the nonindependent cataloger’s reviewer would revise the cataloging and countersign the official catalog heading, followed by another review from the section head or very senior cataloger. At the top of the reviewing chain was the Office of the Principal Descriptive Cataloger, but occasionally, even typists charged with creating cross references designated on the cards also detected mistakes as did fillers. The review of headings by as many as five individuals at varying levels in the organization created a fine sieve virtually impenetrable by error (Quality Task Force of the Library of Congress to Cataloging Directorate Staff, personal communication, April 15, 1995).

Subject cataloging, a highly specialized domain at the Library of Congress, had equally stringent standards and reviews. Phil Barber, senior
cataloger in the Social Science Cataloging Division, asserted that: "Specificity in the assignment of subject headings is the core of high quality subject cataloging. It is essential that this work be performed by subject specialists because, knowing the field of discipline, they can achieve this specificity accurately and efficiently" (Cataloging Forum, 1994, p. 1). Quality standards at the Library of Congress were rigorous because the library prided itself on the excellence of its cataloging and because of the public exposure of that cataloging through the sale of card sets, the National Union Catalog (NUC), and the MARC tapes. Embarrassing errors damaged the library's reputation, and cataloging sought to eradicate mistakes through frequent review. In the days before MARC, if someone discovered an error in a card, a revised card set was issued, while a mistake in a printed volume was a permanent blemish only partially corrected through a revision in a subsequent publication. Errors in access points permanently obscured access to materials, and this made accuracy extremely critical. The advent of machine-readable records improved the situation slightly, but libraries which had used a bibliographic record from LC that was later revised would not automatically learn of the revision, and consequently, records loaded into their OPACs (Online Public Access Catalogs) retained the error or had to be revised locally by their cataloging staff.

The Down Side of Quality and Quality Review

As a consequence of LC's emphasis on quality, its cataloging records were indeed quite uniform, accurate, and reflective of the cataloging rules of the era in which they appeared. As a by-product of shared cataloging, whether through LC card sets, the printed NUC or, later, MARC records, libraries preferred to wait for LC records rather than to catalog an item originally themselves or to use the original cataloging of a non-LC library. Since it was demonstrably cheaper to use LC copy as the basis for one's records, catalog departments voluntarily or involuntarily shifted staff from the professional side of the ledger to the support staff side. The wait for LC copy led to the creation of backlogs of unprocessed materials. Coincidentally, overlap studies determined that, as extensive as LC's collection was, it did not contain every item held by other libraries around the country. Gradually, libraries began to accept the cataloging of other libraries in lieu of LC copy, sometimes drafting blacklists of libraries whose records were unacceptable or whitelists of libraries whose cataloging was of sufficient quality to be used with minimum modification (McCue et al., 1991, p. 66). Budgets, stretched to accommodate inflation in materials allocations and growing automation expenditures, put pressure on the technical services side of the house, which was expected to cut costs through the application of new technology and the use of copy cataloging. To reduce local review, libraries, which had pre-
viously carefully scrutinized LC cataloging, making modifications to suit local practice, began to accept LC cataloging unquestioningly or with a mostly cursory review. Because copy cataloging with LC cataloging was regarded as the simplest form of copy cataloging, fairly low levels of staff completed its processing thereby making it also the most economical form of library processing.

**COPY CATALOGING**

As libraries began to confront their backlogs, they increasingly examined ways of utilizing other libraries' original cataloging. Many institutions contributed records only to one database, and the bibliographic community discussed the quality of the databases based on the perceived superiority of records contained therein, the hit rates, or the amount of copy found. Intner (1989) found surprisingly little variation in quality in the bibliographic records contained in the OCLC and RLIN databases. In a comparison of “best” member copy with records from the Library of Congress, researchers at Cornell found no significant differences in the number of changes made to LC cataloging and the records of a select group of institutions (McCue et al., 1991). The conclusion was that savings could be obtained through the broader acceptance of member copy created by institutions recognized as producing quality cataloging. In the end, administrators made recommendations about access to databases as much or more on the results of the quantity of records found as on the quality of the records. The last twenty years indicate an increasing awareness of costs in libraries and a shift from quality of records as an absolute toward a redefinition of quality service rather than strictly quality cataloging—i.e., libraries placed a greater emphasis on making materials accessible soon after their arrival. The timely availability of copy became an ever-increasing factor in cataloging circles. Efforts to determine the cost of cataloging, to reduce expenditures for cataloging, and to expedite cataloging have led to numerous cost studies and initiatives that began to question the necessity of the level of quality in bibliographic records.

Mandel (1988) investigated the cost of cataloging, urging librarians to understand the costs and benefits of these actions and stating that responsible management requires them to think of the services they perform in terms of their dollar values (p. 220). Mandel concluded that, “a formal and quantitative approach to analyzing questions of quality and productivity in technical services will result in a net benefit to library users” (p. 220).

Mandel and Kantor were engaged by the Council on Library Resources (CLR) to examine the cataloging practices and procedures in several prominent research libraries with the aim of identifying an efficient and cost-effective standard that might serve as a model for other institutions and lead to savings in cataloging and improvements in
processing throughputs. They discovered that there was little uniformity in the departments they studied and no agreement on a best practice (Council on Library Resources, 1990). At the same time, another endeavor to improve the quality of cataloging was being promoted by CLR and the Library of Congress. The National Coordinated Cataloging Program (NCCP) combined the efforts of LC and eight participating libraries in the generation of cataloging records that were to be identical with those created by LC staff. Through extensive training of the participants and a review of LC standards and guidelines, the program would result in an increase in quality cataloging in the nation's shared databases. Although the program was successful in reducing LC's cataloging costs because LC used the resulting NCCP records with only minimal adjustments, it was heavily subsidized by CLR, and some program participants, rather than increasing their efforts to catalog in the manner of LC, began to criticize the pressure to achieve highly consistent records. Gregor and Mandel (1991), in their widely publicized article "Cataloging Must Change," argued that the requirements for revising headings to become ever more precise resulted in a maintenance burden on libraries that was counterproductive to their aim of making more publications accessible in a cost-effective manner. Furthermore, since the assignment of subject headings was, by its very nature, subjective and dependent on the education, training, and experience of the subject cataloger, interindexer consistency was exacted at a high price. Studies of user interaction with catalogs determined that many users encountered failure when trying to locate materials by subject, and they certainly had difficulty in reconstructing the elaborate subject heading strings that comprised the assigned Library of Congress Subject Heading. Mandel and Gregor advocated moving away from the highly prescriptive norms embodied in LC cataloging to a cataloging environment that promoted cataloger judgment and tolerance of minor inconsistencies in some areas. By relaxing the approach to cataloging in this way, they suggested that catalogers would increase the number of items under bibliographic control without a deleterious impact on quality of access (Gregor & Mandel, 1991).

Similarly, Graham (1990), in an article entitled "Quality in Cataloging: Making Distinctions," urged catalogers to distinguish truly important and necessary aspects of cataloging from those elements that were nonessential for the average user. By spending time on areas of the cataloging record that held little use in retrieval or about which few users cared, catalogers made original cataloging more costly than it needed to be and restricted the number of publications that were cataloged. Graham maintained that it was appropriate to shift a certain level of detail of information-seeking behavior to the user in the interest of reducing the cost of cataloging, and he also examined different types of cataloging from the perspective of their adequacy for users and relative cost. His
article begins with the strong statement: "Quality in cataloging is inversely proportional to cataloging productivity" (p. 213). Noting that quality is not well defined in the literature, Graham proceeds to emphasize two characteristics: extent and accuracy. According to Graham, catalogers should construct "lean" records, reduce revisions, live with some errors, know and justify the costs of elements of cataloging such as authority control, and espouse a service goal of the "provision of good access to as many materials as possible" (p. 217).

CONSER, NCCP, AND THE PCC CORE BIBLIOGRAPHIC RECORD

Libraries have struggled to meet the demands of meeting traditional objectives for description and analysis while avoiding backlogs. They have explored different avenues in their quest to satisfy the administrator’s need to use resources wisely and the user’s requirements for access. Programs such as CONSER and NCCP stressed the quality of the bibliographic record while capitalizing on the strength in numbers and in coordination to increase the cost-effectiveness of cataloging. CONSER, a cooperative online serials program, began in the early 1970s as a project supporting retrospective conversion of serial cataloging. The program now focuses on the cataloging of new serial titles and the maintenance of existing serials cataloging. "High quality" and "authoritative" are words frequently used to describe the cataloging produced through this cooperative program involving about twenty-four libraries. The principle behind the CONSER program is the agreement by a small group of committed, carefully selected partners to catalog to a specific standard, which will result in authoritative records that support the majority of serial titles held by libraries in North America and, through the distribution and subsequent reuse of these records, cost savings will accrue (Bartley, 1993).

The Library of Congress established NCCP to achieve similar results, but the program differed from CONSER in that CONSER members set standards for cataloging serials collaboratively, whereas NCCP participants conformed entirely to LC standards (Wiggins, 1993). The desire to revisit cataloging standards for monograph cataloging (and the cataloging of other formats as well) served as an impetus for the evolution of NCCP to the Program for Cooperative Cataloging (PCC) in the early 1990s (Thomas, In press). The mission of the PCC is to promote the creation of unique original cataloging according to a mutually agreed upon standard in a timely and cost-effective manner. Key to the values espoused by the PCC is the emphasis on "mutually agreed upon standards" rather than the more abstract term "quality." By the time the PCC had begun to flower, many librarians equated the call for adherence to "quality" cataloging as a retrograde insistence on the retention of arcane and expensive practices that had demonstrated insufficient benefit. Some spoke of the misguided concentration on the "pristine" or "perfect" record.
the other hand, proponents of quality cataloging countered with the argument that cutting back on quality diluted the usefulness of the record and was potentially a short-sighted economic tradeoff. After careful consideration, the PCC endorsed the concept of the core bibliographic record, a cataloging record constructed to contain reliable, accurate, and authoritative access points but without the full complement of notes or subject headings that a full-level record would contain. According to preliminary trials, catalogers could create core bibliographic records in 25 percent less time than it took to produce full records. Following a year of use of the core level record at Cornell, Christian Boissonas reported at a PCC Executive Council meeting on June 22, 1995, that the use of the core bibliographic record at Cornell resulted in a 14 to 20 percent improvement in production over full original cataloging. At UCLA, in an experiment using a small sample of records, Schottlaender and Kelley (to PCC Executive Committee, personal communication, June 9, 1995) determined a time savings of 8.5 percent to 17 percent per record. They concluded that significant savings accrue to core record cataloging over when NACO authority work is included. Still in its infancy in cataloging, the core record is a promising, but as yet unproven, solution to the quandary of producing quality cataloging in less time and at lower cost. It is, however, not the only effort of the PCC to support cataloging that adds value to the retrieval process. Through the PCC's initiatives, the definition of quality cataloging has undergone a subtle shift to a record that is more thoroughly utilitarian. Like the quality record standard employed at the Library of Congress up until its reorganization in 1992, the PCC record insists on accuracy and adherence to AACR2 and the use of authoritative headings established in conformance with the rules governing the national authority file. However, rather than dependence on directives, the cataloger, creating records according to the PCC value system, employs more judgment and thinks about the practical consequences of his choices as well as the economic justification of his investment. The record is not an end unto itself but is a means for the user to locate material held by the library.

**Minimal-Level Cataloging**

The direction of the Program for Cooperative Cataloging is, at least in part, a response to other efforts to trim the cost of cataloging that had preceded it. Faced with a sense of increasing urgency about making incoming materials rapidly available to students and researchers, and with a growing intolerance for backlogs in which inaccessible documents languished, librarians proposed various solutions. In the eyes of many catalogers and reference librarians, the proposed solutions were often an unworthy compromise that lowered the quality of their work and diminished pride in their calling. Minimal-level cataloging (MLC) is one such
activity. MLC, as practiced by the Library of Congress, eliminates the often costly functions of classification, subject analysis, and the creation of new authority records. The library reserved MLC for categories of materials that had been in arrearage for over three years or for certain publications for which subject access was an uncommon aspect of retrieval. Subject catalogers decried the loss of access simply on the basis of chronology, however, and their reference colleagues supported them saying that the savings realized in cataloging were lost as they bore the additional cost of trying to locate materials inadequately described in the database. Outside the Library of Congress, many deplored the additional cost to local libraries which individually had to upgrade LC’s MLC copy (Ross & West, 1986). Other libraries, however, faced with financial exigencies, developed their own brand of MLC and sharply reduced their production of full original cataloging.

Another approach pursued by libraries seeking to cut costs and expedite processing was to streamline copy cataloging procedures. First, they increasingly accepted LC copy without modification and, as they did this, they transferred responsibility for review of LC copy from professional staff to support staff and from higher levels of technicians to lower levels. They abandoned their practice of recuttering LC call numbers in order to integrate these appropriately in their shelflist, determining that the value added by such revision was not justified by its cost. Then they increased their use of member supplied copy rather than waiting until LC copy appeared in a database. One goal of the PCC is to generate original cataloging from members at such a level of uniformity that existing record information would require no modification. If a library desired, it could augment the record to improve its comprehensiveness (by adding subject terminology or enriching it with table-of-contents data), but it would not need to and should not waste its time revising a record that met PCC standards. Some libraries are investigating check-in cataloging or acquiring materials that come shelf ready—i.e., already bar-coded and cataloged.

The 1990s have been a period of great foment in cataloging, with a number of initiatives suggesting answers to the dilemma of how to provide access to a library’s holdings. At the National Library of Canada, for example, a Bibliographic Access Re-engineering Team applied business process re-engineering to examine the cataloging function. Among the actions the team recommended were to strengthen focus on users, reduce cataloging levels, and assign subject headings to more titles. They concluded that “work processes must be streamlined and made more productive. The content of a bibliographic record must be kept to the essential” (McKeen & Parent, In press).

This trend toward providing the “essential” elements of bibliographic access joins with the effort to determine a core bibliographic record and
the emphasis on improving productivity and decreasing processing time, two other recommendations of the NLC team, which finds their expression in the heightened interest in outsourcing or contracting out cataloging.

OUTSOURCING

Because of the expense associated with original cataloging, especially original cataloging practiced by those who focus only on the absolute full record without regard to cost or efficiency, there is a growing trend to contract out, or outsource, the work of providing access to materials acquired by librarians. For several years, it has been common to seek outside assistance in the areas of specialized language where in-house expertise was lacking and where the library was acquiring unique materials unlikely to be cataloged by another library. In addition, many libraries have contracted out their authority control to vendors who compare the headings on the library's machine-readable cataloging against copies of the Library of Congress' machine-readable authority file, reporting anomalies for libraries to investigate at a later date. By automating the authority file—a significant aspect and the single most expensive at that—libraries have sought to maintain the quality associated with an authority controlled catalog at a reduced cost. Post-processing makes some concessions, however, by sacrificing the real-time contribution of records to online catalogs by comparing headings against an LC authority file that is days and weeks out of synchronization with the LC files, which average 800 new headings added by LC and its NACO patrons daily. Obviously, the many libraries pursuing this alternative to manual review find this compromise in absolute quality acceptable and even desirable since there exists considerable vendor activity in this area.

With the advance of technology has come the possibility of expediting and streamlining the cataloging process still further. In the 1990s, the concept of "check-in" cataloging emerged, with the object being refining the acceptance of catalog copy to the simplest of tasks. Check-in cataloging essentially eliminates review and subsequent modification of the record. The library benefits in terms of efficiency, in the use of lower-level paid staff, and in the rapidity with which it provides access. Lost in the process is the close review of the bibliographic record and the insertion of local practice to make the record conform to the local OPAC.

The cataloging is generally available through two different approaches, each of which, for most libraries, cuts the cost of cataloging substantially. One library reported a reduction of over $200,000 (Winters, 1994). In the first approach, a library contracts with a vendor to catalog its materials according to a set of individually prepared specifications. The specifications determine the price and the quality of the product which can be explicitly linked with price. The vendor often main-
tains a staff of both original and copy catalogers, so the library is able to outsource its full cataloging spectrum if desired.

Libraries have the option of sending materials to the vendor for cataloging or for only certain relevant bibliographic information such as title pages. They can outsource their entire acquisitions or a portion of them. Because the library establishes the specifications and has the opportunity to review the cataloging upon receipt, they can retain control over the quality of cataloging. Examples of institutions which have contracted out their cataloging in this manner are Wright State University and Michigan State University.

Still another permutation of outsourcing is the procurement of shelf-ready cataloging. In this arrangement, the library contracts with its approval plan vendor to receive a value-added service—i.e., machine-readable cataloging records that arrive co-terminus with ordered or approval plan materials. This approach has the advantage of vastly eliminating multiple handling of materials by completely bypassing the catalog department. Materials can arrive "shelf-ready," that is, bar coded and already cataloged. The concept appears to be technically and economically feasible. Michigan State experimented with OCLC's Prompt Cat source to obtain cataloging copy for items acquired through vendor Yankee Book Peddler in the last quarter of 1993, finding that over 90 percent of materials had copy, and that they could minimize review ("The Future is Now...," 1994, pp. 36-37). Stanford University has recently conducted an extensive survey to ascertain which vendors offer this value-added service and have published a report in which they conclude that it will be advantageous for Stanford to acquire at least some of its material under these conditions (Stanford University Libraries, 1995). The primary benefits are faster availability of material to patrons and reduction of processing costs. The University of Alberta Libraries and the University of Manitoba Libraries contracted with ISM Library Information Services in 1994 for the supply of MARC records for acquisitions from certain vendors. ISM provides a two-week turnaround from the time it receives a shipment from the vendor to the time shelf-ready materials are shipped to the University of Manitoba Libraries ("UML and ISM...," 1994).

At the University of Alberta Libraries, Ingles, director of libraries, concluded that outsourcing was a success because the library saved 40 percent of book processing costs and "service improved dramatically" (Hall, 1995). Outsourcing has engendered substantial controversy with critics who claim it affects the quality of bibliographic control in overt and subtle ways. First, critics charge that the cataloging done by contractors is inferior. The lower costs for contract cataloging are obtainable only through the use of inadequately trained personnel with the consequent sacrifice in quality. Specifically, they are concerned that contract catalogers bring an inadequate understanding of subject analysis and class
of descriptive cataloging, with a resulting loss of precision and the introduction of inconsistencies in the OPACs. Taken to its logical conclusion, these deficiencies will mean false retrievals or missed searches or failure to provide catalog users with optimum search and retrieval conditions. Equally threatening is the loss to the organization of skills of catalogers in the library environment. Although contracting out is often a reaction against inefficiencies in cataloging departments and exasperation with the cost and length of time cataloging takes, frequently administrators overlook the many services performed by an in-house cataloging staff. In addition to cataloging, they contribute their organizational expertise to committees, studies, and other initiatives. In-house catalogers may be paid higher salaries than contractors, but they invariably spend fewer work hours in actual cataloging than do contractors. The overall value of the cataloger to the library must be taken into consideration when deciding to outsource and reduce technical staff. Not only the quality of the cataloging must be assessed but also the needs of the total library environment.

The issue of quality of bibliographic control and how to establish the level of quality commensurate to good service is a challenging one. Advocates of quality who see excellence essentially as adherence to code, fullness of record, and scrupulous accuracy at the expense of timely access and at a higher price than managers can justify are on the wane. A more pragmatic approach is prevailing. Cooperation, the core bibliographic record, and greater clarity about what goes into the creation of a cataloging record—in effort and in costs—are contributing to the redefinition of cataloging at the end of this century. As users of the catalog, the ever-broadening universal catalog available through linked Internet resources, increases in number and in frequency of use, and as the technology underpinning the catalog changes, the definition of quality will no doubt be revised again as these developments in technology continually call into question previous practices and policies. Since both bibliographic control and the definition of quality are dynamic, they must be viewed along the continuum of users' evolving needs and services.

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Quality in Community College Libraries

PHILIP TOMPKINS

ABSTRACT

Academic libraries in two-year higher education institutions devoted exclusively to teaching and learning (community colleges) present an unexpected contrast to those quality issues that are anchored in traditional quantity-based (ACRL) standards rather than on the expectations and values of library users and those seeking to learn. Community college libraries may fit the new quality paradigm if several conditions are fulfilled: (1) quality is a campuswide initiative; (2) the convergence of the print-based and digital cultures is reckoned with; (3) library spaces are designed or redesigned as spaces correlative to the classroom with resources, staff, and services that support interactive learning styles; and (4) the colleges find a way to discover a quality-based model that challenges the long acknowledged missing organic relationship between the classroom and the library's role in support of independent lifelong learners.

INTRODUCTION

This article represents an effort to transcend, though not dismiss, the barometers of quality that have prevailed for the past seventy years in American academic and research libraries, especially libraries attached to two-year institutions devoted exclusively to teaching and learning, be they publicly or privately owned and operated.

It begins with summary sketches provided by current social constructionist understanding of change in American society, in higher education, and in the traditional information enclaves—i.e., academic libraries.
It proceeds to contrast traditional quality definitions with those of Total Quality Management (TQM). It highlights the newly proposed Malcolm Baldrige National Quality Award for Education. It identifies the transition of quality initiatives from the world of business to the teaching/learning academy with its necessary manifestation first as a collegewide initiative, subsequently surfacing within functional areas such as the library. It describes how community college libraries may fit into this new paradigm and notes impediments to quality initiatives currently reported, including the dotted line relationship between the classroom and the integrated library/high technology centers that are emerging. It calls for a new model that takes into consideration the converging culture of the printed word and digitization heralded as the Information (now Infomedia) Age (Lanham, 1993b). The reorientation and reorganization of community colleges and their libraries are seen as systemic changes incorporating the best of the traditional with the new, as yet unheard, voices at the center of the educational endeavor, the students.

Quality as Traditionally Defined

Community college libraries, until fairly recently, have been collections of the product of the Gutenberg technology—i.e., the printed book and its derivatives. Quality issues and their corresponding official measurements relative to accreditation and the work of associations of information professionals have reflected the dominant Gutenberg culture and the work environment it has created. These issues delineate the great division between the community college classroom and the library.

In the past decade, dramatic, rather than incremental, change has characterized higher education and its libraries. This article acknowledges not only the introduction of electronic information products but the convergence of the older culture of the book with the emerging culture of digital resources. That convergence inevitably has consequences, consequences for the understanding of, and measurement of, quality in these libraries or information enclaves.

The tension between the developing information technologies culture and teaching and learning cultures continues to intrude when quality is discussed. At the same time, higher education, once considered a citadel of orthodoxy and an arbiter of what is of value in society, has been challenged on grounds of poor quality, most notoriously, poor quality in what higher education claims it does better than anyone else—the role of enabler of student learning.

That challenge has come from several quarters—from the business community, from the world of work transitioning from the industrial age model to that of the information age, from the larger and larger number of nontraditional students “unprepared” to succeed in the nineteenth-century-modeled academy, and most recently from the increasingly pervasive process known as quality management.
One underlying imperative of the quality movement is the painful, laborious, step-by-step rediscovery of the bonds of humanity and collegiality within any societal endeavor, large or small, profit or nonprofit, educational or commercial. Natural collaborative human behavior has been suppressed by the hierarchical model on which church and state, business and education, the public and private sectors have been modeled in Western society. The quality movement and the issues it annoyingly raises are remarkable—remarkable because of their relevance to all types of institutions.

Quality for libraries in organizations dedicated exclusively to teaching and learning means first of all overcoming the domination of the Gutenberg culture and the academy-based discrete departments and related professional associations that have collaborated to support, define, and control what is authoritative information, authoritative knowledge, and authoritative teaching and learning. It means transcending, though not abandoning, the print-based culture of traditional literacy to include the emerging culture of the independent lifelong learner.

A Different Order

What is being challenged both indirectly and directly is the normative order of the world of teaching and learning and derivatively the order of the world of information as perceived by the academician. The temptation, of course, is to scuttle traditional structures and their inherent quality and measurement systems without planned substitutions or replacements. The tension between conserving what is good and embracing what is new remains unabated. The tension is in part reflected in the redesign of information spaces to create new integrated library/high technology centers. Educational institutions are expected to accommodate and participate in this transition if they are to prevent further erosion of their leadership in the education marketplace.

At the same time, educational institutions are under no obligation to affirm the potential anarchy associated with the emergence of the virtual electronic culture. Rather, they may be called upon to associate themselves with practitioners of the quality movement, beginning most profitably with those who have successfully pioneered its processes. In the short run, this probably means both creating new environments whose impact and effectiveness must be measured and inventing the measurement instruments themselves or at least adapting them from quality practitioners in the world of business.

First of all, one must deal with the metaphors that define the way one approaches working as an information professional. While dealing with the metaphors, one must also deal with the stereotypes that the profession has wittingly or unwittingly won for itself—stereotypes that typically have a grain of truth within them. Instead of striving for an idealized
level of "objectivity," one is asked to look at teaching and learning from the perspective of the broader society and from the perspective of students who have a wide range of learning styles.

TIES THAT BIND

Our understanding of the information profession and the role of libraries is ultimately influenced by the institutions to which they have been attached. Historically, these institutions of teaching and learning have defined the roles and missions of academic libraries. From the academy, libraries have received their charter as well as the standards and roles on which they are judged to be successful or unsuccessful. It has been a fairly comfortable world given the expansionist history of higher education since World War II. But that world has since exploded into many worlds. Some define it as chaos, using the classical metaphor. Others have found a new order in the fractal world of chaos and have given it an amelioristic connotation, one suggesting its own type of order yet without the lockstep uniformity associated with the traditional definition.

To put it in another way, practitioners in the teaching/learning academy are merely part owners in the world of independent lifelong learning. They are fellow travelers along with a host of practitioners and customers who are in fact defining the conditions under which teaching and learning and the use of information are practiced. Both providers and consumers are, in a most profound sense, becoming virtually indistinguishable with respect to defining the content and delivery systems of higher education.

Through interactions with others in American society, information professionals are being asked to reconsider the stock of languages, myths, symbols, and values of their professional heritage. Their world is being profoundly reshaped by real and virtual cultures, by professional and business cultures, by the culture of the common man and woman, and by the community of nontraditional lifelong learners. The latter are those who have learned not from the academy but from the multimedia cultures in which they actually live. The academy is bypassed, to some degree, in authenticating new ways of using information and transforming it to knowledge. However, the academy and its libraries may also be beneficiaries of these new media of learning.

QUALITY BASED ON QUANTITY

Quality in community college libraries has, in this century, followed a set of standards developed for, and derived from, the standards for academic and research libraries. There was and is a commonality among these sets of standards (Association for College and Research Libraries, 1995). The standards address, first of all, space for the objects gathered, which represent the resources essential to teaching and learning. In the case of universities, research endeavors tended to be a major consider-
ation that overshadowed the needs of the undergraduate. The standards addressed differentiation among collections depending on the variety of programs to which the institution was committed and the level of educational attainment of its students.

Libraries were expected to provide space for students and faculty to pursue knowledge. Spatial allocations were based on the projected enrollment of the institution. The requirements of colleges and universities with residential populations and, subsequently, commuter students were taken into consideration. Ratios were established between professional and support staff and between the staff and the total student enrollment.

As the community college movement developed, librarians naturally looked to four-year colleges and universities in establishing their own standards for inventory, staff, and patron space requirements; library services; and other amenities related to creating a pleasant supportive environment for teaching and learning. Audiovisual resources in their premultimedia stage were allocated with requisite space and staff similar to those provided for print collections. Yet these resources were not only decidedly different because of their formats but also because of their implications for service and their use in classrooms as well as by individual students. With the evolution of the media center culture (and the associated concept of learning resource centers) to the world of digitization and distance learning, yet another reconsideration of the storage, staffing, and dissemination standards and practices is required. All in all, quality had been estimated on the basis of quantity of one type or another in relation to objects or service to patrons and/or enrollments. A commentary by Parker (1994) on the foundations of the most recent Standards for College Libraries offers a convenient summary of the importance of those standards to twentieth-century North American libraries. At the same time, the article gingerly approaches, but does not address, the relationships between those well-conceived quantifiable standards and the significant challenge the quality movement presents to such standards. By far the most balanced comprehensive discussion of standards, quantity, and quality issues is the Coleman and Jarred (1994) discussion of the relationship between these matters and the country's several regional accrediting agencies.

DEDICATION TO "SERVICE"

The behavioral quality of the library organization was initially defined through the intermediacy of schools of library and information science. It may best be summarized by dedication to public service that was, and continues to be, the hallmark of the profession.

The organizational expression of much of this dedication to service derived from common sense arrangements of resources and services. The challenge has always been to provide resources and services for the present
and to make provision for the growth of book stock, enrollment, and the introduction of new technologies (academic and research libraries were, until recently, the leaders in the introduction of technology in higher education). The accomplishments of the builders of academic and research libraries of twentieth-century North America is a story that will continue to be told, inspiring the respect, if not the awe, that it deserves. Yet times have changed. Although some traditional facilities continue to be planned and erected, centered as they are on the principal product of the Gutenberg technology, increasing numbers of integrated libraries/high technology facilities are beginning to appear based on the new culture of information technology.¹

**Focus on Quality: A Tectonic Shift**

But quality in these newer community college-integrated facilities is not a story ready for the telling; its literature remains to be written. Nevertheless, a tectonic shift has taken place, dislocating what had been perceived to be the rock bottom standards of quality for libraries in higher education.

The “new” quality movement did not come from the information profession. Neither did it come from the precincts of higher education. It came from the American business community and its attempt to respond to new standards of quality developed in Japan. The adoption of those standards by higher education and that segment of higher education responsible for three quarters of the undergraduate enrollment nationally, the community college, is in an incipient phase.

Even if there were a sizable literature on quality improvement in community college libraries (which there is not), it would in some peculiar sense not be a narrative exclusively about the “library.” The quality imperative for the community college library is part and parcel of the development of a new paradigm of management for the entire college with intersecting cross-functional teams that transcend the library as a separate entity within the college itself.

**Developments in the Field**

By October 1994, 415 schools, colleges, and universities were using Total Quality Management, an increase of 43 percent over the previous year as reported in *Fortune* (1994). As this article was being composed, *The Chronicle of CQI* (1994) appeared on periodical subscription lists. The first issue of this newsletter described the application of the Malcolm Baldrige National Quality Award to educational institutions. The Baldrige Award was established in 1987 and has had twenty-two winners out of a possible 10 million candidates. “The Award promotes an understanding of quality excellence, greater awareness of quality as a crucial competitive element, and the sharing of quality information and strategies” (*Chronicle of CQI*, 1994, p. 1).
On December 16, 1994, the National Institute of Standards and Technology (NIST) announced the launching of the Malcolm Baldrige National Quality Award Education Pilot Program. It was the hope of the initiators of this program to smooth the way to facilitate continuous quality improvement applications from the world of business to the world of higher education. "The school prize, to be issued for the first time in 1996, will recognize excellence in the hallmarks of TQM: constant improvement and better results, from higher test scores to lower dropout rates. Judges will look for evidence that students are benefiting, not just that the school is teaching TQM principles" (Business Week, 1994).

Before evaluating and reporting on efforts within community colleges and community college libraries, the proposed Baldrige National Quality Award Education Pilot Criteria will be briefly described (Chronicle of CQI, 1995):

**Leadership**—examines senior administrators' personal leadership and involvement in sustaining a student's focus, clear goals, high expectations, and a leadership system that promotes performance excellence. Also examined is how these objectives and expectations are integrated into the school's management system.

**Information and Analysis**—examines the management and effectiveness of use of data and information to support overall mission-related performance excellence.

**Strategic and Operational Planning**—examines how the school sets strategic directions and how it determines key plan requirements. Also examined is how the plan requirements are translated into an effective performance management system with a primary focus on student performance.

**Human Resource Development and Management**—examines how faculty and staff development are aligned with the school's performance objectives. Also examined are the school's efforts to build and maintain a climate conducive to performance excellence, full participation, and personal and organizational growth.

**Educational Business Process Management**—examines the key aspects of process management, including learning-focused education design, education delivery, school services, and business operations.

**School Performance Results**—examines student performance and improvement, improvement in the school's education climate, school services, and improvement performance of school business operations. Also examined are performance levels relative to comparable school and/or selected organizations.

**Student Focus and Student and Stakeholder Satisfaction**—examines how the school determines student and stakeholder needs and expectations. Also examined are levels and trends in key measures of student and stakeholder satisfaction and satisfaction relative to comparable schools and/or appropriately selected organizations.
These criteria have been delineated because they contrast significantly with those that have traditionally been applied to higher education (and libraries). Accreditation criteria represent minimum standards of operation whereas the criteria suggested by the Baldrige Award have overall excellence as their goal.

On April 27, 1995, Steve Brigham, of the American Association for Higher Education, sent an electronic communication to subscribers to the CQI listserv giving, in twenty-four pages, the responses of participants in the training program to prepare approximately fifty educators to serve as evaluators for the 1995 Baldrige Education Pilot Program (Brigham, 1995). He asked a number of the evaluators for their immediate impressions of the strengths, challenges, and concerns about the Baldrige educational criteria by responding to three questions:

1. What are the elements of the Baldrige in education criteria, as currently constructed, that you believe are of the greatest use if employed as a self-assessment tool?
2. What are the elements of the Baldrige in education criteria, as currently constructed, that you believe will be the most challenging or difficult for education organizations if used as a self-assessment tool?
3. What are your greatest concerns about the Baldrige in education criteria as currently constructed (you may include items beyond its use on campus—for example, its use as an award program) (Brigham, 1995, pp. 1-2)

The project's leadership intends to evaluate these and other responses to the criteria and to modify them again before the program officially begins this year. Eleven evaluators responded, representing a range of colleges and universities. The comments are enlightening, encouraging, diverse, and clearly indicate how arduous the journey will be for those committed to achieving educational excellence.

**College-Wide Initiative**

The movement for quality in a community college is a total process which is broader than, though not exclusive of, quality initiatives in functional areas such as the library. The profile of the literature shows this characteristic even as it reflects the fact that the quality movement in community colleges and their libraries is not well advanced in many institutions. As several writers have pointed out, the commitment to quality must be first and foremost a collegewide initiative. This is perhaps the most critical step in an institution's journey toward quality improvement.

First, as one might expect, there is much more literature about experiments with Total Quality Management on a collegewide basis than there is of experiments with it on a library basis (Hertzler, 1994; Schauerman, 1994; Spanbauer, 1995; Wolverton, 1993; Thor, 1992;
Given the size of many community college libraries, to refer to a librarywide TQM initiative is somewhat of a misnomer; to use this term to comment on such an initiative at a large research university library may be more appropriate although it too conveys a "stand alone" posture which total quality initiatives belie.

Second, there are articles that reflect the notion of quality which one might call pre-TQM, quality understood as a call for improvement of internal processes within the library without any direct relationship to customer service, much less any suggestion that customer needs might provide a framework for the dramatic shift in perception and methodology characteristic of the quality process (Hayes & Brown, 1994; Shapiro, 1991; Segal & Trejo-Meehan, 1989; Hawkins, 1989; Lowell & Sullivan, 1989; Clayton, 1989; Cooper, 1986; McIlwain, 1986; Sell & Mortola, 1985). Quality circles are included in this category.

Next, one finds general calls for the implementation of quality and summaries of the ideas of TQM as they might apply in academic libraries (Riggs, 1993; Shaughnessy, 1993, 1987) followed by reports of the introduction of quality processes in academic libraries as a whole (Butcher, 1993; Fitch et al., 1993; Jurow & Barnard, 1993; Neal & Steele, 1993; Mackey & Mackey, 1992) and its introduction into specific functional areas (Brown, 1994; Clack, 1993). These are reports of library initiatives for quality which, for the most part, treat the library as a discrete entity seemingly untouched by the institutionwide quality initiative. This seems to be characteristic of larger organizations, especially university libraries. It is rare to find a community college library quality initiative written about in this way. This is not to say that the former are insignificant. Rather, it suggests that they are rarely reported against the background of a total institutional initiative and therefore, in a sense, leave an impression that is somewhat at odds with quality as defined by Deming (1986), Juran (1974), and Crosby (1984). This is in part because of the size of the academic libraries reporting and the size of the institution of which they are a part—and because that is "just the way things have always been done."

One of the most interesting examples of the introduction of a quality environment was the creation in November 1994 of the Computer-Based Services and Resources Team (CBSRT) at Indiana University Bloomington (IUB). It is important because the team was presented with the opportunity to work in tandem with University Computing Services to create cross-functional teams, as necessary, in an attempt to address a wide range of customer-focused digital initiatives. At the same time, this effort was viewed as "an organizational experiment, capitalizing on the decreased hierarchy and increased flexibility of the IUB libraries" (Bobay, 1995, p. 2). The CBSRT exhibits a prototypical approach to digital information issues and should be of interest to any type of academic library, including com-
community college libraries, as they reach beyond their traditional confines to collaborate as peers with information technologies (IT) professionals on a campus or within a community college multicampus system. Of the four quality initiatives at IUB, the CBSRT exhibits the type of cross-functional partnerships that is characteristic of most quality initiatives.

QUALITY AS SYSTEMIC

To attempt to interpret why the reports of TQM in community college libraries remain relatively sparse, several possible factors come to mind. The history of the "organic transplant" of Management by Objectives (MBO) from the world of business to the world of education is not the process by which a commitment to continuous quality improvement may gain a foothold in higher education. In fact, it may be antithetical to the quality movement. The former required a regimentation that was easily ordered and confirmed by the reigning hierarchical organization model still dominant in higher education. It was just as easy for the physical plant staff to adopt MBO as it was for the library or any other academic unit. MBO was basically the business of the unit adopting it; the results were ensured to be attractive to management while requiring little, if any, overall or systemwide effort.

Quality management, on the other hand, represents a systemic change that must begin with the commitment of an organization's top management to empower staff, eliminate bureaucracy, and focus on the customer. One feature of such a transition is sometimes depicted as a change from the pyramid to clusters of overlapping concentric circles. This is not to say that efforts at understanding quality initiatives and putting them into practice has not or should not happen here and there within an organization. Where they happen, they are to be applauded. The etiology of the systemic change that quality management requires, however, is beyond the capability of any discrete unit or group of individuals in an organization. Such efforts tend to wither and die under the pressure of the dominant culture in higher education, which often remains structurally at variance with the values of total quality management.

HOW LIBRARIES FIT IN

As a general statement, one finds that community college libraries tend to be included implicitly in the institutional adoption of a quality initiative without the reportage noted earlier for academic libraries attached to four year colleges and research universities. This is certainly the case for the ten colleges that constitute the second largest community college district in the country (Hertzler, 1994a) and is reflected in the survey of the community college literature conducted by Hertzler (1994b) in her doctoral dissertation, *An Evaluation of the Implementation of TQM at Rio Salado Community College: A College without Walls*. 
The way people work together is what produces excellence, and these processes often determine the quality of an organization's products. As Rhodes (1992) writes: "It's becoming clearer to me that the power of Total Quality Management concepts of Deming and others derive (1) from their psychological and value-driven base, and (2) from their 'totalness.' They deal with an organization's work processes as a single system" (p. 76). In a similar vein, Cross calls for the involvement of faculty in quality initiatives and points to Robert McCabe, president of Miami-Dade Community College, as the prototype of a TQM leader who has fostered wide faculty and staff participation in quality improvement processes (Cross, 1993, 1987). While quality initiatives must start at the top, they cannot be imposed. Nor can they be successful without an eventual reorganization of the college, beginning with what happens in the classroom and with the learners.

**IMPEDIMENTS TO QUALITY**

Community colleges, like so many other educational organizations, have experienced the dissonance and dichotomy of energies and directions. "The prevailing organizational paradigm has all the characteristics of a dysfunctional family" (Rhodes, 1992, p. 76). In public forums, every educational institution wishes to be perceived as promoting "what's best for the students." The problem and fundamental weakness of this putative common focus is that faculty, staff, administrators, and students all make decisions in isolation from one another. Everybody decides what is best for students without consulting one another or the students (customers). There are two parallel systems operative in the organization, "one we control through planning and operational management decisions to achieve the results we want. The other 'system' is composed of all factors that influence the results we get, whether or not we can control them" (Rhodes, 1992, p. 77).

Deming attempts to give organizations the tools to bring the "two systems" together. Rhodes (1992) summarizes Deming's contentions:

His concepts about systems confront what we believe about the lack of interdependency in organizations. His thoughts about people as psychological beings intrinsically motivated to want to be effective in their work, force one to apply to others a principle that some of us may think applies only to ourselves. His demonstration that management's processes are the causes of up to 90 percent of the variation in outcomes and results in any system, challenge directly our attempts to improve schools through monitoring of results, then assigned blames, and trying to fix individuals. His theory of knowledge forces awareness of humans as cognitive beings trying to construct knowledge from experience within frames provided by theories and beliefs. Finally, because TQM is a process designed to make continual improvement a fact of organizational life, it has been natural to attempt to contrast it with other "improvement" strategies such as Outcome-Based Education, Effective Schools, Accelerated Schools, and Essential Schools. (p. 79)
TQM, in summary, is not just another "management technique" easily transferable from the business sector to the educational sector. Long-term evidence of involvement in community college libraries with continuous quality improvement initiatives may emerge eventually from the general literature of community college efforts to become Total Quality Management institutions (Coady, 1994; Knowles, 1994; LeTarte, 1994; Entner, 1993; Schauerman & Peachy, 1993; Hudgins, 1993; Burgdorf, 1992; Seymour, 1991; Marchese, 1991).

A ROCKY ROAD

One of the important issues in the TQM movement from the workplace to the school is the growing understanding of the differences in the organizational structures. Colleges and universities, because of their peculiar organizational components, have greater autonomy resident in segments of the organization than businesses do. Hence, the strategies for leading and transforming a college into a quality organization differ and must be experimented with. However, there is a growing sense of urgency among higher education institutions to improve and to more effectively address the needs of society. Educational leaders are beginning to write insightful comments on their experiences as they participate in the transformation of community colleges. Reflective comments on the behavioral interactions, the "how we should have," and "if we had only known," and "how I changed my behavior" (by a college president) are available. They suggest the characteristics of a changing organization after it has embarked on the path toward quality (Brown et al., 1994; Thor, 1994; Van Allen, 1994; LeTarte, 1993).

The commitment to quality often requires the examination of the relationships among functional units in the organization. In this case, reference is made to the relationship of information professionals and their unit and to the instructional process—that is, to teaching and learning. One of the more succinct comments on what libraries have missed (community college libraries included) was made by McGrath (1993):

From the literature of total quality management, and the associated literature of quality control, we learn that, for processes, quality is defined in terms of conformance to specifications and that, for services, quality is best defined by someone else—that is, the customer. Specifically, quality is defined as conformance to expectations. Does the product conform as specified and to customer satisfaction? In libraries, we have long known what the product is (service) and who the customers are (users). Inexplicably, after all these years, we have not learned how to feed back user satisfaction in any systematic way. (pp. 195-96)

It might well be appropriate at this point to reflect on the research on the traditional mode of delivery (the classroom lecture) and compare that with the research alluded to in Twigg's telling comments. In speaking
of the Myers-Briggs Type Indicator (MBTI), Twigg notes the four patterns of preferred learning styles: ES (concrete active), IS (concrete reflective), EN (abstract active), and IN (abstract reflective).

Recent studies have shown that the largest group of college students consists of concrete-active learners, who learn best from concrete experiences that engage their senses, that begin with practice and end with theory, and so on. As Schroeder recently pointed out in *Change* magazine, the overwhelming majority of college faculty prefer the IN (abstract-reflective) pattern, creating an increasing disparity between teacher and learner. (Twigg, 1994, p. 24)

Realistically, one of the well-known reasons why libraries may not be positioned to participate in the quality movement within their organizations is Boyer's (1988) finding that the college library is still not a significant force in the education of undergraduates.

**The Dilemma**

Despite the proliferation of technologies making access to information worldwide through the Internet and other wide and local area networks, academic libraries and the information resources and services they offer do not enjoy a systemic relationship to teaching and learning in the contemporary community college. The older quantitative standards (reduced to such familiar items as the size of inventory and the ratios of staff to students, and of study space as related to enrollment) and persistent and often heroic efforts at "bibliographic instruction" have at best an informal serendipitous relationship to the creation of independent lifelong learning in the Infomedia Age.

There are factors within and without the community college that make the integrative nature of the quality movement urgent, possible, and desirable. The academy is under fire. It does not do what it is supposed to be able to do better than any other institution—i.e., teaching that results in independent lifelong learning. An intense commitment to quality remains a systemic remedy for the resolution of this problem.

Faculty and the textbook are no longer perceived as the primary source of education. The multiplicity and the richness of real and virtual information resources are continually expanding. The Infomedia Age has brought qualitative and quantitative change to the society in which students live. The dissemination of information throughout society makes the uniqueness of the individual instructor (and the textbook) as primary sources of knowledge on a subject symbols of a past age. Libraries are not positioned to contribute to the teaching and learning processes to the extent that they are unable to integrate and deliver needed information. They are sentinels and custodians of information resources, but
often they are not members of the instructional teams that link the classroom with the workstation environment where students manipulate, customize, and create knowledge. One of the more perceptive writers on the changing role of the library is Lanham (1993):

Digitized information is immanent, not physically placed, and, unlike the book, can be given away and kept at the same time. In a world of databases, the library with the most units no longer wins. At the same time, the dispensing of information, the new economics of human attention, becomes central. In an information-rich world where human attention is the scarce commodity, the library's business is orchestrating human attention structures. This is an active, not a passive function....The design of human attention structures demands a great deal of it....And so the library begins to reinvent itself around the metaphor of "gateway." It seems to me, at least, that this gateway must be an active, imaginative creation, one integrally related to the process of instruction in a fundamentally different way from a collection of books awaiting the student's call slip. (pp. 11-12)

To someone following closely the processes of quality management, Lanham's comments suggest the reappraisal of the way in which community college libraries (and other academic libraries) relate to their teachers and students. Customer service, internal customer service, adjustment of the processes for access to information, lessening the preoccupation with tending the book stock and its physical integrity, turning to the actual time constraints under which community college students learn (half of whom are over thirty years of age and working full time), and fashioning staff routines and services to acknowledge the variety of resources readily available and relevant to each course/section are the tasks at hand. All of this suggests a concern for quality carefully calculated to support those most critical and defining of human endeavors—teaching and learning.

The interdependence of the community college's information enclave and the practitioner in the classroom (and now the Information Commons) is currently beginning to be acknowledged but not widely realized in a systemic manner. The classic bibliographic culture does not have the agility to accommodate a new model for service to the student, one built, as suggested elsewhere by Lanham, on "a new economics of human attention"—in contrast to the prevailing model designed for the student in pursuit of a postgraduate degree.

"In an information economy, the central scarce resource is not information—we are drowning in that—but human attention. It is human attention that gives information meaning and direction" (Lanham, 1993, p. 1). The movement of alphabetic information from a printed
Surface to a digital electronic space is the foreground in which the learning community can acknowledge the dynamics that should exist between learning activities initiated in the classroom and integrated library/technology centers. The metaphoric four walls of the classroom can no longer "contain," much less limit, access to the world of information. New roles for instructional teams led by community college faculty may produce these dynamics as librarians collaborate in acknowledging the new model for learning that transcends the classroom space and catapults learners into technology-intensive spaces, especially libraries—at least those libraries that are created or renovated to become learning centers.

Following the alphabet from printed page to the color monitor presents a panoply of quality issues directly related to the creation of different types of learning communities—learning communities that are truly centered on the learner. And the role of the information professional? Community college librarians, perhaps more than any other type of information professionals, serve not only the transition of students from their teens to their twenties but also the transition of adults re-entering teaching institutions or entering them for the first time as their occupational needs dictate. Community college librarians have the laboratory, unfettered by the demands of research priorities, in which to discover new roles, resources, and services for the quite diverse student populations—diverse culturally and ethnically, diverse by age, by preparation, by gender, by the expectation to be able to learn with a variety of traditional and electronically supported learning styles. No one has sketched the opportunities more invitingly than Lanham (1993a):

Someone will have to create digital networks of student information and publication. Someone will have to reconfigure knowledge from book-length packets into new forms. Who will perform all these tasks? Create, manage, an undergraduate “publishing” universe? Whoever does this will play a central, not a peripheral or support, role in our new undergraduate curriculum, whatever it looks like. The central information task in a digital expressive universe—and a fortiori—in a world where print and electronic materials must work together, is no longer strictly an indexical storage and dissemination task but something quite different. (p. 12)

New Players, New Cultures

Lanham’s model has yet to be described, and the participants in the evolution of that model have yet to realize the importance of collaboration. Those community college librarians, waiting in the wings, without whom the solitary instructor cannot “deliver” instruction in an environment that uses the products of digital as well as the Gutenberg technology, remain to be engaged in the teaching/learning processes. The opportunity for quality processes appears at every turn on the road to the transformation of the educational system.
In community college information enclaves, the traditional culture of literacy (based on the printed word) is merging with the culture of digital realities. Information literacy, recently described by McClure (1994), is a cluster of literacies practiced in the integrated library/high technology centers of community colleges. This cluster of information literacies (traditional, network, computer, and media literacies) only complicate the search for quality connections with the libraries' customers/clients/students. Infomedia problem-solving skills are intertwined with traditional print as well as network, computer, and multimedia literacies.

In their own right and by their recently improved professional training, information professionals are assuming new roles as collaborators with instructors and as a necessary part of the teaching process as they assume greater responsibility for learning in these interactive environments. The information professionals, more than anyone else, are in a position to collaborate with instructors as instructional teams move from the old to the new paradigm of information and computer access across the curriculum and across the world.

The dotted line relationship between the community college library and the classroom reflects all the weakness and tentativeness that a dotted line suggests (Smith, 1989). It is the quality movement, however, that can bring these entities together in an effort to redesign the process of teaching and learning so as to focus on the learner rather than on the classroom lecturer. This will not be an easy task. Hammons (1994) of the College of Education at the University of Arkansas, who has been involved in community colleges as a student, administrator, consultant, teacher, and researcher, has written a sobering article delineating the prerequisites and underlying assumptions that must be operative if quality initiatives are to succeed, and the ingredients assuring its success are a mosaic of interconnecting processes linking the classroom activities with knowledge-generating activities characteristic of a new learning community and especially its library.

Achieving quality must be a continuous process. And thoughtful analysis and reconceptualization of information services is a starting point, a preparatory exercise for the creation of new visions, missions, service strategies, and customer service reorientation. One example of an attempt at reorientation is the vigorous discussion of the nature of reference services in academic libraries as reported in the January 1995 issue of the Journal of Academic Librarianship. When the thoughtful information professionals write under such titles as: Is Traditional Reference Obsolete? or Traditional Reference is Dead, Now Let's Move On, there is hope for a revitalized service commitment.

Equally important is the evolving nature of quality processes themselves as they are better understood, refined, and practiced. Albrecht's (1990) writings may help those who are trying to transplant quality
initiatives from business to higher education and its libraries. “What is needed is not a fixed recipe or a ‘one size fits all’ process, but a logical system of methods and tools that can be brought to bear in a unique way for the special needs of a particular service organization” (p. 48).

And a final word of caution for those who would mistakenly perceive the Baldrige Award criteria as presenting the model for achieving total quality service. The award criteria are assessment tools and not programmatic suggestions for initiating the process. Albrecht’s contribution may be to get educational organizations beyond what has been called TQM and its formulary expressions to a set of interrelated methodologies that may be applied in any chronological combination or progression depending on the history and culture of the organization itself (see Albrecht, 1990, pp. 48-53). Quality service’s flexibility and adaptability to organizations regardless of size leaves a residual feeling in those organizations that they are truly in control of their processes and can expect to remain in control. How community college libraries will emerge through such a process remains to be determined. It is reasonable to suggest that librarians will learn in collaboration with other functional areas in the community college as they try to focus, under faculty leadership, on the needs and exigencies of the independent lifelong learner.

NOTE

For example, there are the Estrella Mountain Community College Center, metropolitan Phoenix; Leavey Library at the University of Southern California; the new library at Indiana University/Purdue University in Indianapolis; George Mason University Center Library, Fairfax, VA; the projected integrated library/high technology center at Mesa Community College, Mesa, AZ, and the projected library at Eastern Michigan University.

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The Quality Movement in Australian University Libraries

VICKI WILLIAMSON AND F.C.A. EXON

ABSTRACT
The Australian government reorganized the national higher education system as a key strategy in its regeneration of the Australian economy. From 1993 to 1995, a Quality Audit was begun to ensure that this reorganization was having the desired outcome; effective quality processes were rewarded by supplementary grants.

This article describes this process as viewed from the responses to a questionnaire circulated to Australian university librarians in 1994. The results show that, in many cases, university libraries were ahead of their universities in the introduction of quality assurances processes and management, and that a high degree of education in quality was reported within their senior management.

INTRODUCTION

Australian university librarians have always made quality client service their top priority, although it is only recently that they have begun to learn to wrap their package in the "quality speak" which followed the rediscovery of Deming by the Americans in the 1980s. Indeed, while a wave of Total Quality Management (TQM) swept across Australian corporate life, university librarians were not lagging behind in implementing the concepts in their management styles.

However, the quality movement in Australian university libraries has to be viewed against the background of the Australian federal government's industrial reform agenda. The Labor government won the

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1984 general election and immediately introduced (among other reforms) an industrial reform agenda. Their mandate for this was reinforced by an Accord agreed upon by the federal government and the trades union movement. The proposed reforms might be characterized as the transformation of the Australian economy into a deregulated market-driven economy, with extensive privatization of existing government enterprises (profitable or otherwise), a recognition of Asia as our primary area of market expansion, and the key role of education in the necessary reskilling of the labor force. A key component of this movement was the creation of a new mega-department—the Department of Employment, Education and Training (DEET), whose name signaled a new socioeconomic accountability for education, and which took responsibility for higher education among other education sectors.

Until 1984, the Australian higher education system (which had included the Technical and Further Education [TAFE] organization) consisted of universities (founded at various times since the nineteenth century and including those universities founded during the Whitlam expansion of the 1970s) and colleges of advanced education (CAEs). The latter were designed primarily to support the growing need for teachers for the primary and secondary sectors but quickly grew to encompass general degree-awarding bodies. These included the institutes of technology, which were intended to provide the technological basis for the reform of the Australian economy (Exon et al., 1995).

There has been considerable growth in higher education enrollment in Australia since the 1960s. This was particularly apparent between 1968 and 1976 when the number of enrollments at higher education institutions (excluding technical colleges) more than doubled from approximately 143,000 to 290,000. Thereafter, the increase in the number of university students leveled off, but the CAE student numbers continued to grow although more slowly. In 1992, the total enrollments in higher education institutions, excluding TAFE, was 559,365—almost a double increase since 1976.

The 1984 Labor government decided to reform higher education as a key critical success factor in the achievement of its economic objectives by removing the previous binary division between universities and Colleges of Advanced Education, thereby creating a Unified National System (UNS) of higher education. This was achieved with some pain, but eventually, in 1993, thirty-six public universities emerged along with three private universities (Department of Employment, Education and Training, Higher Education Division, 1993). Owen (1992) estimates that there were over 200 TAFE colleges in 1992. The Minister of Employment and Education who initiated these changes was John Dawkins who later became Treasurer. The amalgamations coincided with a period of economic recession. DEET responded to a variety of pressures by launching a quality audit of universities in 1993.
THE QUALITY AUDIT

The methodology for the audit was loosely based upon one developed by the Scottish Education Office and used by the British government for the quality audit of British universities. A significant variation from the British pattern was the much smaller amount of money available as a "reward" and the much reduced duration of the evaluation visit and the quantity of information required. Nevertheless, the Australian teams had direct access to the British officials' and auditors' experiences and developed a range of auditing techniques.

As a direct result of the reorganization associated with the UNS, the Linke Report (Performance Indicators Research Group, 1991) identified the quality of teaching as an important issue. This was followed by a quality audit using a three-year cycle which, it is said, was developed with advice from the Scottish Higher Education Audit Office. The first year of the cycle, focusing generally on teaching and learning, research and development (R&D), and community service, was completed in 1993. The second year focused on teaching and learning (1994) while the third year, focusing specifically on R&D and community service, is currently underway and will include examinations of libraries. The cycle will conclude in 1995 and is unlikely to be continued. The minister has traded some of the funds needed for the review against protecting the rest of the education budget. However, there are likely to be two reviews of university management in the next few years (Universities'..., 1995).

The valuations of the first round resulted in a now infamous "ranking" of universities into six bands based upon the audit panels' judgments of their quality assurance processes (Department of Employment, Education and Training, 1994). The relative positions of universities which had previously held their own views of their position in the pecking order and were unchallenged by anybody, now found themselves, in some cases, not just judged differently but having those judgments placed firmly into the public domain. Subsequently, the rankings were published in a standard guide to good universities used by students (particularly overseas), a group that was largely full-fee-paying students.

The first round was something of an experiment and looked very disorganized—e.g., timetables, guidelines, and criteria arriving too late. Furthermore, the short duration of the audit visits (one-day) did not seem sufficient to do a thorough audit. Worse, the rules were changed while the evaluation was in progress. To begin with (while the Minister was Kim Beazley), the "top" fifteen universities were to be "rewarded" by supplemental funding for quality development. After Beazley's replacement by Simon Crean, all universities were graded within six bands, each band being awarded quality development funds as a percentage of their budgets, the higher bands receiving larger percentages than the lower (Department of Employment, Education and Training, 1994). This led
to excruciating anomalies since small universities (which, therefore, had proportionately small budgets) were classified in higher bands alongside large universities, the latter receiving larger sums in real terms. The reverse happened in the lower bands where large universities would receive large payments in real terms even though they had been classified with small universities.

The process remains subject to intense criticism, and its workings remain a mystery despite a detailed report referring to correlation, cluster analysis, and factor analysis (the committee never revealed the nature of the data nor the results of their calculations) (Department of Employment, Education and Training, 1994).

The entire quality audit was marked by confusion both within DEET and several universities and between education processes and outcomes and quality assurance processes. The quality audit did not adequately examine the quality of the education processes and outcomes but focused on the quality assurance policies and practices in place to monitor the educational processes and outcomes. The rankings by DEET should be regarded, therefore, as reflecting the adequacy of the university's quality assurance processes, not the quality per se of the university. Thus, the fact that Sydney University, one of Australia's oldest, most prestigious, and internationally recognized universities was put into the second rank is more a reflection of DEET's judgment of its quality assurance programs than of its educational quality. At the risk of laboring the point, it is worth mentioning that the universities which "did well" (in terms of rankings) were those which had excellent quality assurance policies and practices in place and were able to speak the language of quality irrespective of the quality of their educational offerings.

Anecdotal evidence suggests that while DEET will complete the first three-year cycle of quality audits, they were never designed as more than a device to deliver a shock to a system which they regarded as having "lost the plot," and that the adoption of quality service management by the universities will be for DEET a satisfactory outcome, and that the cycle will not be repeated. This, if true, may be just as well, for several universities (in all ranks) were reportedly considering withdrawing from the audit if they did not achieve what they regarded as a satisfactory outcome from the second round. Given the paucity of the financial reward, this is hardly surprising.

It must be acknowledged that the country's investment in higher education, the scale of the budgets of individual institutions, and the potential role of universities in the achievement of society's goals, all render universities subject to substantial public accountability. It is highly likely that the system created by the amalgamation of larger and older universities with newer smaller colleges benefited from the scrutiny of their management practices and quality assurance processes.
QUALITY INDICATORS AND LIBRARIES

During the evaluation period, libraries began to intensify their efforts with respect to quality and accountability. The Council of Australian University Librarians (CAUL) had transformed itself from a somewhat inwardly focused group into an effective lobbying group and worked well with the Australian Vice-Chancellors' Committee (AVCC). The Ross report (National Board of Employment, Education and Training, 1990) was a government inquiry into academic libraries, and its recommendations, along with a range of recommendations from other meetings, formed an agenda for action which is now complete. These ran the gamut of issues facing university libraries and, taken together, form a comparison with the UK Follett Report (Joint Funding Council..., 1993).

University libraries had also been concerned with certain aspects of quality management, including performance indicators. Since 1953, academic libraries in Australia and New Zealand had contributed statistics for a growing set of indicators, which are published in an annual supplement to the journal *Australian Academic and Research Libraries* (AARL). The data collection has been managed by various libraries on behalf of CAUL and is now managed by CAVAL (Co-operative Action by Victorian Academic Libraries), a library cooperative in Victoria. CAVAL can now supply data for the two years of their management of the process in electronic form, while data from 1969 to 1991 are available from Curtin University's FTP archive.

These statistics have biblical status among university librarians and have been modified over the years in response to changing circumstances and imperatives. There are, however, some curious gaps. For example, there is no report of institutional finances, thus preventing calculation of a library's budget as a percentage of university funds. CAUL is currently re-examining the types of data being collected.

There has been a number of writings on performance measurement in the Australian professional literature. Exon and Ecclestone (1988) reviewed the statistical sources then available to Australian librarians, and it is possible that the Australian Council of Libraries and Information Services (ACLIS) may update this. A national "think tank" on library statistics was held in 1990 revealing measurement gaps (Exon & Smith, 1990). McIntyre (1984) had developed some performance measures for public libraries, while Henty (personal communication, 1989) wrote an excellent review article on performance indicators for CAUL; a version of this paper was later published (Henty, 1989). Maguire and Willard (personal communication, n.d.) wrote an incisive critique of the theory underlying the development of performance measures for libraries, notably relating the work of Orr (1973) and Buckland (1988). Several authors had addressed the issue from various viewpoints (e.g., Broadbent & Lofgren, 1991; McIntyre, 1984; Ralli, 1987; Sheppard, 1990). There has
even been a manual of performance measurement for Western Austra-
lian Public Libraries produced (but not published).

Beyond writing, there have been various training events. CAUL
(which meets twice a year) ran a seminar of Total Quality Management in
association with the Australian Information Management Association
(AIMA) before its October 1994 meeting in Sydney (Selected papers,
1995). The papers reveal a range of approaches to quality management
practice.

Within the Australian library profession, there are two principal
sources of training in quality management methods. The ALIA runs
courses organized on national and state levels (reflecting the structure of
ALIA). Meanwhile, AIMA, originally a clone of the Association of Re-
search Libraries' Office of Management Services, has recently offered to
run courses. While there is a range of offerings of short courses from the
tertiary sectors, a number of other organizations provide training in quality
management. In particular, the Australian Quality Council (AQC) not
only provides one course as well as a hierarchy of certificated courses, it
also runs a national quality award scheme. Standards Australia runs
courses relating to the ISO 9000 series as well as certification in quality
auditing. All of these courses are open to librarians.

Meanwhile, CAUL has funded a project to select and develop perfor-
mance indicators for Australian university libraries. It is perhaps an in-
dication of the fragmentation of the library profession that none of the
"standard" sets produced in other countries were considered suitable for
Australian conditions. For example, performance indicators discussed
by Van House and Weil (1990), Kantor (1984), or Keys (1990) were not
regarded as applicable, and it is not evident that the work done by
SCONUL (and previously by COPOL) is considered suitable either, al-
though both sets of work are well known within Australian university li-
brary circles.

The CAUL performance indicators project is interesting in that its
first stage consisted of a questionnaire survey asking university librarians
to select their preferred performance indicators from a list culled from
the literature and to specify others which they would like to see. From
these results, a set of three was then identified, and separate consultants
were employed to develop them. These have now reported, and the three
performance indicators are: (1) library/client congruence (or satisfac-
tion), (2) document delivery quality, and (3) availability. The reports are
available at cost from CAVAL.

Within this context, the authors wished to discover more about the
training, experiences, and perceptions of the CEOs of Australian univer-
sities’ quality management. It was decided to focus on their quality audit
process insofar as it affected the libraries and to collect the information
by means of a questionnaire.
CAUL Survey

This section will describe the survey, conducted by the authors, of all Australian university librarians of publicly funded universities. The survey sought information about the university librarian’s role in the quality audit process, their personal training background in quality methodologies, quality initiatives in their libraries, the structures used to manage the quality process, the quality training background of their staff, their access to the quality funds used to reward universities by the quality audit process, and their attitudes toward both the process and quality in general.

The questionnaire was sent to the librarians of thirty-six public universities (the three private universities were not visited by DEET and therefore were not included in this survey). Of the thirty-six questionnaires dispatched, thirty were returned; however, the University of Western Sydney returned three questionnaires (two of which they had photocopied) because they have a multicampus university. If these additional photocopied questionnaires are included, then thirty-eight survey questionnaires were issued and thirty returned. Accordingly, the response rate was 78.9 percent. Most of the questionnaires were returned anonymously, and the information provided has been treated in confidence—any information which identified universities or libraries was deleted when comments from the questionnaires were transcribed.

Analysis of the Survey Results

The objective of the survey was to discover how deeply embedded libraries were in the university’s quality initiatives, which was another way of asking what importance was placed upon libraries by their parent universities in regard to quality processes. The argument for this approach follows.

One of the principal accountabilities for Australian universities is their contribution to the achievement of society’s goals. The educational processes, managed by universities in support of these goals, are heavily dependent upon information, and thus libraries become key critical success factors in the achievement of universities’ strategic goals. While research has not yet established a direct causal link between use of libraries and achievement of academic excellence, nor even between the quality of universities and the achievement of a nation’s socioeconomic goals, nevertheless, the belief in such a construct clearly drives much of the quality work in university and library management and seemed a reasonable starting point for this study.

The indicators of this potential causal relationship were defined for this project as:

- autonomy and interdependence;
- personal appearance before the panel;
- quality methodologies used within university libraries;
allocation of quality funds;
- relationship between library and university quality unit;
- levels of training in quality management among university librarians; and
- general comments by university librarians on the quality audit.

**Autonomy and Interdependence**

The authors wished to discover to what extent (given the growing awareness of the critical importance of the library in the achievement of university goals) the library had independence in formulating its own section of the quality portfolio and its influence on other sections.

All the university librarians surveyed had been involved in writing or drafting the library's section in their university's quality portfolio in either 1993 or 1994. Of the seven university librarians who were not involved in 1993, all became involved in drafting the 1994 reports, and one of the university librarians who drafted the report in 1993 went on to write the report autonomously in 1994. There was, therefore, considerable independence exercised by university librarians in the preparation of the library section of the portfolio.

Only nine of the university librarians were involved in writing the sections on other units in the portfolio. Of this number, five were involved in writing other sections for both years and four were involved only in 1994. At least two university librarians reported having significant input in drafting the university's technology plan. There is evidence that university librarians also participated in the drafting of other sections of the portfolios. One plausible explanation is that their universities directed each unit to draft its own section of the report and then circulated the draft sections for comment before the final editing of the report.

The responses were anonymous, but it is possible that the librarians' influence was exerted because of the convergence of library and computing facilities in some universities, or possibly that some university librarians have achieved positions of special influence. However, the majority of university librarians did not report exerting influence over other sections of the document. It is unclear whether this reflects an unwillingness on the part of university librarians to get involved outside the library, or a reluctance on the part of the university to recognize the general managerial expertise of the university librarian. Whatever the cause, it is clear that, in the first two quality audit rounds, university librarians were consulted principally about the library and exercised very little influence upon the reports of other critical information resources on campus.
TABLE 1. SUMMARY OF QUESTION 3 RESPONSES

<table>
<thead>
<tr>
<th>Year</th>
<th>Specifically designated officer</th>
<th>University nominee</th>
<th>Both designated officer and university nominee</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>1994</td>
<td>14</td>
<td>8</td>
<td>3</td>
<td>25</td>
</tr>
</tbody>
</table>

PERSONAL APPEARANCE BEFORE THE PANEL

Another indicator of the university's perception of the importance of the library is a personal appearance by the university librarian before the Quality Audit Panel during its visit. The audit panels were given the freedom to decide whom they wished to see on the day of the audit. They asked for information from generic officials, named individuals, and representatives of groups while allowing universities some latitude in their nomination of individuals.

Of the thirty respondents, twenty university librarians appeared before the Quality Audit Panel in 1993, and in 1994 this number rose to twenty-five. However, the number of university librarians who appeared in either 1993 or 1994 was twenty-eight (93.33 percent). The number of university librarians who appeared and their status are described in Table 1.

It seems from these results that, while some university librarians were inexplicably not invited to the audit and while a similar number chose not to respond to this question, approximately half of the university librarians appeared before the panel. Of these, about half were invited by the panel by virtue of their office while the other half were nominated by their university.

It is tempting to read into this finding the levels of awareness within the panel community and the universities' perceptions of the importance of libraries. However, the responses were anonymous, and it is more likely that their appearances reflected the panel's priorities within different university contexts.

As the quality audit process unfolded and universities realized that sharing experiences did not put them necessarily at a competitive disadvantage, it became clear that this was an experiential learning process for the participants. The authors wanted to explore this somewhat and asked about the amount of preparation given. Twenty-five university librarians reported attending preparations ranging from "mock audits" (which one described as a "panel of interrogators") to briefing sessions or meetings which discussed probable questions and lines of inquiry, some of which proposed "points to make if given the opportunity."

QUALITY METHODOLOGIES USED WITHIN UNIVERSITY LIBRARIES

A possible assumption underlying the whole audit exercise may have been that universities lacked adequate quality assurance policies. How-
ever, the abiding interest of libraries in evaluation and user studies, the investment by CAUL in performance indicators, and the increasing number of university librarians with higher degrees and qualifications in management, suggested that this might not be true for libraries. Of the thirty respondents, eighteen reported having quality assurance programs operational in their libraries before the quality audit. Figure 1 shows the methodologies employed, which were primarily eclectic.

Most respondents reported that either they or their deputy or senior management group had personal responsibility for these processes. The purpose of the survey was not to evaluate the effectiveness of the processes, but the seniority of the leadership suggests that the fundamental rules of quality management had been implemented. Twenty-five respondents indicated that they had used quality initiatives independently of the quality audit, some as early as 1986.

allocation of quality funds

The distribution of supplemental quality funds was intended to reward those universities exhibiting satisfactory quality assurance processes. However, since all universities received some money, the reward factor may be taken with a grain of salt. In attempting to discover if the university administrations took the same attitude, university librarians were asked about the portion of the funds which they received.

While twenty-three (76.67 percent) of the thirty respondents reported receiving funds, the seven who reported receiving none were a sufficiently large proportion of Australian universities to raise questions concerning the status of the library on some campuses. The present authors are not in a position to know which librarians did not receive quality funds. It is
possible that these campuses may have already funded their libraries generously. However, since the money was intended to improve quality assurance processes, it would have seemed reasonable to provide some impetus for their libraries to develop, or further develop, such processes.

The manner of disbursement was entirely at the discretion of the universities, and this naturally reflected their power structures and managerial styles. Curtin, for example, a highly devolved university but with a visible central power structure, divided the money into three categories:

1. Piloting Quality initiatives (up to $10,000 each)
2. Strengthening Quality processes
3. Infrastructure for Quality monitoring systems

Respondents were offered this information and asked to describe their own university’s mechanism for allocating the funds. As was mentioned earlier, twenty-three respondents indicated that they had received some of this money. A large number of the respondents simply indicated that the departments had to apply for the funds or that the funds were distributed by the vice-chancellor, and no indication was provided regarding the categories under which the distribution was made. However, twelve indicated categories which corresponded reasonably closely to one of the Curtin categories. In addition, four respondents suggested a “teaching and learning” category, four indicated a “research” category, two used a “community service” category, and one had a “student initiatives” category. Of these, seven indicated that they received the funds automatically, and fifteen indicated that they had to apply for the funds.

The government’s intention was to strengthen the quality assurance processes of the universities, and it would have been reasonable to expect that the money (at least in the case of the libraries) would have been spent on these processes rather than on inputs such as infrastructure. However, the bulk of the money appears to have been used to support the libraries’ information technology programs by various purchases.

While it is not the purpose of this article to criticize the priorities of Australian university librarians, it has to be said that this expenditure is more likely to reflect their difficulty in getting adequate funding for the enablers of one dimension of the quality of their services in a period of rapid and profound technological development rather than a wholehearted investment in quality per se.

The accountability measures for the expenditure of this money appear to have been bureaucratically extensive if rudimentary in quality terms. By this is meant that the majority of respondents had to express their claim in terms of required performance levels and improvements in quality, but the expenditure of the money was accounted for more in terms of reports of expenditure than of commitments to the continuous improvements which such funds might have generated.
RELATIONSHIP BETWEEN LIBRARY AND UNIVERSITY QUALITY UNIT

Anecdotal evidence suggests that the quality audit did take Australian universities by surprise even though they were, in most cases, quick to respond. The authors wished to discover if the university had a central quality unit and what sort of relationship existed with their library. The assumption here was that, if such a unit existed, the library might well be in advance of the university in quality management practices. Of the thirty respondents, nineteen (63.33 percent) reported that their university had set up a central quality office, and only one of these did not liaise regularly with it.

LEVELS OF TRAINING IN QUALITY MANAGEMENT AMONG UNIVERSITY LIBRARIANS

The ability of the university library staff to respond to the challenge of measuring library quality depended, in large part, on their previous education and training. Seventeen respondents (56.67 percent) reported that they and/or their staff had engaged in special training in order to deal with the quality audit.

Such training is available from a number of sources in Australia as described earlier. Figures 2 and 3 show the distribution of participants across these providers. What is of great local importance here is the prominent role played by the ALIA (the professional accrediting body for librarians) and the AIMA. Noticeably, university librarians principally used AIMA while their staff used a mixture of both.

There was remarkably little participation in courses by the specialized and larger quality vendors, Australian Quality Council, Standards Australia, and the Mount Eliza Australian Management College, and remarkably little use of the Australian Institute of Management. This doubtless reflects, in part, the response by ALIA and AIMA in providing appropriate courses and, in part, perhaps a desire to attend programs designed specifically for librarians.

Preparedness at a more fundamental level appeared to be less prevalent. Very few respondents reported that they and/or their staff gained degrees or other qualifications which had assisted them in dealing with the quality audit. Three university librarians indicated that they held relevant qualifications (MBA or equivalent). Five reported that their staff held similar qualifications.

GENERAL COMMENTS BY UNIVERSITY LIBRARIANS ON THE QUALITY AUDIT

The audit was not popular on any level, but respondents were cautious in their criticisms. Although some found value in the exercises in that they "contributed to awareness for improvement in quality processes," the following statement summarizes the general feeling:
It seems a very superficial process....A problem widely remarked about...is the way all institutions are assessed equally, regardless of their size and complexity. All are restricted to [a] 20 pp submission, all are visited for one day, etc. That might be fine for a small homogeneous institution but is quite inadequate for a large complex one. The larger and more complex the place, the more superficially its features are covered within these inflexible constraints.

INFERENCES

The Problems in Evaluation of University Libraries

The difficulties inherent in the evaluation of university libraries are well known. In Australia, the work of Buckland (notably Buckland, 1992) found wide acceptance within the university library community. As mentioned earlier, there appears to have been little application of the performance indicators' work done in other countries. The outcome of the CAUL effort is awaited with great interest. Although it will yield only three indicators, these will be a useful starting point along what is a notoriously difficult path. The nearest approach to a consistent national performance measurement system remains the AARL data. However, these are simply input/output measures and, although various basic indicators are published in AARL, libraries are left to their own ingenuity in manipulating these data.

It should be pointed out that academic libraries are in the same position in this regard as other sectors of the Australian library industry. Exon
and Ecclestone (1988) reviewed the nature and availability of statistical sources for all types of Australian libraries, while a national Think Tank on Library Statistics (Exon & Smith, 1991) noted the lack of data and the absence of plans or resources for filling the gap. Academic libraries are, in fact, better off than most other sectors, although, as has been said, the data are basic and often deficient.

The Relationship between the Effort Involved and the Potential Rewards

Universities (and their libraries) attempted, with varying levels of success, to understand and apply quality management concepts. The essence of the quality audit was to assess the effectiveness of the universities' quality assurance processes. The outcome affected funding and resulted in a public ranking. There are no hard data about the amount of collective effort that was required for DEET and the universities to engage in this process, although it is reasonable to suggest that it was significantly large. The reward was a very small percentage of the universities' recurrent budget, the percentage varying among the six bands. The allocation formula had unexpected results. A very large university which was ranked low might well receive, in cash terms, much more money than a smaller university ranked higher. It is hard to see how this can act as an incentive to improve performance. Furthermore, it quickly became obvious to several universities that the effort was out of step with the reward, and protests were made by vice chancellors of the so-called ivy league who indicated that they might withdraw as a group. Certainly the scale of
the rewards is markedly insignificant when compared with the scale of rewards in the British system.

The moral reward (or punishment) was the publication of the quality score. This was expressed clearly as an evaluation of the effectiveness of the university’s quality assurance processes but was immediately taken by the media (and the guides to universities) as a rating of the quality of the universities. This became a matter of considerable dispute with DEET, a dispute which was inflamed by the publication of a range of performance indicators for universities—a long brightly colored fold-out document which became known colloquially as the “Dulux sheet” (because of its similarity to the color swatches put out by a well-known manufacturer of house paints).

The ranks in the second round were changed from six to three, which brought the rankings close to most universities’ comfort zones. However, there was still discomfort with the overall process, and it is likely that the 1995 round will be the last.

The Needs for Education and Training

Libraries were not given a great deal of prominence in the audit reports. This may reflect a general ignorance of the importance of libraries or an astuteness on the part of university librarians who know when to be reticent. They were certainly keenly sensitive to the usefulness of the supplemental quality funds and were successful in gaining access to them. It is not clear that these funds were allocated to quality assurance processes as such but were certainly allocated for enhancements of the conventional needs of academic libraries for acquisitions and for information technology funds, both of which are likely to enhance the quality of their services.

The university librarians, as a group, were well prepared academically for the quality assurance process. Several had qualifications in the subject and had staff with similar qualifications. There was considerable participation in training programs, and the university librarians themselves were involved. Many libraries had quality management processes in place, and it was heartening to see that no single library had an ideological monopoly in this. It was not possible to determine to what extent the libraries were ahead of or behind their universities in quality management. But the commitment to quality management within this sector is most heartening.

The Difficulties in Benchmarking

Benchmarking is described in the technical sense as “the search for industry best practices that lead to superior performance” (Camp, 1989, p. 12), although it is frequently used in the much looser sense of interinstitutional comparisons. The latter use is readily supported by the AARL
statistics, by the various input/output measures, and by the quantitative performance indicators which can be derived from them. There are, however, several barriers to these kinds of comparison.

The amalgamation of institutions of higher education advocated by John Dawkins has not smoothed the differences in size among universities. The range of differences in university libraries is also great. Having set out to reform the system, DEET has committed itself to the principle of diversity. This recognizes the substantial qualitative and culturally perceived differences which form the basis for the invisible (but powerful) ranking of Australian universities. Commonality of interest, whether it be the age and size of a collection (the "ivy league"), geographical proximity (the Unison cooperative in New South Wales), or similar foundation history (the Australian Technology Network), forms the basis for the many groupings of university libraries. For example, the Universities of Western Australia and Adelaide (some 2,500 kilometers apart) have negotiated a coordinated serials collections policy based on the use of telefacsimile technology.

But it is not obvious that university libraries are seriously benchmarking in either the colloquial or technical senses. In regard to the latter, it would be interesting to see a university library benchmark its reference desk against a high throughput bank or its circulation system against MacDonald's. Whether such conceptual leaps will be made, under the interaction between the university librarians' enhanced qualifications and the pressures to adopt continuous improvement managerial practices, remains to be seen. In the meantime, it seems likely that most university libraries are struggling with the turbulent and chaotic industrial and information technology environments.

Needs for Further Research

It must be a sine qua non that more information is needed about "library economy" to support effective library management. The CAUL PI Project is welcomed, but clearly more work is needed to develop additional performance indicators for the community.

The focus of all quality management is the client, but after many decades of research about the user, we are still no nearer to providing library managers with predictable models for satisfying user needs for information. We are left with the uneasy feeling that libraries are a source of last resort and that they now serve small proportions of our potential client market. Until we have fully grasped information technology opportunities, we will be left with either marketing our existing old-fashioned products or developing interventionist value-added human-delivered services. These latter services are inevitably experimental without the research results to support their design. Further research is needed into the process of the transformation of information. We also need more
information about possible differences among the respective attitudes of librarians and their potential clients toward information accuracy, completeness, and timeliness of delivery.

Meanwhile, the huge capital investment in the information technology infrastructure and the ongoing costs of purchasing/licensing information access tools remain largely speculative ventures undertaken in response to a clear demand but with no knowledge of end-users’ behavior beyond that permitted by the functionality of the system. Netscape, a World Wide Web reader, has seeped into the library system like an epidemic but still supports no indexing system that librarians would consider being even minimally acceptable. The task of imposing a standard of indexing is obviously too large. But clients can still be seen busily surfing away, clicking on their computers with obvious enthusiasm in almost every Australian university library.

Envoi

This article has sought to report the recent DEET quality audit of university libraries as an example of the role quality management processes play in Australian university libraries. This had to be done of necessity within the context of the reorganization of higher education. Since information about university library management practices is hard to come by in the public domain, a survey was conducted about university librarians’ perceptions of, and participation in, the quality audit process and of their responses to it.

It is clear from this that the traditional service orientation of librarianship had enabled university librarians to adapt residually to the client-centered thinking of the quality movement. The survey shows a growing tendency for university librarians to have had training and education in quality management, and in many cases to be overtly or otherwise implementing such practices within their own libraries.

Although they are beset by a difficult and absorbingly turbulent external environment, they are responding to this environment in innovative and positive ways. There are many gaps and problems acting as barriers to a wholesale and comprehensive adoption of quality management processes; the outlook for Australian university libraries in this regard is optimistic.
Glossary

AARL  Australian Academic and Research Libraries. Canberra (ACT), Australian Library and Information Association, University College and Research Libraries Section, VI, no. 1-, 1970-.

ACLIS  Australian Council of Libraries and Information Services PO Box E202, Queen Victoria Terrace, Parkes, ACT 2600, Australia
Phone: +616 262 1244
Fax: +616 273 4493

AIM  Australian Institute of Management

AIMA  Australian Information Management Association
 call National Library of Australia
Canberra, ACT 2600, Australia
Phone: +616 262 1111
Fax: +616 257 1703
Telex: 62100
Telegram: NATLIBAUST Canberra

ALIA  Australian Library and Information Association
PO Box E441, Queen Victoria Terrace, ACT 2600, Australia
Internet: alia@slim.slnsw.gov.au

AQC  Australian Quality Council
Private Bag 523, St Leonards, NSW 2065, Australia
Phone: +612 901 9999
Fax: +612 906 3847

AVCC  Australian Vice-Chancellors' Committee
GPO Box 1142, Canberra, ACT 2601, Australia
Phone: (06) 285 8200
Fax: (06) 285 8213 (Direct to Secretary: Miriam Angus)
Internet: general.AVCC@AVCC.edu.au

CAUL  Council of Australian University Librarians
CAUL's new Executive Officer is Ms. Diane Costello, and its temporary contact information is:
Chifley Library, LPO Box 169, Australian National University, Canberra, ACT 2601.
Phone: +6249 2990
Fax: +6249 4382
Internet: diane.costello@anu.edu.au

CAVAL  Co-operative Action by Victorian Academic Libraries (Australia)
23 Dover St, Richmond, VIC 3121, Australia
Phone: +613 427 1288
Fax: +613 428 5429
To obtain backsets of the AARL data, 1992-1993 is available on application to CAVAL (qv), while 1989-1991 is available using ftp:
URL ftp://cc.curtin.edu.au/aarl/
REFERENCES


On Becoming Essential: An Agenda for Quality in Twenty-First Century Public Libraries

GLEN E. HOLT

ABSTRACT
Changes in the social and economic fabric of American life have prompted public libraries to develop services and programs that are more in tune with the needs of individuals and communities. These efforts have uniformly focused on improving quality, although quality is of necessity a moving target. Among the strategies that public libraries have employed to improve their quality and both meet and anticipate new markets are defining the organization's core values and mission, capitalizing on new user-friendly information technologies, defining the library as a visitor destination, and bringing a customer locus to staff training and development. The importance of partnerships with a wide variety of entities is discussed along with the need to ensure the security of library users as well as their right to privacy. The author also emphasizes the need for more effective public relations and marketing strategies and the importance of listening to the customer as keys to building an organization characterized by exemplary quality.

TAKING AIM ON QUALITY

Quality and Change

In public libraries, "quality" means little unless defined within the context of change. The chorus of an old song begins, "Love and marriage, love and marriage. They go together like a horse and carriage." The lyric represents the tightly-linked character of change and quality.
American public libraries are awash in change. The tide includes the globalization of information; a rapid succession of innovations in computing and networking; heightened competition for public funding; population changes, including aging of the citizenry, variations in family composition, and shifts in ethnic and racial composition; and increasing alternatives to public library services, including new methods of electronic retailing (Holt, 1992, pp. 10-12).

As the waves of change ebb and flow, quality is redefined again and again—by constituents, as they shift their demands for services and materials; by staff, through their willingness to lead and follow within an always-changing organization; and by boards and administrators, who must obtain the necessary funds and set policies to maintain optimum institutional health. Within this context, public library quality is a moving target.

Quality and Completeness

American quality movements tend to be faddish. They fade in and out of style almost as fast as the best-selling business-book authors who espouse them (Byrne, 1995). TQM (Total Quality Management) is one example. 1994 brought publication of the library field's first TQM book; it also was the year in which a team of management experts published Why TQM Fails and What to Do About It (Brown et al., 1994). And, even as former Special Library Association president Guy St. Clair (in press) published a volume advocating TQM in libraries, Ronen and Pass (1994) revealed that TQM has failed half the time in the industrial workplace for which it was invented, and Sherer (1994) wrote that most of the 4,500 hospitals which had invested heavily in TQM had seen no financial benefits from it. *Business Week*, meanwhile, reported that "spirituality" was the hot new workplace quality tool replacing TQM and other older management methodologies (Galen & West, 1995, pp. 82, 84-85).

Neither TQM nor any other quality methodology offers a quick fix for public library dysfunctions. Making an organization work better involves rebuilding its culture—and that requires a comprehensive effort.

Most quality movements fail, writes Crosby (1992), because they are narrow in their focus. Completeness of effort throughout the entire organization is the best strategy to achieve quality:

Completeness . . . is not something that pours itself on command—it has to be dragged out of the bottle. Once it is . . . available, it adds flavor and consistency to everything it touches, and its container is never empty. The purpose of Completeness is to avoid problems and guarantee success. There are three principles of completeness:

1. Cause employees to be successful.
2. Cause suppliers to be successful.
3. Cause customers to be successful. (Crosby, 1992, p. 19)

Crosby then defines success:
Let us consider what success means in an organization, whether it be profit or nonprofit oriented. We must think of this success in terms of achieving agreed upon objectives, all of which are measurable. Objectives such as steady growth, . . . low employment turnover, a high level of employee voluntary participation, education programs that fit everyone's needs, a management succession plan that works, continuous new product and service development, active support from suppliers, community admiration, and happy and prosperous shareholders [for libraries, community constituents and other stakeholders]. (pp. 17-18)

To follow Crosby's admonition, public libraries will need to make a complete quality effort. To paraphrase Battle and Nayak (1994), all government agencies, including public libraries, should become exemplary rather than ordinary in every possible way.

The enduring public library quality strategy involves the hard work of effective managers who seek, on a continuous basis, to raise every aspect of operations to an exemplary level. The public library quality effort will never be finished.

**BECOMING ESSENTIAL: CHANGING TO MEET AND ANTICIPATE MARKETS**

*The Customer Service Revolution*

A customer service revolution has swept across America. Albrecht (1988), Davidow and Uttal (1989), and Peppers and Rogers (1994) are typical chroniclers of the revolution. Individuals of all ages and from all walks of life expect to receive first-class customized service whether buying things or services. When those expectations are not met, customers do not return.

Public libraries are one of the government agencies feeling the pressure for customized service. The introduction of TQM and other quality improvement methodologies is almost always centered on improving service to library customers (Hensler, 1994). The public libraries of Baltimore County, Denver, and Queens all have won widespread professional praise for their customer-is-boss service philosophies.

*Becoming Essential*

Like so much else in public libraries, however, customer service needs to be handled within the context of revolutionary times. The information age is reshaping work and family life. Like the mercantile and industrial revolutions before it, the information revolution does not lift all boats equally. For many families, the information age has become the age of uncertainty.

This uncertainty is characterized by middle-class layoffs that reduce some families from apparent security to poverty. Such families increasingly build their financial futures on the paychecks of two partners. That
translates into more women working, including 60 percent of all mothers with children under six working outside the home.

These job and sex-role changes force public libraries to rethink collections and services. St. Louis Public Library (SLPL), for example, has seen adult fiction circulation drop from over 66 percent of all adult book circulation in 1988 to about 55 percent in 1994. According to one St. Louis librarian, St. Louisans increasingly read for survival, not for fun.

This trend, to use the public library for survival, is reflected in national survey data. D'Elia and Rodger (1994, pp. 23-28) report that, among a thousand persons surveyed, the traditional function of "popular materials library" has slipped to the bottom of a list of ten public library roles from which participants selected.

The roles that citizens most want the public library to play are those of formal education support center, independent learning center, preschoolers' door to learning, community information center, business and personal reference library, and public workplace. All these roles were selected ahead of the role of popular materials library, some by huge margins. In St. Louis and throughout the nation, a voting and survey-taking citizenry pushes public libraries to play essential roles in their lives. And, if the library will play essential roles, the public will ante up.

When St. Louis Public Library promised to expand essential materials collections, increase essential services to adults and children, and make library services more convenient to use, voters in two different elections within six years increased the library's annual operating income by a total of 162 percent.

The willingness to pay libraries to do essential work is not merely a St. Louis phenomenon. D'Elia and Rodger (1994) report that, if public libraries performed essential roles desired by the public, survey respondents thought that public libraries ought to be receiving $34 per capita. That is twice the current national average of per capita support. A quality effort in library customer services needs to ensure that the services are wanted and needed. Even the best customer services are hollow if they do not meet essential community needs.

Anticipating New Markets

A more difficult task than meeting the essential needs of current constituents is anticipating demand for new services. Futurist literature and market forecasts often provide data which can help public libraries predict such changes. One example comes from Link Resources, a New York City market-research firm. The company forecasts "that nearly 60 million Americans will be working at home by 1998, up from 37 million in 1994." And growing home-business numbers highlight an even larger growth in small businesses. Link Resources says that businesses with ten or fewer employees will grow 10 percent between 1992 and the end of 1995, to reach 7 million firms in the latter year (Seymour, 1995, p. 102).
Expanding numbers of home offices and increased numbers of small businesses offer growth markets for the information services of a quality-oriented activist public library. Market data on home computers and software ownership suggest another growing market for public libraries. In 1994, 7 million personal computers were sold for home use, 60 percent to homes with children. Perhaps as many as 42 percent of households with children own computers. The current estimate is that 15 million homes have both computers and children, a number expected to escalate to 23 million by 1996.

Many home computers are purchased with CD-ROM drives. The CD-ROM computer home buyer is typically a double-income family with children. That product is used 40 percent of the time to play adult or child CD-ROM products. Households with children under seventeen spent about $1.8 billion in software in 1994 (Hochman, 1994, pC6 (D), pD6 (L); Triplett, 1994, pp. 1, 7; Flynn, 1994, p. C1). In comparison with the latter figure, the total 1992 operating budget for all public libraries amounted to just under $5 billion.

Online and printed materials on computers; computing and software; classes for parents so they can keep up with children's computing; providing reviews of popular children's software—these and dozens of other computer-related services can be developed as significant venues for public libraries.

Along with adjusting to shifts in current markets, Bower and Christenson (1995) suggest that innovative organizations need to help invent new markets. In an electronic age, that means working with still unproven "disruptive technologies." For public libraries, this idea translates into research and development projects using information technology not currently in the mainstream. One example of such projects involves experiments with optical and digital scanning to develop local information products. Another is working with geographical information systems.

In the latter category, SLPL has mounted 1990 census-tract data in a computerized geographic information system. This product found a ready constituency of social service organizations and business developers. "Disruptive technology" products can create the basis for essential relationships with new constituents.

Growing services which constituencies want—and anticipating new customer needs—are important determinants of essentiality for twenty-first century public libraries.

WHERE TO BEGIN

In starting a comprehensive quality effort in a mid-1990s public library, some operational areas seem especially important. These are: (1) defining core values and an essential mission; (2) understanding and balancing information technology; (3) applying technology to improve library work; (4) the design of new user-friendly electronic environments;
(5) the design of library visitor destinations; (6) training staff for shifting work roles; (7) greater attention to funding; (8) participation in partnerships; (9) new sophistication in the protection of library-service users; and (10) a new professionalism in communicating with users and nonusers alike. If a public library can achieve an exemplary level of performance in these critical areas, it will be well on its way to achieving a comprehensive approach to quality as that term is defined by those on whom the organization counts for support.

Most of the remainder of this article is a discussion of the ten quality-centered tasks which currently seem most critical to the success of every American public library.

DEFINING CORE VALUES AND AN ESSENTIAL MISSION

Planning and role-setting processes are well-defined processes for American public libraries. In attempting to make public libraries essential, however, two tools for articulating institutional direction—statements of core values and institutional mission statements—deserve more attention than they have received.

Guiding Tenets

Core values are the essential beliefs around which organizations develop their operations. "Core values don't change," one former CEO notes, although practices do (Collins & Porras, 1994, p. 48). According to Collins and Porras, long-term business success always starts with core values which are held and practiced almost religiously by employees throughout an organization. Here are the core ideologies from three long-lasting, highly successful United States corporations (pp. 69-70), which, like public libraries, are focused on serving people:

Marriott

Friendly service and excellent value (customers are guests); "make people away from home feel that they're among friends and really wanted." People are number 1—treat them well, expect a lot, and the rest will follow.

- Hard work, yet keep it fun.
- Continual self-improvement.
- Overcoming adversity to build character.

Nordstrom

- Service to the customer above all else.
- Hard work and productivity.
- Continuous improvement, never being satisfied.
- Excellence in reputation, being part of something special.
Wal-Mart

"We exist to provide value to our customers"—to make their lives better via lower prices and greater selection; all else is secondary.

- Swim upstream, buck conventional wisdom.
- Be in partnership with employees.
- Work with passion, commitment, and enthusiasm.
- Run lean.
- Pursue ever-higher goals.

Public libraries wanting external models for the development of an institutional culture of quality should look to private-sector companies, which, like their own organizations, have been "built to last." Like these companies, public libraries would do well to begin their push for quality by defining their core values.

The following is a core values statement for Des Moines Public Library (Des Moines Public Library, 1994):

- We are a community resource center and our information is essential to the progress, happiness, and full potential of all people.
- We believe our services should be available free and free of charge to all citizens.
- Libraries are an essential public service and it is the responsibility of government to adequately fund them.
- We are committed to nurturing children to become lifelong learners.
- We exist for our customers.
- We will be proactive in connecting our customers with universal information.
- We will provide and preserve diverse information in a variety of formats.
- Professional librarians are essential for quality library service.
- Our staff should be trained, motivated, well compensated, and open to change.

Obviously, other persons would articulate different core-value lists for their public libraries. No matter. The point is that statements of core values have an important place in the life of public libraries which seek to be and/or to remain quality centered institutions for centuries to come.

Activist Mission Statements

Private-sector businesses and public-service institutions endure because they know their core values and pursue them relentlessly. They succeed as well because they articulate and carry through on missions appropriate to the environmental realities in which they operate.

Nolan (1989, p. 32) provides criteria for library mission statements. St. Louis Public Library’s mission statement meets Nolan’s criteria (St.
Louis Public Library, 1994): "The St Louis Public Library will provide learning resources and information services that support and improve individual, family and community life." The tone is activist; the job role is clear: Not only support but responsibility for individual and community improvement is the accepted mission. The activist character of this second mission statement is explicated in nine accompanying goals, all of which lend themselves to definable objectives and quantitative assessment.

To support this mission, the library will organize and prudently manage its resources to:

1. Ensure the library's resources are available to all.
2. Promote use of the library.
4. Promote literacy for all ages.
5. Assist individuals in finding jobs and educational opportunities.
6. Assist business with their development and growth.
7. Provide current information.
8. Provide recreational reading resources, media materials, and programs.
9. Promote public use of modern information technology. (St. Louis Public Library, 1994)

A more visionary mission statement comes from Des Moines: "To enrich the lives of people by providing the information and resources for learning and pleasure, and to empower our citizens with knowledge, thereby strengthening the foundation of democracy" (Des Moines Public Library, 1994).

Public libraries historically have proclaimed themselves as support institutions that provide materials to individuals for their recreational, family, and job needs. An institution can support, however, without much community involvement.

All public libraries need to ask whether their missions meet community needs and constituency expectation. More public libraries need to articulate activist missions to tell their constituents that they are essential, not peripheral, community institutions.

The first quality building task for public libraries is to state the core values that energize the institution and form the basis of the institution's existence. The second task is for the public library to articulate an activist community mission. The third task, of course, is to follow through on an activist mission. Albrecht (1995) says that an organization that is following through with a clear vision and definite mission is like "the northbound train" heading rapidly to its known destination. No matter what, such trains always reach their destinations.

Any effort to innovate a quality movement in America's public libraries requires institutions to ensure that their core values are religiously
preached and practiced by all staff and to make certain that their mis-
sions are essential—not peripheral—to their communities.

**UNDERSTANDING AND USING THE TECHNOLOGY TOOL**

*Person-to-Person Technology and New Markets*

Just as the automobile created the privatized journey-to-work for ev-
everyday commuters (Holt, 1972), person-to-person networked computing
is creating a growing privatized information-and-entertainment market.
The automobile destroyed the streetcar as an intermediary transpor-
tation vehicle. Computerized networks also threaten market intermediar-
ies—the movie theater, the video-rental store, the bookstore, the branch
bank, and even the scholarly academic journal ("Academia Goes Online,"  
1995, p. 28).

The challenge to intermediary public libraries is explicit. "Infotainment" corporations want public library users to replace walking or
driving to a nearby library branch for inexpensive at-home and in-
office access to information and entertainment (pp. 17-18). Sirbu is typi-
cal of these electronic marketers. "We want to be able to sell a page for a
dime," he noted recently, "so that it costs as little to get it off the Net as it
does to walk to the library and make a copy of a journal" (in Wildstrom, 
1995a, p. 21).

*Technological Balance*

To become, and to remain, essential to their constituents, public li-
braries need to adapt the new person-to-person information technology.
In the words of Negroponte (1995): "The information superhighway is
more than a short cut to the Library of Congress. It is creating a totally,
new global social fabric" (pp. 181-83). Public libraries need to help weave
that fabric.

At the same time, library boards and administrators need to heed
cautions from Stoll (1995), Brook and Boal (1995), and Sullivan-Trainor (1995). Technology, these writings warn, is a tool, not a
panacea for whatever ails a bloated government agency, a person’s rotten
life, or a public library’s inability to put one customer-service foot in front
of the other.

Adding computer stations to a library with a badly organized refer-
ence unit will not much improve customer service. Adding a fancy OPAC
search engine will not add much value to the customer experience if
material cataloging, abstracting, and indexing have been neglected for a
hundred years. And giving universal access to the Internet only adds to a
stack of other financial and technological problems unless bargain-hunt-
ing e-mail users are taught to understand that “free public library” ser-
vices have a price in widely shared tax payments.
For public libraries, technology is a tool, not a panacea. Investments in technology will not win and hold public library users without blending the new tools into a high-quality customer service program. In the end, a quality movement is always about balance. In no area is that more true than in public library technology investments.

**Information Technology and the Workplace**

Networked computing is transforming the public library work environment. First, to speed the process and reduce costs, public libraries are using networked computing for acquisitions management (Saunders, 1995, pp. 41-49). Most libraries soon will select, order, receive, catalog, process, obtain billing, and pay for materials with a single integrated computer network (Holt, 1994a, p. 24).

Second, networked computing enhances resource sharing. Various models exist. The Online Computer Library Center model allows easy interlibrary loans. The Virginia's Commonwealth Virtual Library stresses cooperative collection development (Hurt, 1995). And, a national bibliographic model exists in the Scottish Confederation of University and Research Libraries. Increasingly public librarians will exercise the option of owning and borrowing, of managing access and assets (Higgenbotham & Bowdoin, 1993).

Third, technology tools provide librarians with enhanced power to act as authors or compilers. Already fully developed functions in the CARL and VTLS automation systems, authoring and compilation modules are increasingly available on other systems as well. Such modules make it easy for staff to create bibliographies, finding aids, abstracts, and indexes in anticipation of constituent demands. SLPL's genealogical indexing project and its St. Louis artists index, both in askSam databases, are examples of such staff-developed electronic products.

Fourth, in addition to giving librarians additional power to anticipate customers, e-mail may help overcome the interminable meetings which seem to be an indigenous public library tradition. E-mail networks provide the opportunity to inform instantly any staff member who is in the e-mail network to leave and to receive exact messages out of real-time sequence (Negroponte, 1995, pp. 167-68). Meanwhile, commercial software vendors like IBM-Lotus, Microsoft, and Nouvel-Word Perfect have added software allowing multiple authors to work on one document even though they are located at different sites.

Fifth, computerized networks are revolutionizing reference. A knowledgeable searcher located in a small neighborhood or rural library is no longer bound by the books on the shelf. Moreover, the growing World Wide Web network of home pages translates into thousands of free sources of information both more comprehensive and more up to date than published sources. There is still much "picking through web clutter," but the richness is increasing (Wildstrom, 1995b).
A true quality movement in the public library looks everywhere for ways to make staff more effective in their work with both internal and external customers. Application of networked computing tools can bring profound quality improvements in those customer relationships.

**User-Friendly Electronic Environments**

Many public libraries are using computers, networks, and software combinations to create electronic environments which shift their positions in the region's information and entertainment markets. In establishing such environments, they build on a library tradition of end-user advocacy (Holt, 1993a, p. 45). Some examples follow.

First, many public libraries are involved in the development of civic networks or community information systems. States like Maryland, Maine, West Virginia, and Ohio have created statewide dial-in information systems (Smith, 1994, pp. 37-40), while cities as variant as Cleveland, Ohio; Springfield, Missouri; and Edinburgh, Scotland provide dial-in computerized databases and services. Some of these freenets provide free or cheap access to the Internet and the World Wide Web along with supporting area bulletin boards (Waldack, 1995).

One of the newest civic networks is in Eugene, Oregon, which features performing arts center schedules and building permit applications along with library services and access to the Internet. Those without home or office computers can use the Internet Public Access Center at the library (Eugene, OR, City of, 1995). In most public libraries that have them, dial-in services constitute the organization's fastest growing new business.

Second, to enrich these civic networks, public libraries have become information providers. The public libraries of Cleveland, San Francisco, and Pittsburgh, for example, are mounting extensive pictorial collections. St. Louis Public eventually will mount the 1990 St. Louis census in a GIS format; St. Louis genealogy and local-history indexes; and various government documents—ordinances, reports, draft laws, and application forms—as well as more specialized collections.

Most larger public libraries soon will have "home pages" on the World Wide Web. The key to necessary local support, however, will be found in how well the public agencies electronically provide the unique materials needed to carry on the essentials of family and business life. Such electronic publications not only will help lifelong learners but also area economic development as well.

Third, public library staff can save time for their constituents by organizing the mass of electronic information available on local, national, and international servers. This process can begin with libraries "evaluating sites and providing annotations for . . . users so they understand what they are choosing to view" (Hawthorne, 1995). Further, library staff can develop electronic guides to help searchers through the metadata and
megafiles with which they must deal online (Holt, 1994a, p. 25). In the process, constituents will begin to see the library as the public equivalent of a private-sector "information clearinghouse" and the librarian as a personalized "information agent" (Snider & Ziporyn, 1992, esp. Pt. III).

Fourth, networked computing provides the opportunity to provide new and traditional users with customized services. Public libraries have reams of user data, far more than most retail stores. The quality task is to find responsible means to link this information to acquisitions and collections for the benefit of users. The customizing possibilities are endless: book ordering by users that helps guide acquisitions; automatic searching for new information in electronic databases and sending it to constituents who have identified particular needs; and sending personalized e-mail messages about library programs to customers who are likely to be interested. These are examples of true customized services.

Martin (1993, pp. 42-44) suggests the myriad roles that librarians can play in creating electronic environments. These are to:

- Select and deliver information that users need at the point and moment of need.
- Create and maintain systems that provide accurate and reliable information.
- Promote the design of information systems that require little or no learning time for effective use.
- Correctly analyze users' questions and provide them with the information they need.
- Initiate contact with potential information seekers to ensure a widespread understanding of professional services available to them, including assistance for those who do not wish to use the library independently.
- Further the development of the virtual library, a concept of information housed electronically and deliverable without regard for its location or to time.

Constituents will not see public libraries as essential quality-oriented institutions unless they develop electronic environments that meet specific information needs in a timely and convenient way.

LIBRARY VISITOR DESTINATIONS

Defining Destination Experiences

Libraries can learn a lot from Mickey Mouse. In a Disney facility, the company manages every aspect of the visitor experience. Signs, routing of pathways, visual destination points, ride placement, and landscaping all push visitors in particular directions. Places where lines gather adjoin small shops and food stands. Exits from major attractions empty into activity pavilions designed to slow visitors before they move to the next major attraction (Duke University, 1995).
Shopping malls also manage visitor experiences. Whether it is the massive Mall of America in Bloomington, Minnesota, or the elegant Rodeo Drive in Beverly Hills, California, shopping center designers arrange visitor sights, sounds, and even smells to encourage longer stays, relationship shopping, and recreational use and higher spending.

Museums have learned from Disney and shopping malls. Through the years, museum researchers have built a body of studies on why visitors are motivated to visit particular destinations and how they act once they are there.

Hood describes six criteria by which individuals judge leisure activities (cited in Falk & Dierking, 1992):
1. being with people, or social interaction;
2. doing something worthwhile;
3. feeling comfortable and at ease in one’s surroundings;
4. having a challenge of new experiences;
5. having an opportunity to learn; and
6. participating actively. (pp. 16-17)

The Library as a Destination Experience

Building on theme park, shopping center, and museum-visitor literature, public libraries need to design destination experiences. That is, along with molding new information environments, public libraries need to design some library facilities as magnets that attract people for the sheer fun of being there.

Within Hood’s criteria, some public libraries already function as destination experiences, places so distinctive that they attract persons from throughout a region, a state, or nation. The research facility of the New York Public Library is a true destination experience, attracting researchers by the power of its collections. It also attracts tourists who simply want to see the 42nd Street facility as a “sight.”

Without such distinctive collections, other public libraries still have created powerful venues that attract visitors out of proportion to the actual size of the facility. The Columbus, Ohio, main library has a youth discovery room and an electronic-media marketplace of such richness that they have become regional magnets for suburbanites who make special family trips to central Columbus just to go to the library.

In Las Vegas and in metropolitan Toronto, planners have used joint tenancy—with theaters and city agencies—to create library-and-public-service magnets that attract and hold users. These joint tenancy facilities, of course, replicate a piece of library history, a time when a library might be housed in the same “city building” as the community auditorium, local government offices, and the locale’s only swimming pool. Such facilities help customers make good use of their time while promoting library use and a sense of the fit of the library into the essential life of the community.
St. Louis Public Library's attempt to develop distinctive visitor experiences is taking it in two different directions. One effort involves Central Library, which will come to feature an electronic product and computer software and database shopping place combined with a computer based family literacy center (Holt, 1994b). As this installation is being planned, a youth-focused branch designed to attract school groups, daycare centers, and families is being installed in the system's oldest Carnegie branch (McGuire, 1995). It will feature twenty computers with appropriate youth-oriented software and 50 percent of all its materials will be dedicated to serving children and young adults.

Both of these facilities will rely on shopping center and museum visitor models to help define the public library as a visitor destination for family education and recreation. Both installations will provide experiences that are substantially different from those of a science museum, an amusement park, or a video arcade. The theme of each experience will be low-pressure individual and small-group learning (Holt & Holt, 1995).

The 1995 AIA-ALA building awards demonstrate the current spirit of innovation in both renovations and new buildings (Weigand, 1995, pp. 298-306). This spirit of innovation provides a good basis from which public libraries can start creating distinctive destinations that offer family or age-group-specific experiences that attract and delight with such power that constituents come to see them as leisure time family-oriented destinations. Attracting visitors and introducing them to library services will become a major quality activity for many public libraries as they approach the twenty-first century.

**TRAINING STAFF FOR THE FUTURE**

*Self-Actualization and Quality*

In 1981, pollster Daniel Yankelovich described the "tectonic plate shifts" in American values through the previous half century (Yankelovich, 1981, pp. xi-xii). One such shift was that Americans increasingly had come to expect the opportunity to "self-actualize" on the job (pp. 53-59). That is, workers had come to expect, in addition to a paycheck, a sense of accomplishment and value from their work. Even in 1980, Yankelovich found that workers felt more accomplishment on the job when they worked in teams with clear missions, control over the work process, and a sense that management valued their effort.

Quality movements almost always have self-actualization built into them. Basic TQM ideas for libraries—"managing by fact," "eliminating rework," "respecting people and ideas," and "empowering people" (Riggs, 1994, pp. 6-7)—are basic to self-actualization on the job. An all-controlling micro-management never has worked very well in public libraries any more than it has in private business; distributive management works better (Sitkin et al., 1994).
The key to a self-actualizing work force, like the key to distributed management, is training. It will take a trained staff to help public libraries create the essential services and products which will win and hold the support of library constituents.

**Quality Goals for Staff Training**

Like definitions of quality, concerns about staff training change with the environment. Framed by the intriguing discussions in Harris and Hannah (1993), ten staff training issues seem particularly pertinent just now.

First, staff—especially professional staff—need to be trained to recognize that their employment opportunities will endure only so long as their skills are up to date. Public librarians need two sets of information skills: those for handling and managing information and those that will help their organizations create essential knowledge for their constituents (Nonaka & Hirotaka, 1995). Cataloging may give way to abstracting; reference may give way to answering e-mail queries; public service may be redefined as tiered services for different market niches. All these changes will require extensive retraining.

Second, public librarians need to be trained in the skills of organizational effectiveness, including job empowerment. That means the ability to communicate well up, down, and laterally within the organization. That means managers who know how to lead and play essential roles in work teams, those who know how to deal with change resisters, and those who can handle disciplinary actions when someone proves incapable of fitting into a teamwork setting. Self-actualizing workplaces are built on disciplined communication and outstanding team leadership. Neither comes without workforce training.

Third, training must make clear the real purpose of instituting a quality movement in a public library. Too often management quality initiatives are no more than exercises on the way to planned downsizing. Heckscher (1995) has shown how corporate downsizing has broken worker loyalties to employers. Some local government employees, including public library staff, because of periodic recisions, down-sizings, and layoffs, are experiencing the same "white-collar blues" about which Heckscher writes. If a public library is instituting training for a true quality movement, then the organization needs to train staff in exemplary performance, performance measurement, and performance evaluation.

Fourth, public library training needs to be built on correct assumptions about adult education. In adult education, it is recognized that adults more frequently "lock out" education than accept it. To get past the "lock out," staff need to see payoffs because of the training. For some, that will mean the ability to do the job better; for others, it may be increased pay; for many, it will be the hope to gain tools to shape up their colleagues—because trainees almost invariably see their workmates as the
ones who need to change (Graham, 1982, pp. 195-96). There is much that library trainers can learn from adult education professionals.

Fifth, public librarians need to be trained to work increasingly with nonlibrarians. Specialists in computing, networked communications, literacy, education, training, facilities maintenance, finance, fund raising, marketing, and public relations are among those making their way on to public library staff lists. Moreover, librarians will have to manage more paraprofessionals as library work reorganization patterns follow those already carved out in banking and health care. Just as in those professions, computer networks will remove some skill needs from particular jobs. One part of this training will be for those who manage outsourced work, which already has become significant in technical service fields. As library dependence on networked computing increases, shifting job roles and changing work will make regular retraining a survival imperative for all public librarians.

Sixth, in-house and contract training will focus on making most librarians more specialized rather than more generalized in their education. True collegiality comes from mutually respected knowledge, as the staff internet navigator helps the business reference specialist, the youth-software selection specialist assists the picture-books selection specialist, and the online indexer and abstractor for a particular subject joins the book cataloger in delineating new access points to knowledge. In other words, public libraries will have to train librarians in specializations which most graduate schools of library education are unable to provide both because of lack of subject breadth in small faculties and lack of time in master's degree certification.

Seventh, public librarians will have to train each other and the paraprofessionals who work with them. There is an insufficiency in library training by library schools, and outreach education and distance education still are primarily concerned with new certifications rather than retraining those in service. With so many educational needs and such insufficiency in supply, larger public libraries can be expected to build more extensive educational programs than they have at any time since the 1930s (Holt, 1993a).

Eighth, public libraries will have to provide advanced and ongoing training in new technology. University library training shows that even long-term older paraprofessional staff can become proficient and feel empowered with computers if given appropriate training and exercise time to learn routines (Palmini, 1994, pp. 119-27). Moreover, public library technology training will become more technology based. Already universities are using computer-based training modules on various library functions, including periodical access, resource sharing, reference, acquisition, and cataloging. Such training helps morale and keeps staff knowledgeable and informed (Bayne et al., 1994, pp. 78-81).

Ninth, increasingly public libraries will train their constituents in the use of information technology. In communities with poorer populations especially, the public library is likely to face strong community pressure
to empower residents so they can compete in the modern electronic world. The public libraries of Queens and Cleveland already have responded to this challenge. Many other public libraries will become major trainers of their citizens as well.

Tenth, as part of work empowerment, public librarians have to be trained to accept accountability. All modern quality movements involve the devolution of institutional authority to small-sized work teams (Boyett & Conn, 1991, pp. 234-65). With team empowerment comes increased accountability for all team members. Accountability training means making the library system work. Accountability tasks are as pedestrian as they are important: solid job descriptions, appropriate intervention to make the team function at a high level, formal performance appraisals, operation of a solid recognition and reward system, and knowledge of how to use disciplinary action when those in the work team do not accept the responsibilities given them.

In carrying out this and other training regimens, a good set of general guidelines was provided in 1984 by Ketchum (cited in Boyett & Conn, 1991, pp. 234-35). Workers, according to Ketchum, have the following needs:

1. To join with others in a common task;
2. To have the latitude to make decisions about how work was performed;
3. To receive recognition for his or her contributions to work performance from his or her peers, supervisors, and support personnel;
4. To learn and to continue to learn;
5. To make reasonable use of his or her intellect;
6. To receive information about how he or she is doing and what was going on in and beyond the immediate work area; and
7. To feel that his or her contribution was important and part of the logical whole. (Cited in Boyett & Conn, 1991, pp. 234-35)

If public libraries are going to thrive, if they are going to become essential quality institutions, they cannot be "psychological slums," to use Ketchum's phrase. Tabscott and Caston (1993) conclude that the technology centered organization needs team structures that reengineer work. Boyett and Conn (1991, pp. 234-327) state that the new information organization will put the employees in charge. And Weingand (1994, pp. 72-97) says that the public library will become nothing less than a classroom for those who work there. At the heart of all these workplace expectations is extensive and continuing training.

Quality and Consistency

Work reorganization, supervision, and training all need to be used together to make certain that the entire public library staff values consistency. The bane of service organizations is inconsistency, and public libraries are too often inconsistent. For every outstanding librarian there is a pointing librarian, a librarian who refuses to acknowledge a user
while doing "professional reading" and a talking-on-the-phone reference librarian. And, for every example of great library service there is a no-staff-in-the-children's-area library and a library building with filthy restrooms, dirty floors, and ragged books in the "current" section. Inconsistency is the bane of quality libraries.

Consistency is hard work. Consistency is most often found in institutions where management makes high standards a fetish; leaders specify institutional and individual performance expectations; staff receive training and retraining; supervision actually works; the reward structure (with salary as only one element) is in place; and where everyone is caught up in making the institution more essential than it was yesterday. Consistency is usually associated with a formal methodology using techniques like quality teams, benchmarking, and other in-vogue or traditional methodologies for achieving consistent performance. Consistency is the rock on which all public library futures can be built. Without consistency, the public will not come to see a library as essential. Without consistency, quality is ephemeral.

**Obtaining Funds**

Public library quality is directly related to institutional financial support, and that support is undergoing significant change. In spite of dramatic rhetoric in favor of networked connectivity and a national information-kiosk system (Newcombe, 1995a, pp. 16-17, 48), federal funding for public libraries continues to decline (FCC fails. . . , 1995, p. 5; Verity, 1995, pp. 90-91). One possibility is that federal funding will devolve into a series of competitions for small "demonstration grants." Even the most optimistic scenario does not provide sufficient federal funding to construct public library on-ramps to the information highway (Senate Version. . . , 1995, p. 1).

With already minimal federal funding in decline, the massive differences in state funding become more apparent. At the upper end of the spectrum are states like Ohio, Pennsylvania, and Illinois, which have devised funding mechanisms that recognize the significance of public libraries beyond the limits of local property tax districts. At the lower end are states like Missouri, Mississippi, and Louisiana, where state aid is so parsimonious that only a few rural libraries depend on it for any significant part of their annual operation.

In a few states without strong state aid programs for public libraries, the latter institutions have been helped financially by innovative information-technology programs originating with state government. In Maryland, Iowa, Maine, and West Virginia, to name only a few of the best-known examples, public libraries are being brought into computing networks on statewide systems organized by state universities, departments of state government, and state libraries.
Even in those few states which provide significant support for public libraries, however, many still have to rely on their own initiative to secure the funding they need to mount the vast new technology initiatives their constituents expect. In response, many libraries are developing specific strategies to carve out future sources of revenue. Adjusted for many local factors, these strategies vary greatly.

Queens Public and San Francisco Public are preparing to export public library services internationally—the former east, the latter west—across two vast oceans. Cleveland Public and Pittsburgh Public reach out with powerful regional electronic models.

Heading into tightened times, Baltimore County intends to compete as an internet vendor with the private sector, with a plan to charge multiple fees to win a significant part of future funding (Rodger, 1994). The library systems of Little Rock and St. Louis, both with the capability to appeal directly to their voter-users, campaign and win major tax increases in low-service, low-tax effort states.

Rural and small-town public libraries show the greatest funding variation. Some live hand to mouth, surviving almost entirely through the work of a few friends who raise funds or dig into their own pockets to keep their libraries open. Others, blessed with prosperous local districts and/or benefitting from relatively generous state equalization formulas, have solid budgets that support solid collections and extensive outreach (Holt, 1995d).

Many systems have resorted to traditional fund-raising models used by other cultural, educational, and philanthropic organizations for a hundred or more years. Hundreds of public libraries both big and small now have philanthropic foundations. And traditional earned income opportunities seem to be growing as well, as public libraries open library shops, restaurants, and coffee bars, and as friends groups operate successful book sales in places as different as Philadelphia, Minneapolis, and Houston (Holt & Schlafly, in press; Woodrum, 1993).

In an age in which already small federal government is shrinking and state support varies greatly, public libraries have become both more political and more entrepreneurial in their efforts to increase revenues and cultivate private sector support (Robbins & Zweizig, 1993, passim; Verity, 1995, pp. 90-91; Holt, 1993c, 1995a, 1995b).

In sum, many public libraries are building fund-raising cultures. This process involves a series of steps: conducting an institutional plan, preparing a financial needs statement, finding out the community's fund-raising style, identification and cultivation of donors, selection of campaign leadership, training of campaign spokespersons, creating a context through an institutional marketing program, and putting together a donor recognition plan. After that preparation, prospects brighten for raising funds from private sector donors (Holt & Schlafly, In press).
Finance is important in relation to quality because, in the public sector, quality costs money. Unless a library is running in a grossly inefficient way, a better-quality library service—whether more trained reference staff, a broader range of printed materials, or the latest in compact disks and videos—is going to cost more than shoddy service, old books and videos, and compact disks purchased out of the trunk of somebody's car. Adequate funding is imperative if public libraries are going to become and/or be maintained as quality institutions in the twenty-first century.

PARTNERSHIPS

Public libraries attempting to raise their quality frequently recognize that they need more resources than they can muster through one organization, and they turn increasingly to partnerships to move the institution forward. These partnerships are of four types.

First, there are partnerships for production. In these, public libraries join private-sector information vendors as electronic knowledge creators (Arnold, 1993). A soon to be published Gale quick reference volume is one such partnership. To create a trivia reference volume for public libraries, Gale and the reference departments of several public libraries are deciding the entries to be included, with each library reference staff providing quality control.

Second, there are partnerships to secure and share audiences. In today's fast-moving world, public libraries need to take audiences where they can find them. St. Louis Public has found eager audiences for library materials and programs in hundreds of daycare and senior centers, boys' and girls' clubs, and school classrooms. It is often cheaper to export materials, programs, and electronic services to these audience locations rather than to open one lightly used branch after the other.

Third, there are partnerships with service providers to organize programs. St. Louis Public currently is working with a theater production company and a health care service provider to import specialized services into branch library settings. The St. Louis system already has provider partnerships with the St. Louis College of Health Careers, Grace Hill Settlement, and the Parents as Teachers Program of the St. Louis Public Schools.

Fourth, libraries need to form partnerships with donors. Through cultivation and demonstration of success, St. Louis Public has built long-term relationships with corporations like Commerce Bank, the St. Louis Cardinals Baseball Club, and several media outlets among others. In donor partnerships, the private-sector agency receives high payback through association with the public library, which they see as a quality service provider and a high visibility, broadly based community agency.

With resources always less than are necessary to provide essential services, public libraries will turn to partnerships to make effective use of resources, build quality programs, and grow financial support.
PROTECT INDIVIDUALS AND ACCESS

Constituent concern has brought security center stage as a public library quality issue (Holt, 1995c). The concerns are two-fold: the security of persons during library visits and the security of access to electronic and paper materials.

Because public libraries deal with such a wide range of individuals, both kinds of security require policy balance. In each case, the need is to protect the vulnerable from the criminal. The rights of the individual in library facilities usually can be protected by a problem patron policy, which defines inappropriate behavior under state and federal law; training of all staff in security procedures; systemwide use of security professionals; and suitable electronic surveillance equipment.

Children present a special security problem. Parental desire for libraries to serve in loco parentis puts a strain on relations with constituents. Advances in networked computing complicate the issue; any library attempt to protect children in the electronic environment may imply the assumption of custodial responsibility (Holt & Holt, 1995).

A recent New York case highlights the issue. Prodigy has marketed its network as family oriented, including a conscious decision to remove obscene messages from its e-mail and advertising bulletin boards. Because of this policy, the New York Supreme Court recently ruled that a person subjected to nasty remarks may sue Prodigy for libel. Prodigy's defense was that it serves more as a bookstore rather than as a book publisher. In response to the decision, a Harvard Law professor critical of the decision commented: "You're dealing with the law of cyberspace—it doesn't exist. We're fumbling here" (Court Opens . . ., 1995, p. 12A). As they establish policies respecting their networked computers, public libraries have to deal with this legal morass.

Another security issue involves patron databases. Most libraries protect their patron databases under state law. As networked computing in government has grown, however, so have problems of networked security. SLPL computer systems already have registered invasion attempts, although no one has gotten close to the patron database. Other public libraries face similar problems.

Appropriate system planning to eliminate "holes," segregation of public and administrative networks, programming security "firewalls," and assignment of one-time passwords all help in networked computing security. In the final analysis, however, library security comes down to management, commitment, and money. "Senior management must be willing to commit funds and manpower to ensure security doesn't fall behind the exploding use of computers in government," Newcombe (1995b) noted recently (pp. 23-25). The same thing can be said of personal security for library visitors and staff.

In 1990s America, security is a quality issue. How public libraries work through the maze of legal issues around protecting constituents, especially in the electronic environment, often turn into make-or-break
events in constituency perception of public library quality (Gordon & McKenzie, 1994).

LISTENING AND COMMUNICATING

Tools for listening

To build solid relationships with constituents, public libraries need to utilize constituency listening skills. Traditionally libraries have listened informally—by participation in community organizations, attendance at community meetings, and talking with patrons. Swiftly changing markets make it necessary to use more formal techniques for taking the community pulse.

Well-tested techniques include in-house and telephone surveys and focus groups. For example, a new branch focus group told St. Louis Public’s interviewer that they wanted “a room full of computers” since no neighborhood families could afford them. A youth focus group objected to always being served by adults. In the mall stores where they shopped, they encountered high school and college students with whom they could communicate. Another youth group wondered why the library’s popular music collection was always out of date. An operational follow-up showed that the music fashions changed so fast that by the time many CDs and tapes were cataloged, youth constituents regarded them as “old.”

Libraries need to use formal listening techniques to help overcome what psychologist Gilovich (1991) calls “cognitive errors” that form the basis for bad policies. Overcoming such deficiencies helps service organizations remain essential to their constituents’ wants and needs.

Communicating

In spite of SLPL’s best marketing and publicity efforts, focus groups and surveys always seem to show that constituents feel they are not sufficiently informed about library services. In the din of commercials on radio and television and in magazines and newspapers, it is no wonder that the message of one public library frequently gets lost. However, such constituent criticisms should inspire any public library to seek different means of telling its citizenry about its essential services.

The main problem with public library communications is that they tend to be too print oriented and too focused on those who already use library services. Like other libraries, SLPL reaches these user-constituents through traditional communication mechanisms, including bookmarks, calendars, flyers, brochures, and a monthly newsletter, but all public libraries need to break out of this print marketing prison.

SLPL’s communication tactics provide illustrations. The library buys mailing lists of other “cultural” institutions for likely users and friends’ members who are solicited through mail and telephone; creates marketing partnerships with high visibility organizations like the St. Louis Car-
dinals and their media affiliates to obtain public service announcements promoting youth reading on television and radio; directs messages specifically at African-American audiences through The St. Louis American, a heavily circulated weekly; buys advertising on half-a-dozen radio stations, each oriented to a different demographic market; and purchases space on billboards in neighborhoods with an active street life.

Public libraries that hope to build an essential quality based relationship with their constituency must learn to communicate with people where they are, not where the library is. Listening and communicating are basic quality activities of public libraries. If a library does not know what its public wants, or if a library does not actively inform its constituency about available services, a community will have little sense that the library is a quality organization.

LEARNING TO REMAIN ESSENTIAL

This article has been a discussion of how public libraries can take aim on quality. Caught up in a seastide of change, public libraries can become quality institutions, but the change will take more than tossing an intermittent TQM effort at the organization.

Real quality efforts are comprehensive and long term. In the case of public libraries, they involve doing everything possible to make the organization essential in the lives of communities. That includes making sure that the library message of essentiality has been communicated to the staff and constituents on whom the organization depends.

A recent editorial on government reform concludes ("Deinventing Government," 1995):

[In the private sector] good management . . . look[s] for the company's core strengths, and pares away other parts . . . Companies adapt because markets tear away the inessential. Governments ossify because they cling to every mission forever. Until that changes, management reforms are little better than pallatives.

A library quality movement is far more complex than involving staff in decision making and smiling at customers. To be successful, it has to focus on defining, funding, organizing, and marketing essential products and services. Said in another way, that means quality will involve a complete effort by the organization to make the library essential. With such an effort, public libraries guarantee a bright future for their organizations and a better future for their community constituents.

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Determining Quality in Academic Libraries

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ABSTRACT
This article summarizes the attempts to define and measure quality and effectiveness in academic libraries, from traditional evaluative studies to Total Quality Management (TQM) and new research on user-defined criteria. Focusing on the organizational analysis of the library as a whole and the contribution it makes to the university or college, the article outlines a number of fundamental concepts and tools common to models of evaluation. Particular attention is then given to assessment in higher education as a whole and ways in which determinants of library quality must be linked to educational outcomes. The concluding sections suggest several areas for future research and for collaboration among library managers, educational administrators, scholars, and measurement theorists.

INTRODUCTION

Quality ... you know what it is, yet you don’t know what it is. But that’s self-contradictory. But some things are better than others, that is, they have more quality. But when you try to say what the quality is, apart from the things that have it, it all goes poof! (Pirsig, 1974, p. 184)

To open with a quotation from Zen and the Art of Motorcycle Maintenance is more than just a literary conceit, for the book itself embodies the two levels on which one operates to understand quality in academic library services. Librarians must deal both with the nuts and bolts of
evaluating library services and with the elusive and challenging work of crafting a conceptual definition of effectiveness and a broad vision of information impact. Attempts to define effectiveness—an earlier term for quality—have been a strong thread running through the professional literature of U.S. and British librarianship since the 1960s. The current prominence of "quality," by which of course is meant high quality, emerges from the latest trend in business and industry but dovetails neatly with much existing research and practice in libraries. Guidelines and tools introduced in the guise of Total Quality Management (TQM) can be described as principles and techniques that, taken separately, have long been promoted as aspects of sound management. The emphasis on process rather than just measurement, however, has received new priority.

Few libraries exist in a vacuum, accountable only to themselves. There is thus always a larger context for assessing library quality, that is, what and how well does the library contribute to achieving the overall goals of the parent constituencies? The major objective for academic libraries, especially in an environment of increasing economic pressure, structural change, and technological innovation, must be to align themselves with the structures of higher education and the criteria by which those institutions are judged. The literature of educational effectiveness is enormous and, like library managers, higher education administrators have borrowed heavily from the recent business methods of Total Quality Management. The micro-evaluation of libraries has given countless opportunities for detailed studies, yet still lacking are agreed-upon and objective ways to measure and incorporate library value into such processes as academic accreditation, educational assessment, and ratings of graduate programs.

This article will briefly summarize the principal attempts to define and measure quality and effectiveness in academic libraries, focusing on the organizational analysis of the library as a whole and the contribution it makes to the university or college. While highlighting the major trends and recent new research, it is not intended to be a comprehensive history of the evaluation of academic libraries or even of the Total Quality Management movement in those libraries. Out of these highlights will be shown a number of fundamental concepts and problems common to many models of evaluation. It is primarily at the macro-evaluative level that one can distinguish key characteristics of academic libraries in contrast to other libraries that share many of the same functions. Although the organization-wide perspective must incorporate the detailed suborganizational approach of analyzing individual functions or departments, that voluminous work is not treated here, nor are the many pragmatic articles about ways to implement local evaluation and TQM projects. Despite the almost overwhelming amount of writing in all of these areas, the profession still lacks many essential models and forms of measurement; the concluding sections of this article will suggest several areas for
future research and for collaboration among library managers, educational administrators, scholars, and measurement theorists.

DEFINITIONS
What does the term quality (a positive adjective is always assumed to be there) mean in recent library and education writings? Quality and quality control have been much used and too narrowly defined. The first implies an ultimate state of being, and the second seems to refer more to the process of getting there. Both have been tossed around a bit carelessly by those eager for a new tool to handle a tough problem. The determination of quality, however, does not automatically imply using any one type of measurement or analysis (e.g., TQM), nor is it just another synonym for output or performance measures, though those must be part of any serious quality program.

Definitions of library effectiveness have ranged from technical efficiency measures to vague statements of goodness, but most have focused on goal achievement, efficiency, user satisfaction, personnel management, and ability of the organization to survive. Based on a reading of professional attempts to sort this out (see excellent summaries in Du Mont & Du Mont, 1979, pp. 107-10; McDonald & Micikas, 1994, pp. 7-19), it would appear that the terms quality and effectiveness are being used to mean the same thing: achieving a quality of service that satisfies to a high degree the information and research needs of faculty, students, and other users; that contributes demonstrably to the success of the institution’s educational and developmental goals; and that accomplishes this in an operationally effective manner. When one tries to nail down the implications of this definition, roadblocks quickly appear—effective by what criteria, meeting what level of needs, at what cost, for what purpose?

These questions can be asked at several levels, for example, for an individual academic library or throughout higher education for understanding the systems of library services. An overall assessment of the quality of library service cannot be achieved without progressing through a series of basic steps that are common to almost all systems of evaluation. Too often, however, the first and the last of these get ignored or are hastily swept aside with platitudes.

1. What is the purpose in establishing library services? Is it enough to say that it is to “meet the needs of the users” and to “support the institution?” It may also involve understanding the program of the institution and its philosophy of resource allocation in enough detail so that difficult and perhaps venturesome choices can be made about what services and materials to provide.

2. How does one know whether and when the mission is being accomplished? Once the goals are understood, one must find ways to measure or track them. This is the problem libraries have been struggling with.
for decades. In academic libraries, the question is difficult to answer because of the lack of performance measures that make sense across institutions and that link library processes to educational and research outcomes.

3. How do library managers and staff effect improvements to achieve quality and effectiveness? Setting goals and measuring progress is only a part of the process. To ensure quality and effectiveness, library managers and staff must continually seek ways to move closer to the goals through monitoring, feedback, and communication structures that address problems, determine needs, and support change. Underneath it all is the realization that "there" keeps on moving.

4. What is the ultimate evidence of success? Many statements about success are more definitions of its meaning than a description of the evidence one would use to prove its existence. To demonstrate success both in providing service and in doing it efficiently will require deeper understanding both of the "outcomes" question, and of the rather traditional problem of measuring costs.

Academic library quality must be defined to fit local programs, yet it must also incorporate the contribution to the higher education system, which lends itself to being defined in terms of regional and national frameworks such as accreditation. Local evaluations have tended to focus on micro aspects of service, evaluating delivery systems and expressed patron needs; institutional-level assessments have either relied on traditional library data from national and peer sources that then are unlinked to local goals or on broad educational models that do not address support services such as libraries. Academic librarians do not have concrete ways to assess what the library contributes to the delivery of effective educational and research services by the campus itself. This is referred to as "outcome" or "impact" assessment and will be discussed in a later section.

Development of Approaches to Academic Library Effectiveness

As the focus on modern approaches to library management and research grew in the 1940s and 1950s, articles and studies on aspects of evaluation immediately began appearing. General summaries of this immense body of literature (Du Mont & Du Mont, 1979; McDonald & Micikas, 1994) cite articles back at least to 1954 in which definitional and professional quandaries were raised that are still being debated. Techniques and frameworks have been adapted from various disciplines outside the library science field: industrial process management, organizational research, institutional research, behavioral dynamics, social program review, and educational assessment, to name the most heavily used. Evaluation research in libraries draws most on major and ongoing
contributions from Childers (1989), Hernon and McClure (1990), Lancaster (see Baker & Lancaster, 1991), Van House (1989), and Van House et al., 1990), citing here only a fraction of the output of these writers. Initially, effectiveness and user satisfaction were studied more thoroughly in public libraries, while much of the earlier literature on academic libraries seems to emphasize scientific measurement details more than concepts of quality: studies of catalog use, operations research for library internal functions, cost/time factors, and the design of information retrieval systems.

Orr (1973) emerged from the special library field and published articles that remain milestones. He suggested a distinction between library quality (how good is the service) and value (how much good does it do), and four areas within which to define measurement variables (resources, capability, utilization, and beneficial effects). He implied that particular measures could be developed but, over twenty years later, it is not clear that it has been accomplished even though the framework is still the same. Taylor (1972) stressed the need for academic libraries to move from measures of quantity to ones of process and user satisfaction, anticipating the ideas of TQM well before its arrival in most U.S. businesses and professions. In the same anthology, Dougherty (1972) called for quantification of outputs and their impact, and linked staff participation to library effectiveness in a systems management approach. Du Mont and Du Mont (1979) develop criteria and measurement techniques for assessing library effectiveness based on models of goal attainment, efficiency, user satisfaction, and behavioral factors; they also delineate the gaps in the varying approaches taken to library effectiveness and design a taxonomy that attempts to integrate the approaches.

The literature on performance and output measures is documented by Goodall (1988), Shapiro (1991), and Van House (1989) who clarifies that performance is a broader term that may actually be used with measures of input, process, output, and outcomes. Van House, Weil, and McClure (1990) provide a signal publication, an attempt to develop a practical manual that would actually make a difference in library statistics and evaluation. From a British perspective, Blagden (1980) and Allred (1979) both present compelling analyses of the problem of setting relevant criteria and the need to evaluate libraries based on performance, outcomes, and user satisfaction. The literature of organizational dynamics and behavioral styles of management and interaction also contributed to the evolving notions of what constitutes a well-running library. Thus, leading up to the seemingly recent quality movement, one realizes that there is no dearth of research and writing on how to determine library goodness and how to manage for change and improvement.

As the Total Quality Management movement began to be adopted in libraries, there have been a rash of practical and theoretical publications
outlining the basic concepts and how to apply them. Jurow and Barnard (1993), Siggins and Sullivan (1993), Riggs (1993), and Shaughnessy (1993) are but a few of the most useful examples. This literature in fact brings together many previous issues and approaches, for example Riggs (1992a), Whitehall (1992), and Clack (1993) blend TQM, organizational development, and strategic planning. The rapidity and fervor with which TQM has swept organizations has led to misconceptions and skepticism. TQM does not imply a new kind of measurement, although it does urge the use of measurement tools for tracking processes and deducing performance problems. At the other extreme, TQM does imply some form of benchmarking or process control, more than just participatory management or quality circles; some articles that purport to describe quality approaches reveal little more than traditional consultative and consensus management styles. The emphasis on user surveys is not new, but the reorienting of the whole organization toward a focus on customer satisfaction, the broadening of the definition of customer, and the evaluation of processes with this in mind goes beyond earlier views of how to solicit and interpret use and user data.

There are strong links between evaluative and planning frameworks, and the assessment of the director, of administrative style, and organizational structure. Leadership and management are key to quality at every stage. While not explicitly couched in terms of effectiveness criteria, much of the work analyzing the role of the library director and the shape of the internal organization suggests that these connections exist in the mind of higher administration and staff. Articles by Lewis (1986), Sweeney (1994), and Buschman and Stephen (1993) specifically discuss the implications of administrative leadership for the success of library operations. The literature of customer service (St. Clair, 1993; Millson-Martula & Menon, 1995) bridges TQM and traditional management concepts. A series of articles by Martell and co-authors (Martell, 1983a, 1983b, 1985; Martell & Tyson, 1983; Martell & Untawale, 1983) used the “quality of work life” model as a way of analyzing organizational structure and staff satisfaction, the implication being that this was an essential precondition for overall library effectiveness. While not the technical approach found in pure TQM and evaluation studies, this broad area of thought pertains closely to the professional discussion of how to implement mechanisms that will promote quality library service.

When scanning the above material, it is hard not to feel that librarians are constantly reinventing the wheel. For decades, we have had models of measurement directed toward helping assess effectiveness. There is a high degree of agreement among the models and concepts espoused by most of those who write on this topic, and yet practicing library managers still do not have such agreement among themselves as to what constitutes library quality. The difficulty lies in trying to find a
single model or set of simple indicators that can be used by different institutions, and that will compare something across large groups that is by definition only locally applicable—i.e., how well a library meets the needs of its institution. Librarians have either made do with oversimplified national data or have undertaken customized local evaluations of effectiveness, but there has not been devised an effective way to link the two. Existing library and higher education processes and frameworks have tended to draw on both.

**Processes and Frameworks**

The organizational effectiveness literature, as reviewed most recently by Cullen and Calvert (1995), and McDonald and Micikas (1994), presents four major approaches to organizational evaluation: (1) the goal attainment model, (2) the system resource model, (3) the internal processes model, and (4) the constituency satisfaction model. These do not prescribe exact "measures," they are interpretive contexts within which particular analyses are designed. Academic and public libraries have at times advocated and undertaken evaluations that fit within all four models. The purposes for evaluation emerge from institutional frameworks, however, not from the models themselves. These broader purposes or frameworks include internal library management and service planning; strategic planning, program reviews and self-studies (for the library or the institution); and accreditation reviews.

Total Quality Management and continuous quality improvement programs are universalizing schemes that offer a formal approach to the requirements of the broader level of accountability, while incorporating measurement and process techniques typical of all four models of evaluating effectiveness. In earlier years, librarians adopted other equally applicable management techniques such as MBO (Management by Objectives), PPB (Programmers, Planning, Budgeting), and elaborate versions of strategic planning. The assessment of quality may be usefully situated within any of these models. Each still needs to have a clear conceptual structure (as outlined below), or else they are little more than meaningless exercises. There are many variations and considerable jargon and overlap among these management and planning approaches, and some or all are used as part of the others. It may be sensible simply to adopt whichever terminology and structure is currently prevalent on campus. Not only is it politically more expedient, but it may lessen the amount of convincing needed among staff and will ultimately still cover all the important concepts.

There is great consistency throughout these articles, research projects, management schemes and standards, in and out of librarianship. Does the repetition suggest that the lessons have not yet been learned? Rather, it may be that there is no new "silver bullet" or shortcut for academic libraries. Experience reveals that one may have the formal process without getting good results and vice versa; the determining factor is whether
the library staff, managers, and stakeholders define certain fundamental assumptions about the nature of the enterprise. All the above have in common the following underlying components:

- the careful definition of goals, or of some kind of criteria against which success can be assessed;
- a focus on meeting the needs of the users, as defined by the library and the institution;
- leadership: a commitment from the top, conscious efforts at ensuring communication, the provision of training and resources for the process of evaluation, the active support of a process to promote shared values;
- the involvement of all levels of staff in goal-setting, evaluation, and the improvement of processes and services; and
- integrating a process of evaluation that is continuous and adaptive, whether that process is based on the framework of TQM, strategic planning, or another model.

Within the frameworks being used to assess quality, another consistent pattern is the set of organizational parameters that must be defined even before actual measures or assessments can be undertaken. These will have a fundamental impact not only on the choice of measures but also on the interpretation of the results. It is rarely possible to collect data that perfectly match the dimensions and timing of every situation, thus using figures and measures in assessments often requires making a compromise to help achieve specific goals. The nature of the compromise varies with the desired goal, for example, better internal library management, campus budget reallocation, regional accreditation, or institutional success in competing for external support. Given all the logistical and definitional problems in evaluating and improving libraries, effort need not be focused in areas that do not help target the overall purposes and the principal stakeholders, whatever and whoever those may be.

Key to being able to make claims about library goodness is a deconstruction of the factors that go into answering the question, "Is a particular library meeting the needs of its institution?" Those needs may be many, they may relate to present and future generations and local and national roles, but they must be articulated and usually among many groups beyond library walls. Quality programs, strategic planning, and ongoing internal evaluation are all built, directly or indirectly, on the following:

- Mission of the specific institution of higher education, and derived from that, of the library. This may not be so simple as it sounds, and much writing has gone into explaining how to craft a meaningful mission statement. Meyer (1995) gives some straightforward examples of phrasing the library mission in support of the broader educational outcome.
Identification of user groups and their particular differing needs (for example, faculty, undergraduate students, graduate students, distance learners, administrators, the general public, alumnae, consortial groups, even future users or the "national posterity" if part of the mission is to serve as a major research library).

Goals for accomplishing the mission and serving the users, which should include language that can lead to criteria and measurement of performance. While the simple goal-attainment model of evaluation has been criticized, statements of goals are still needed as building blocks for more multidimensional determinations of effectiveness.

Determination of audiences and organizational processes to which the library is accountable, that is, how and by whom will quality and effectiveness be ascertained? This is not the same as identifying the user groups, though there is overlap. Depending on the mission and governance of the institution, accountability may relate to: user satisfaction; budgetary performance; relevance of support to academic programs; success in contributing to academic accreditation; success in gaining state and legislative appropriations; and success in achieving national participation in research or other roles.

**DISCERNING THE QUALITY OF A LIBRARY: TOOLS AND MODELS**

Any library is working to mobilize resources to provide services that meet the needs of users and that fulfill the overall mission of the institution. Is "service" quality the only important part of "library" quality? What is actually meant when referring to "library service?" The attainment of a high-quality library can be judged completely, subjectively, and individually, but ultimately most stakeholders want to know whether this mobilization has been done in the most effective way with the most pertinent services and resources. This implies some kind of measurement, whether of a traditional or a more venturesome nature. But what does one want to measure and why? It sounds simple, but it should not be taken for granted, and this question has a direct impact on what tools are used, where one gathers data, and how it is interpreted. The above structures for planning and evaluating help define the measurement context and, within the chosen context, a library might then choose from an immense and not always well-defined array of measurement tools and models.

Knightly (1979, p. 174) distinguishes clearly and simply among library inputs, process, outputs, and effect (impact) as the components of a system, and the four types of evaluation that may result: (1) effort evaluation (inputs), (2) process evaluation (appropriateness and efficiency of activities), (3) effectiveness (outputs and the accomplishment of objectives), and (4) impact (on the parent or broader community). As the development of TQM took hold over a decade later, it is apparent that
the evaluative structures for looking at processes and effectiveness were long in place. Knightly further outlined the debate over measures themselves, enumerating seven types of measurement criteria: (1) assessment based on user opinion, (2) expert opinion, (3) standards, (4) peer comparisons, (5) quantifiable outputs, (6) quantifiable processes, and (7) based on unit costs in combination with the other criteria. From these can be derived an enormous armada of tools and data. The measurement that will lead to an assessment of quality should ideally draw on all seven categories, though frequently only one or two are used at a time.

King and Griffiths (1991) summarize their long record of evaluative research and outline four categories of generic measures: (1) input cost measures (staff, equipment, facilities, collections, the allocation among those, and their attributes); (2) output measures (quality of service, timeliness, availability, accessibility); (3) effectiveness measures (amount of use, user satisfaction, user-expressed importance of services, consequences of use of service), and (4) service domain measures (total population size and attributes, user population size and attributes). They further identify four kinds of derived indicators: operational performance, effectiveness, cost-effectiveness, and impact. While terminology differs, these same categories hold across many schemes of measurement: inputs, processes, outputs, outcomes. It is the relationships among the measures that provide a basis for decision-making, and what may start out looking like a quantitative measure can emerge as a qualitative indicator.

Measures of service have been confused with performance and also with "access." Access is a particularly mutable term in the profession right now; from some articles, it may be taken to mean something as simple as the degree of physical access (i.e., seats) or bibliographic access to materials owned (i.e., catalog entries), while it is also used to allude to the mix of services and systems that provide users with documents or electronic information not held on site. Performance, as stated earlier, is a dimension that may apply to inputs, processes, or outputs. Hernon and McClure (1990) and Van House, Weil, and McClure (1990) describe many performance measures, some of which are very simple. There are no right or wrong performance measures, and a library needs to use several in combination with other categories of measurement. Performance is generally thought of as an internal benchmark, though there are also library directors who would like to see national standards emerge. The value of recent TQM efforts is the increased focus on evaluating local performance, on services as processes, and on measuring the effectiveness of operations by looking at customary factors such as speed, redundancy of tasks, costs, productivity, satisfaction, and "reach" into the user population.

Qualitative mechanisms for assessing library effectiveness include interviews, surveys, the use of consultants or external review teams
("experts"), unobtrusive studies, process analysis, job factor analysis, and organizational structure analysis. These are often brushed aside as being too easily biased and not readily compared with results from other institutions. Such techniques may well be the best groundwork for confirming new measures, however, by using a qualitative approach consistently with certain groups of libraries, and seeking combinations or correlations with quantitative measures of inputs, outputs, and performance. TQM itself is a qualitative mechanism and an aspect of management process. In its purest form, it is based on the regular use of quantitative techniques, but organizations have implemented TQM processes and benchmarking independently of each other.

Academic libraries often have problems building any but the most rudimentary measurement process into routine operations or finding the time, money, and expertise to conduct special evaluations. Thus there is a preference for relying on gathering routine data and augmenting it with that from external sources. Some of the most common sources for academic library data are national associations like the American Library Association and the Association of Research Libraries, bibliographic utilities, and serials vendors. These data usually reflect only some subset of the academic library universe and may change from year to year. Data from vendors can be very detailed and revealing but may be proprietary and thus limited for peer-group and broader uses. Organizational and library school research projects have yielded special studies on valuable topics (e.g., alternative sources of revenue, foreign serials, access measures) but those too are not done every year or for consistent peer groupings.

The annual statistics from the Association of Research Libraries, by the very fact of their publication in "rank" order, have been used by many, both within libraries and in academia in general, as a de facto indicator of quality despite vigorous protestations from the members of ARL and criticism from higher education analysts who have assumed without further inquiry that ARL really does promote the membership index as a "goodness" measure. The counts of volumes, expenditures, and other inputs and outputs (e.g., circulation) have been debated internally within ARL since the 1940s (Shaughnessy, 1990). Almost as early, the ARL attempted to devise models and measures that would provide comparable performance and output assessment in a form that might ultimately be capable of integration into the membership criteria (Shaughnessy, 1990; Shapiro, 1991). These efforts often appear as supplemental or occasional reports and may take years to be integrated into the larger surveys. Testing of new measures for use with the membership index continues but has not yielded anything statistically significant.

Another strategy is to make better use of government and higher education data that already explicitly include libraries, building toward
models of the role of the library in the academic institution. These tend to still be fairly simple collections of input data for higher education, but using them is an important leap in overcoming professional insularity and achieving cognizance of the measures key to academic administrators. These include the immense data sets generated by the Integrated Post-Secondary Education Data Survey (IPEDS), the cost matrices of the Higher Education Price Index (HEPI), the recent benchmarking study launched by the National Association of College and University Business Officers (NACUBO), the annual surveys of information technology resources conducted by CAUSE, and the periodic rating of doctoral programs put together by the National Research Council, which includes factors for campus support resources such as libraries. Each of these suffers from the same limitations we find in data from ARL, ALA, and library-specific sources, but each organization has also overtly approached library groups in search of ways to more clearly and consistently assess library effectiveness across programs and institutions.

The interpretation of the data depends on the original criteria, what is defined as important, and whose models are being followed. Arguments over how to establish criteria for success and even criteria for measurement can be traced throughout the literature of evaluation; attempting to state what is or is not “quality” will inevitably raise questions about the comparability of the variables, the philosophy of the data collection project, and the absolute definitions of success against which the data are being judged. Out of context, the data can be used in many different ways. There is nonetheless a stubbornly resilient notion that the “statistics” are to blame, that they are all worthless, and that adherence to them is what is slowing the quest for better models of library effectiveness. While ARL and others work to piece together an approach to a difficult problem that goes well beyond their membership and resources, it may be that much of the criticism is a bit misplaced. To meet the expressed goal of national-level data gathering, one is never going to be able to use the same kinds of data and instruments that one would use to determine whether an individual academic library is of high quality in the minds of its local users. Input and output statistics are still useful building blocks for looking at organizational performance from year to year.

The most common contexts for bringing meaning to these measures are library and educational standards and guidelines; for example, the standards of the Association of College and Research Libraries (ACRL, 1989, 1995) and the documents of the regional accrediting agencies. Notably, the Association of Research Libraries does not issue standards, and it makes no claim that its membership index is other than an internal mechanism for comparing potential members to the existing group. Academic libraries may also wish to develop measures related to specific standards for branch libraries, distance learning programs, media services,
rare book and special collections, and the like. It will be interesting to see whether libraries or higher education begin to use portions of the ISO 9000 standard recently adopted for quality improvement programs (see, for example, Arnold, 1994).

The use of library standards as guides for assessing effectiveness is documented by Kania (1988), Kaser (1982), and Lynch (1982). Most standards seem to have moved away, though with some hesitation, from reliance on absolute quantities, and the focus is more on recommended structures, policies, and processes. Kania is particularly valuable for her derivation of a series of further performance standards for use in self studies and accreditation, though she avoids recommending specific measures. Collections of norms and ratios have taken on the role of benchmarks for comparative assessment, for example, those listed in the annual compilation of ARL statistics (now on the World Wide Web in user-definable format), or the massive compilations edited by Minter (1993a, 1993b) using the IPEDS data. As these data are accompanied by little information about institutional characteristics and success factors, they are, at best, a starting point or a very rough indicator; unfortunately, a ratio from an institution that is subjectively perceived as good, or one which is a competitive peer, will be assumed to have great validity and meaning where there is no justification for that in fact.

Within the substructure of standards or accreditation, institutions will generally use peer group analysis rather than absolute definitions of quality. The principal data series rarely go into enough detail to know for sure whether one is comparing apples and apples. Two libraries may have quite different ways of operating—i.e., responding to local needs and not necessarily implying better or worse management. It is possible that the peer institutions used by the administration for strategic planning will not each have a library that functions comparably. It may be further complicated if an institution wishes to look at an "aspiration" group and not a literal peer group. The ability to make unambiguous and meaningful comparisons is an important issue in assessment whether through TQM or more traditional evaluation, and it is why many libraries have come to rely so heavily on regional and national compilations, whatever their flaws.

The two newest attempts at creating models of effectiveness show great promise for both local and comparative library assessment. Cullen and Calvert (1995), building on methods formulated by Childers and Van House, identify key performance indicators in university libraries as perceived by six separate stakeholder groups. Performance factors included those related to staff, collections, facilities, speed of services, use policies, and other areas; the researchers asked users which they thought were important and narrowed ninety-nine possibilities to a core group of twenty. The differences in rankings among the six groups reveal differ-
ent models of organizational effectiveness; in the second stage of the study they will apply the core measures in those actual libraries.

McDonald and Micikas (1994) use the methodology established by Cameron (1978) and the taxonomies outlined in Du Mont and Du Mont (1979) to develop an integrative multidimensional approach that looks at inputs, processes, and outputs from the levels of the individual, the subunit, and the whole organization. Their resulting model groups sixteen dimensions of effectiveness (for example, collection adequacy, staff size, college support, staff development, use of the collections) in four major domains (resources, services, library/stakeholder interaction, and access). From individual measures for each dimension, a score is derived for each major domain. Cluster analysis showed that libraries vary in their effectiveness across the domains and group together into certain patterns of effectiveness (McDonald & Micikas, 1994, p. 74). Many of the questionnaire items still require a subjective interpretation, and there are no single ratings or patterns that can be held up as ideal, but the model presents criteria and measures with the potential for wide applicability and comparability.

ACADEMIC LIBRARIES AND HIGHER EDUCATION EFFECTIVENESS

The academic library is not a static free-standing unit. Ultimately, its quality must be judged by the quality of outcomes of the institution, however those are defined. In a more immediate sense, library success is realistically confirmed by feedback and support from stakeholders (faculty, administration, students, alumnae), and validation by accreditation and other external bodies. It seems a long way from the concrete measurement of library process and service data to this larger view of library impact and educational outcomes. Have the associations, institutions, and leaders within higher education viewed the library as a key component of these outcomes? Librarians have struggled to have their issues acknowledged by scholars, administrators, and policymakers, yet the only way to guarantee understanding is also to do the reverse—to use measures of library performance and effectiveness to demonstrate the success of processes and goals within higher education itself.

In skimming the vast literature on higher education effectiveness, there are two things for librarians to note: (1) what current models and criteria are being promoted, and (2) in what ways is the library mentioned, if at all? There is no clear consensus on defining academic success, but almost all writers agree that higher education too must focus on definable outputs and outcomes as measured, for example, by indicators of job success, completion of advanced degrees, research productivity, student test scores, satisfaction surveys, and the like. Evaluative models, such as the continuing influential work of Cameron (1978), pursue a multidimensional model of organizational effectiveness that would
accommodate different dimensions of satisfaction, performance, and resources, moving away from a one-size-fits-all ranking system. Cameron's work is now being fruitfully applied by library researchers (McDonald & Micikas, 1994), but his original dimensions did not address specific services pertaining to libraries.

In recent months in the letters and opinion columns of the Chronicle of Higher Education, this old question was revived by Rothkopf (1995), with responses from Barrett (1995), Lindahl (1995), and others. Sparked by reports about the ways that colleges and universities manipulate their statistics in order to achieve better rankings in such influential lists as that published by U.S. News and World Report, the discussion quickly moved from admonishments about how to ensure compliance with data definitions to the underlying problem of finding better ways to compare the quality of colleges. The concerns and even the terms of rhetoric mirror many of those expressed by academic librarians, who will not take heart from the basic pessimism expressed by Barrett about the validity of any current criteria. Cameron (1978) underscored the difficulty in establishing measurable criteria for success and observed that one of the reasons for the lack of progress in studies of organizational effectiveness is the tendency of researchers to do a fine-grained analysis of causes but a coarse-grained analysis of effects (p. 625).

Higher education, too, has been bitten by the TQM bug. Library online databases list easily fifty or a hundred monographs with correspondingly larger numbers of articles on TQM from every conceivable angle. Bogue and Saunders (1992) enumerate six "tests of quality" for colleges and universities, including accreditation, rankings, follow-up surveys, licensure, academic program reviews, and outcomes as evidenced by student test scores. None is exactly a revolutionary concept, but this is useful insofar as it opens up specific possibilities for strengthening the scattered efforts libraries have already made within these six methods. In anthologies by Teeter and Lozier (1993) and Sherr and Teeter (1991), there is more focus on implementing TQM processes as part of campus administrative culture. Most of the works in this field include surprisingly little discussion of applying TQM to classroom teaching, faculty departments, or research support facilities.

A special case in recent higher education measurement projects is the benchmarking survey coordinated by the National Association of College and University Business Officers (1992) gathering data on forty administrative areas including the library. By most academic librarians' judgments, one would not term these new measures; the variables and resulting ratios are similar to those published by ARL or by Minter (1993a, 1993b). The risk is that these are taken very much out of context, and that they paint a reductionist and oversimplified picture of a complex organization. The introduction to the survey implies that comparing
ratios of cost efficiency automatically identifies the institutions with the best practices, and it conflates definitions of performance, outputs, and quality. Claims that "benchmarking can potentially move the industry ahead at a pace more rapid than that of TQM alone" (p. 18) seem to elevate the measurement process above the crucial conceptual and management frameworks outlined earlier. This survey cannot be ignored given the powerful role played by business offices and institutional research tools on campus. The appearance of these flawed, yet influential, documents is another motivation to press ahead with developing improved library instruments that can be segmented to fit into larger models.

Few analyses of educational evaluation and assessment mention the library. It may be one of the NACUBO sections, or occasionally the topic of an essay or case study in one of the TQM works, or one of the factors used by the National Research Council in its ratings of graduate programs. But in each of these it is incorporated as background, not targeted as a programmatic center or linked to institutional performance overall. In part, this is because librarians themselves have not come up with a handy measurement to offer upon request. Yerbury (1992) is one of the rare administrators who has stated clear expectations for library performance and how it should be assessed. In the area of accreditation, however, there has always been extensive consideration of the library, and there is growing interest in developing better ways to assess its changing role.

Accreditation documents vary with each regional association, but in general they all attempt to define the library's role in support of academic programs. Adams (1992), Sacks and Whildin (1993), Garten (1994), and Williams (1993) have written excellent treatments of this topic, including numerous examples of measures and models that fit current practices in accreditation. Williams reports on one or two alternative measures of library effectiveness to link performance to institutional outcomes, and asserts the broader evolving perspective that a library be evaluated on the degree to which it takes responsibility for the support of all of the institution’s programs, wherever offered and in whatever format. Wolff (1995) criticizes the resource-input bias of most accrediting standards and proposes organizing principles around which to focus the mission of the university: resources, research, students, and learning. For each he lists possible indicators of institutional and library quality. Coleman and Jarred (1994) demonstrate the prominent, yet ambiguous, role of the ACRL standards in accreditation review; while acknowledging the need for output and performance, the authors still see a complementary and continuing role for input criteria.

Troutt (1979) rather carefully debunks the assumption implicit in many accreditation documents that certain inputs and resources assure quality. His research on the correlates of educational quality and college impact specifically mentions the library as one of five major accreditation
criteria: "Available research finds no relationship between differences in library resources and student achievement" (pp. 207-08). Williams (1994) and Wolff (1994) go on to urge developing more measures that demonstrate library impact on educational outcomes. Wolff notes that the library studies prepared for accrediting teams lack evidence of how the library is part of the institutional mission, for example, usage data broken down by discipline, evaluation of bibliographic instruction programs, role of the library in curricular development, and relationship of the library to campus information systems development. Sacks and Whildin (1993) also recommend an array of practical ways to demonstrate impact—for example, performance on library tests, analysis of term papers, detailed comparisons of the collection with syllabi, interlibrary loan and circulation statistics, and so forth (pp. 54-55).

The barrier to more widespread adoption of these measures is that so far they are only defined in a sporadic and local context. They have not been adopted by national organizations, nor have they even been refined and boiled down into a few definable and replicable ratios that libraries can incorporate into regular routine. Library researchers have focused heavily on evaluating processes and service performance, with only a small number helping the profession collaborate with educational researchers to study outcomes and impacts. Mech (1990) itemizes a series of skills and competencies for students in general and then considers objectives and assessment strategies for library and information literacy. Powell (1988, 1992) summarizes earlier work on performance measures and moves directly into a study of possible methodologies for user satisfaction and impact evaluation, concluding that a lot more research is needed. The most interesting new models are those noted earlier being developed by Cullen and Calvert (1995) based on stakeholder perceptions of effectiveness, also being applied by Crawford (1995) and by McDonald and Micikas (1994). It is worth observing that both of these are derived from earlier research in evaluation (e.g., several works by Van House, Childers, and Cameron); it simply takes many years and many studies and many models to arrive gradually at new assessment frameworks.

One form of impact is almost neglected in evaluation models, yet it drives the management challenges of our greatest libraries. How do librarians and educators assess effectiveness if the goal is to ensure the availability of information resources for future users? That is the quintessential function of the large research library—to acquire, describe, and preserve resources that are within the broad interests of the institution but for which the acquisition may not depend solely on the needs of the current users. Are universities willing to describe their mission in such a way that the measurable criteria would not be phrased in terms of the students and faculty on campus at a given moment? This is a provocative challenge and, despite lip service to the need for nationally focused re-
search libraries committed to a long-term good which is broader than their own short-term program, there are few statements of effectiveness that show how this might be articulated within frameworks that rely on the efficient satisfaction of current constituencies. Recent prognostications on the future of the research library—e.g., Cummings (1992), Dougherty and Dougherty (1993), and Stevens (1993)—do not face this issue straight on. It is implied that mere volume counts can no longer be used, of course, but how the growth of research resources and access mechanisms will be documented is not discussed in future-oriented terms. These articles do make clear that the academic research library is still first and foremost an academic library; that implies the long-term research role will still have to be cast in terms of outcomes for higher education. These may differ from the outcomes by which one might assess the impact of government or public research libraries.

**DIRECTIONS FOR FUTURE RESEARCH AND POLICY**

There is no lack of advice and guidance on how to define quality and effectiveness in an immediate sense, and on how to begin establishing an evaluative framework relevant to the context of an individual academic library. It is still difficult, however, for library administrators to find readily workable ways to use existing data and to develop new information as services and situations change. Internet discussion lists that cater to library directors are frequently the site of urgent messages among colleagues to the effect of, "Help! My provost has asked me to find out how many other libraries have (or do) such-and-such and how well it works (or what it costs)."

It is frequently said that new measures need to be developed, for example, to be able to refine and measure "access." While this is doubtless the case, at the same time, more analyses are needed that simply improve the use of routine data, that show more ways to define and compare even conventional outputs, and that put forward processes for gathering and comparing data that might become foundations for better national assessment. Despite years of experience with statistics and surveys and management fads, there is not a reliable and consistent way of assessing services, comparing alternative models of information delivery, and demonstrating comparative quality and effectiveness. What are some of the major drawbacks of the existing data, statistical series, benchmarks, and standards?

In general, consistency is lacking. Data are drawn from an immense patchwork of sources with many gaps where data are lacking for certain institutions, variables, and time periods. The comprehensive data sets are not disaggregated adequately (e.g., by subject or country of materials, by institutional characteristics, branch library operations, or source of funds) to be able to make targeted analyses of resources and services. The local context is absent or skewed from easily available data; it requires
a great deal of redundant effort, however, to tailor measures to one's own users and mission and, once that is done, peer group analyses are harder. The over-reliance on national sources is problematic yet understandable, thus suggesting a strong motivation for collaborative efforts to develop broad new tools.

Available data do not support a functional approach to decision-making on service approaches—e.g., to explore access versus ownership or the trade-offs involved in performing a function in-house or by outsourcing. Library budgets and statistics are not categorized to reflect shifting models of spending and of using value-added vendor services. Typical data are limited by department lines; current reporting mechanisms to which academic libraries contribute include variables for the library alone, and parallel measures do not always exist for other campus units. Budget and staffing data do not reflect campuswide shifts in provision of information support and in the way new information resources are acquired, documented, and stored; there is no way to make statements, for example, about the total information support to a given disciplinary area. Library managers and researchers need to collaborate with economists, information technologists, and others to devise cost models for new forms of service; fortunately, some projects of this sort have recently been initiated by the Council on Library Resources and the Coalition for Networked Information, and others.

New models, definitions, and measures are clearly needed in addition to a more refined way of interpreting customary data. Quality and performance of academic libraries is not addressed except in narrow contexts in individual studies. Measures are needed that work both locally and in broader comparisons; turnaround and productivity standards for tasks are few, and there are only abstruse studies of the value of information services to academic library users. To implement quality models in any meaningful way, managers will also need to know how to link individual performance to departmental performance.

One of the urgently needed tools is a replicable and straightforward instrument to assess user satisfaction, not exactly a new concept but one for which there are no widely accepted models for academic libraries. The research underway by Cullen and Calvert may be invaluable to developing such a survey that could be used across a range of academic institutions. Another tool that might be derived from existing models would be a way to "score" progress on the ACRL standards—i.e., a series of scales that would show how close one is to having complete compliance with, or attainment of, a given standard. This would actually measure degrees of process (not an absolute quantity) and would fit well in TQM schemes.

It is already a problem for some library directors to report their annual expenditures and tallies of user services when library and comput-
ing centers have been administratively merged. This trend will probably continue in many different variations. Libraries are increasingly linked to other information providers and educational services both on and off campus, such as computing centers, museums, research centers, media services, and student academic development programs. Models are needed that show the library contribution to, and the total shape of, campuswide (and consortia-wide in some cases) provision of information resources. Specifically, the challenges of the networked environment are significant: who are the users and the providers, what is the unit of service, what is a networked resource, what is the center for counting the costs, how do these forms of information mesh with more traditional academic resources? Even researchers pursuing this area actively, like Lopata and McClure (1995), are not sure whether they will be able to answer these questions, yet accreditation bodies will continue to press for ways to assess information support in this context.

Finally, more research is needed that will lead to agreed-upon measures of library- and information-related outcomes in higher education. As noted, such outcomes might include information literacy, success in graduate school, success in job seeking, faculty research productivity (as shown by grants and publications), and the library's success as a department in attracting gifts and external funding to the campus. With targeted research initiatives at institutions where subjective opinion indicates that the library and the university are vital and effective and the other tools suggested above, it might be possible gradually to establish progressive correlations among measures of inputs, processes, outputs, and performance or satisfaction. There might emerge several multidimensional models of effectiveness or an expanded index like that of the ARL, reflecting this more complete view of mission attainment.

CONCLUSION

Academic libraries will continue for some time to be obligated to provide traditional acquisitions and public services, yet they are already shifting their approaches in response to the explosion of networked information resources, third-party providers, self-publishing, and many other variations of the traditional mechanisms for producing, organizing, and delivering scholarly information. Some administrators have publicly questioned the need for conventional libraries, especially in new or technologically oriented academic programs. The future vitality of libraries in academia will be dependent on whether they can dynamically and continually prove their value to the overall educational endeavor. This value must be documented at a level that transcends specific formats of information, locations of collections and locations of users, and that clearly links the investment in campuswide information resources to the effectiveness of particular disciplinary programs.

The measurement of quality will come back to the questions of who are the users, what are the inputs, what are the outputs, do we produce
the outputs in a way that meets the needs of the users, and what do those outputs contribute to the productivity and accomplishments of those users? The questions are not new, but the object we are measuring has changed in many dimensions. Librarians may have to give up looking for a single national instrument of performance or quality; however, we can move ahead by revisiting the fundamental questions in this new environment, by cleaning up existing practices, and by doing the large-scale coordinated research to identify truly pertinent indicators. It is not easy, but we are building on a long and still valuable base of theory and practice.

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Where is the Xerox Corporation of the LIS Sector?

ALAN GILCHRIST AND JOHN BROCKMAN

ABSTRACT
Though there is much interest in quality issues in the library and information science (LIS) sector in Europe, implementations appear to be few and piecemeal. Barriers to fuller involvement persist and a critical mass of lead organizations has not yet appeared. It is argued that the prerequisites for greater progress are: (1) a visible LIS quality management infrastructure; (2) greater awareness of the issues, improved training and availability of tried and tested tools at the organizational level, and (3) a more informed dialogue at the interfaces of the information chain, supported by a consensus-based language of performance criteria.

INTRODUCTION
The Xerox Corporation is the only organization to have won all three international quality awards: the Deming prize, the Baldrige Quality Award and, the newest of the three, the European Quality Award. These award systems embody all the basic tenets of Total Quality Management (TQM) and share the particular and specific objective of establishing world leaders—i.e., paragons of the application of TQM—that other organizations are invited to emulate. It is significant, and a clear indicator of the success of these schemes, that so few organizations have won the prizes; many more organizations and parts of organizations have adopted the underlying quality models and used them to assess their own performances.
In those organizations that have successfully embraced the quality culture—e.g., Xerox Corporation, British Telecom, and others—the word "quality" appears to have become redundant and, for example, the European Quality Model is now often referred to as the "Business Excellence Model" by organizations in both the private and public sectors. At a recent meeting in Luxembourg, a speaker from the European Foundation for Quality Management (EFQM—administrators of the European Quality Award) announced that he was not going to talk about the "management of quality" but the "quality of management." This is a perfect riposte to those carping critics who suggest that TQM is the latest hype, a passing fad. On the contrary, TQM is a logical extension of the evolution of management theory and practice from the mechanistic approaches of people like F. W. Taylor to those propounded by Peter Checkland, a principle proponent of SSM (Soft System Methodology). Like TQM, SSM recognizes the existence of various stakeholders interacting in dynamic and behavioral systems.

It might be viewed as a paradox that, while library and information science personnel have much of the expertise inherent to quality management, a critical mass in the sector does not yet seem to have appeared. LIS personnel should be well equipped to deal with the documentation of ISO 9000 (especially with some of the DMS-based software packages now available); but, more fundamentally, they have always operated (haven't they?) customer-focused services and been adept at interpersonal networking.

**Quality Management Take-Up in the Library and Information Science Sector**

On the basis of very few surveys and the personal experience of the two authors, the implementation of quality management appears to be limited and piecemeal, at least within the continent of Europe. A survey conducted by Porter (1993), mainly of the public and academic library sector in the United Kingdom, showed that any involvement in quality management was in its very early stages, encompassed a wide range of approaches, and had been developed in isolation from other LIS. From the survey, it transpired that only 19 percent claimed to be involved in TQM and a mere 14 percent in certification.

Three years later, a second United Kingdom report (Webb, 1995), concentrating on the special library sector, suggested that just over one-quarter of the organizations surveyed were involved with TQM and about one-third with BS 5750 (the United Kingdom certification equivalent of ISO 9000).

However, as the report acknowledges, these figures are misleading: although TQM was in place as an organization-wide policy, because the LIS unit was either part of another department or did not have overall responsibility in its decision-making, its TQM related activities...
could not be set out as something operating separately at the LIS level. In the case of BS 5750 it is possible for individual departments to apply for recognition and in a number of cases, especially where the LIS was part of another department, the organisation had made the decision about which departments or functions should pursue BS 5750. These had not always included the LIS or its parent function. (p. 12)

This picture is borne out by a show of hands at the 1995 Spring Meeting of EUSIDIC (the European Association of Information Services). To the question, “Has anybody been through the ISO 9000 process?” only five people, out of an audience of forty who had come to discuss quality issues, answered in the affirmative, and in all five cases the process had been initiated from upper administrators. The EUSIDIC audience was a mixture of database producers and library and information science personnel, but the same question (from the audience) was put to a panel of six database producers at the 1993 International Online Meeting in London. On that occasion, not one had embarked on certification, though one claimed to be considering the Baldrige Quality Model. In France, Duflos (In press) found a similarly low level of activity among French database producers with only 7 percent using self-assessment and none having prepared a quality manual.

According to EFQM (personal communication, 27 March 1995), the most active country in Europe with regard to quality management is the United Kingdom but with some strong movements in Scandinavia and rapidly growing interest from Germany. This accords with the experience of the present authors with respect to the library and information science sector but perhaps with the addition of France.

Clearly, doubts and misgivings persist, probably due to feelings that TQM is too difficult or costly or that the library and information science unit is too small for TQM to be relevant. The result seems to be that those having attempted TQM address only a part of the whole, thus emasculating the holistic approach. The weakest element in all the attempts seems to be a failure to come to grips with customer-focused performance evaluation.

WHERE DO WE GO FROM HERE?

Barry Mahon, executive director of EUSIDIC, gave a conference paper with the title “Where Do We Go from Here?” but with the postscript: And where is here? The previous section gave a glimpse of where we appear to be in Europe, and even if that picture is unflattering or over pessimistic, it is clear that there is much to do. Moreover, this is not just an organizational, national, or European issue. One does not need to invoke the word “globalization” to understand that the information sector is, and has been for a long time, international in all of its aspects. Consequently, quality issues should be tackled simultaneously at all levels.
INFORMATION QUALITY INFRASTRUCTURE

The second author of this paper (a senior librarian in the U.K. Ministry of Defense) has successfully launched a Ministry-wide Quality Platform (see Figure 1). The key factors to observe here are that the platform is securely linked to both the corporate strategy and to the plans and strategies of the component parts; that it follows the U.K. Quality Model (identical to the European Quality Model); and that the whole is held together by the TQM information network which interacts with the external environment. It is this networking feature which is a particularly appropriate activity for LIS personnel. It is clearly possible to export this model to any organization in order to promote best practice through the networking of ideas and data culled from within and without the organization. With a little more adaptation, it should be possible to relate the same model to the information sector, even if somewhat different interpretations and follow-up actions were required for the largely product-oriented information industry and the more service-oriented LIS sector. What is important, as is argued below, would be the need to closely associate these two components of the information world. Furthermore, it is not necessary to impose such a platform as a single monolithic global entity, but it could provide a common framework by which participating professional bodies could communicate. The idea of an information quality forum (less formalized than the platform concept) was debated at the EUSIDIC Spring Meeting and will be presented to the next meeting of the Special Interest Group on Quality Issues hosted by FID (Fédération Internationale de l’Information et Documentation). One could envision the establishment of self-assessment clubs and benchmark data networks and, eventually perhaps, award systems based on relatively objective and consensual performance criteria.

INTERFACES IN THE INFORMATION CHAIN

A fundamental feature of quality management is the attention paid to supplier/customer relationships at all points of the value chain, both interorganizational and intraorganizational. In the crucial center of this chain are the database producers, hosts, and the intermediaries manifested as librarians, information scientists, information brokers and analysts, personal assistants, and so on. It is fully appreciated that both database producers and hosts encounter serious problems in the processing of their data inputs, and at some stage this interface should be included in the total picture. To date, however, most of the available public debate has been conducted at the interface between database producers/hosts and intermediaries, and even here the details of that debate have been disseminated almost exclusively by intermediaries. While this is admirable, there is a danger here of a confrontation between cost-conscious customers and profit-nervous suppliers. This can be avoided only if the
two sides establish a dialogue based on a mutual understanding of their problems and supported by a common vocabulary. But there is a further dimension to this problem which may be observed at the interface between the intermediaries and their customers. While the work of SCOUG
(the Southern California Online Users Group) as reported by Basch (1993) and similar work produced by the Finnish Database Quality Group and reported by Juntunen et al. (1991) have produced valuable checklists of, and insights into, performance criteria, there is a relative lack of end-user criteria. While database producers, hosts, and intermediaries might be able to base a useful discussion on such criteria (e.g., Granick, 1991), there is less reason to suppose that the same set of criteria would be adequate at the intermediary/end-user interface. The technique of Quality Function Deployment is widely used, particularly in the Japanese manufacturing industry, to capture performance criteria in the language of the customer and to translate these and their accompanying importance weightings into the language of design and manufacturing. Given the fact that information access and provision is becoming increasingly complex and end-user targeted, it must make sense for the intermediaries (i.e., information access facilitators) and the information providers to gain a better understanding of user requirements as expressed in their own words—i.e., the criteria and their relative importance.

**Unit Excellence and Self-Assessment**

It is not uncommon to hear the response from LIS managers to queries about their interest in TQM—i.e., that it is nothing new, and they have always operated a customer-focused service. Unfortunately, they are not so quick to produce objective evidence of customer satisfaction—i.e., of whether they are getting better or how they stand in relation to peer units. The technique of self-assessment provides a relatively simple way of answering all these questions and, at the very least, provides diagnostic insights into weaknesses in core processes. The British Quality Foundation (BQF) defines organizational self-assessment as: "A comprehensive, systematic and regular review of an organization’s activities and results referenced against a model of organizational excellence" (British Quality Foundation, 1994). The model proposed, and increasingly extensively used, by the BQF and the EFQM is shown in Figure 2. It will be seen that, of the nine boxes, four make up the results—i.e., what an organization (or function or unit) achieves. In the award system, the "results" boxes score exactly half of the total and reflect the outcomes as viewed by the stakeholders. Of these results, the quality axiom "the customer is king" is underlined by the highest score in the model: 20 percent afforded to customer satisfaction. The satisfaction of the "people"—i.e., "all individuals employed by the organization, and others who join in with the task of serving customers, directly or indirectly" scores 9 percent and it is in this area that the working environment, in its broadest sense—training, improvement, and empowerment—comes into play. It is worth repeating that customers are found within the organization as well as in the more ordinary sense. The last box—"business results"—is a generic concept
which embraces the results as viewed by owners, shareholders, or public sector funders: the model is as valid for the public and private sectors as it is for the manufacturing and service sectors.

The other five boxes cover the "enablers," or how the results are being achieved, and these are relatively self-explanatory. However, it is worth opening the box labeled "resources," for it is here that the LIS function resides when the model is being applied corporately rather than to the LIS function itself. The resources which make up 9 percent in the award system are divided into:

1. financial resources;
2. information resources;
3. suppliers, materials, buildings, and equipment; and
4. application of technology.

"Information resources" are defined as "business and technical data and other information in all its forms and the means of making information available."

It should be explained that the Quality Model is not prescriptive and allows for a good deal of local interpretation. Indeed, in recognition of the fact that 80 percent of European enterprises are small or medium, the EFQM is "downsizing" the model to make it more accessible to such enterprises. In this context, it is also relevant to note that self assessment can be applied in a very formal way at one end of the spectrum and with less effort at the other end. For example, a full award simulation exercise could engage a team over a period of nine months in a large organization where a mere two days is enough if using either the "matrix chart approach" or the "questionnaire approach."
An interesting development of self-assessment based on the European Quality Model has been pioneered by the U.K. Royal Mail. This idea of unit excellence is described in a paper by Zaremba and Crew (1995). It shows how the factors in the model described earlier were rendered more appropriate at the unit level so that, for example, “impact on society” became “community satisfaction,” and “policy and strategy” became “planning.” All Royal Mail senior managers have been trained as assessors in the adapted process, and self-assessment is undertaken by small teams drawn from this pool. Furthermore, supporters at the unit level (local delivery offices, motor transport workshops, and so on) underwent intensive training to ensure that the units avoided any difficulties in applying the process. When fully operational, it is intended that these self-assessments are implemented annually to see how units have improved and to identify areas where improvements might be sought. Royal Mail also envisions making internal awards for unit excellence, which accords with the ideas in the Corporate Quality Platform presented in Figure 1.

Is It All Worth It?

This is a question that the individual LIS manager must answer within the context of his or her own situation. There seems to be overwhelming evidence that it is all worth it for the large organizations who have reengineered their fundamental philosophies and core processes in order to meet the complex combination of external factors evident in our so-called postindustrial society. It is not perhaps so clear at the functional level, particularly if it is an LIS operation that decides to tackle the problem of its parent organization unilaterally. There are one or two attempts in the literature to estimate the costs and benefits of quality management but none known to the present authors that might help LIS managers.

Instead, this article concludes with a report of two studies which take a novel, and perhaps significant, look at the cost of “nonquality” and a quotation from a Baldrige Award assessor that should take the reader back to the concept of the corporate quality platform discussed earlier in the article and the potential role of the LIS function within that larger context.

The report on the cost of “nonquality” was undertaken by Herget (1994). He opens with some startling observations:

- only 4 to 6 percent of customers complain at all
- one dissatisfied customer tells ten other people
- one satisfied customer tells three other people
- only 9 percent of the dissatisfied customers who did not complain remained customers
- it costs five times more to win a new customer than to retain an existing one
100 loyal customers generate 50 to 70 new customers

In the main part of Herget's paper, he quotes two sets of figures from actual studies:

<table>
<thead>
<tr>
<th>Cost of quality at Infomat (Crashaw, 1993)</th>
<th>European Currency Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of clients (40 p.a. @ ECU 5000 p.a. 50 percent) (losses due to quality failures)</td>
<td>100,000</td>
</tr>
<tr>
<td>Quality inspection</td>
<td>16,000</td>
</tr>
<tr>
<td>Cost editing</td>
<td>20,000</td>
</tr>
<tr>
<td>Feedback</td>
<td>10,000</td>
</tr>
<tr>
<td>&quot;Defensive&quot; clients visits</td>
<td>25,000</td>
</tr>
<tr>
<td>Internal fire fighting</td>
<td>25,000</td>
</tr>
<tr>
<td>Internal administration</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>206,000</strong></td>
</tr>
</tbody>
</table>

Ratio: Quality costs to turnover = 20 percent

The second set of figures is rather more disturbing:

<table>
<thead>
<tr>
<th>Cost of quality at Company Beta (Herget, 1994)</th>
<th>ECU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention costs</td>
<td>10,000</td>
</tr>
<tr>
<td>Appraisal costs</td>
<td>21,000</td>
</tr>
<tr>
<td>Failure costs (internal)</td>
<td>90,000</td>
</tr>
<tr>
<td>Failure costs (external)</td>
<td>40,000</td>
</tr>
<tr>
<td><strong>Total p.a.</strong></td>
<td><strong>161,000</strong></td>
</tr>
</tbody>
</table>

Ratio: Quality costs to turnover = 41 percent

Herget (1995) concludes with the statement that "producing quality costs money, but not producing quality costs much more. This is the conclusive refutation of the argument which is continually leveled against the pursuit of quality."

Finally, the quote of the Baldrige assessor who said, referring to the Baldrige Quality Model (not unlike the European Quality Model shown in Figure 2):

Category 2, Information and Analysis, might seem innocuous. It's not; it's lethal. It has a low point value—only 80 out of the 1,000 possible for the entire application...yet Category 2 holds disproportionate power...its diminutive point weight is far outweighed by its value in supporting the more highly scored examination categories...The way an award candidate integrates Category 2 with the others can make or break an entire application. (Omdahl, 1992, p. 44).

The LIS sector needs to take quality seriously, to work sensibly with its suppliers, to objectively evaluate customer satisfaction, and integrate its activities and potential within the corporate quest for excellence.
REFERENCES


Quality Improvement: A Strategy for Planned Organizational Change

PATRICIA KOVEL-JARBOE

ABSTRACT

In addition to determining exactly what quality improvement means in a library environment, there is the challenge of identifying and using an appropriate strategy for implementation. Among the factors that can delay or even prevent adoption of quality improvement efforts, such as Total Quality Management (TQM), is fear that the adoption itself may fail. This fear is well founded; many organizations, among them libraries, have a history of starting and then abandoning planned change. Even with the best of intentions—i.e., carefully developed plans and seeming commitment to the ideals of quality—not every implementation is successful. An examination of the literature of change offers several major perspectives on effecting organizational change and yields insights that can be overlaid on the foundations of continuous improvement; taken together, these then suggest strategies by which adoption of quality improvement can be undertaken successfully. By viewing the adoption of an improvement strategy as two distinct but related challenges—one dealing with the philosophy and values of the library and the other with the technical requirements of TQM tools and processes—the adopting library will increase the probability of its selecting and using appropriate strategies. Of necessity, these strategies must be situation specific, but some possible strategies for libraries to use are identified.

INTRODUCTION

The oral history of quality improvement is littered with tales of botched implementations, less-than-stellar outcomes, and utter failures,
yet few of these stories ever appear in professional publications, scholarly journals, or even conference papers. Marginally successful efforts, when they are discussed in the literature at all, are often made to sound like model programs fully worthy of others' emulation. This state of affairs is not too surprising; there are, after all, few rewards and considerable pain accruing to organizations willing to admit failure. Even in those limited situations when organizations are willing to come forward and describe their change failures, there can be difficulty in gaining enough data about the change and enough understanding of the specific context in which it occurred to achieve a real understanding of the causes. Unless one has been a participant in the process, it is nearly impossible to answer the question "What has caused this failure?" at more than a superficial level. So, libraries and other organizations continue to rely on cookbook approaches and good intentions to guide implementation of what may well be the most significant change effort ever attempted in those organizations.

One of the difficulties in examining the literature of quality improvement is the range of terminologies used to describe the various approaches to formal (or structured) quality improvement programs. Total Quality Management (TQM), while a common referrent in many kinds of organizations, is viewed with distaste by many in the public and educational sectors. Continuous Quality Improvement (CQI) appears to have stronger support among not-for-profit institutions but is by no means universally used. Perhaps to avoid unproductive debates about naming, many organizations devise their own terminologies or use a more generic name such as "action learning" to include their improvement efforts. The nuances of naming often reflect the perceived differences among the many approaches to quality improvement. Without discounting those differences, in this article, a variety of the most common referrents are used and subsumed by the term "quality improvement."

Holpp (1989) reviewed failed adoptions of Total Quality Management and identified factors associated with them. These factors ranged from unclear objectives and refusal to cooperate to lack of management involvement and nonstatistical thinking. While he suggests some notions to keep in mind in planning for quality, he does not make clear exactly what it is necessary to do or why.

Libraries, while they are not "just like" any other kind of organization, are not completely unlike other organizations either. Because few of the library efforts to implement quality improvement have been explored in print, and because it is not clear how much of the "generic" material on quality really fits the library as an institution, libraries that want to begin the transformation to being a quality-focused organization may wonder how to get started. They may question whether what worked for a manufacturing firm, a service organization, or a government unit will work for them. And, given a suggested framework for implementa-
tion, they may be unable to determine what, if any, modifications would make the task smoother.

**Structured Quality Improvement**
A structured approach to quality improvement, most notably under the rubric Total Quality Management but also known by myriad other referents, has been alternately described as a management philosophy, a decision-making structure, and a strategy for planned change; it is associated with empowerment, problem solving, customer service, and other worthy, but often abstract, concepts. There is, however, a set of core values or philosophies that quality improvement systems seem to encompass. These include:

- customer focus
- commitment to continuous improvement
- data-based decision making
- process or systems thinking
- employee involvement in decision making

These form the foundation of continuous quality improvement and will be examined more closely in subsequent sections. Most approaches to quality improvement, such as TQM, also provide a framework for diagnosing and solving problems and two sets of tools—one for problem solving and the second for planning and other management activities. The framework and tools provide a means for implementing the improvement philosophy, aligning efforts across the organization, and applying sound problem-solving methods. While it is possible for an individual to apply quality improvement techniques to his or her work, one characteristic of most formal improvement efforts is a reliance on teams to develop and implement improvements in the context of the larger organization.

**Organizational Change**
Instead of relying on cookbook approaches and examining narrowly drawn tales of mistakes (or successes) made by organizations adopting structured quality improvement, it may be useful to study the broader literature of organizational change to ascertain what lessons might be learned and applied in the adoption of quality improvement. The purpose of this article is to consider multiple perspectives on the dynamics of change; examine studies of their successes and failures; synthesize the results of those studies; overlay them on the foundations of formal quality initiatives; and, finally, suggest strategies which might be used to design and implement successful improvement efforts in libraries.

Two major perspectives on the dynamics of change, which will be examined here in depth, are planned organizational change (often
referred to by the term "organizational development"), which derives primarily from the work of social psychologists such as Lewin (1951), Schein (1970), Argyris and Schon (1978), Argyris (1985), and diffusion of innovation (or technology transfer) as described by Rogers (1983), who synthesized hundreds of individual studies and research reports dealing with an extensive array of technologies and practices, and by practitioners such as Kanter (1983). Three additional change literatures which have been examined are quality-specific models arising primarily in the last two decades and spurred by expanding interest in TQM in business organizations in the United States, and relatively recent theories of chaos (or disequilibrium) and learning organizations applied to social and human change.

These perspectives on the dynamics of change, especially the first two, have received considerable attention in published works on organizational change, managerial behavior, and individual responses to conditions of change. Case studies and other research on change often derive their conceptual frameworks and methodologies from one of these perspectives, although detail about the source of the perspective and its tenets may be omitted. Chaos theory and writings on learning organizations have quickly managed to capture the attention of those who are concerned with organizational change; while there is scant published research, there are thought-provoking books and articles. Taken together, then, these fields represent an extensive knowledge base which can provide insights on successful and less successful approaches to organizational changes such as the adoption of structured quality improvement programs.

To the extent that patterns of success or failure can be ascertained from existing studies, it is possible to derive principles and/or practices that are commonly found in successful change efforts and always or usually absent from the less successful ones. In identifying these principles and practices, particular attention must be paid to conditions found within the studied organization and in its immediate environment since operationalizing what constitutes an appropriate strategy is likely to be dependent on situational variables. One way of applying the derived principles of change to the situation of a specific library is to think of each principle (or practice) as being balanced between internal conditions and external requirements. These external requirements may be imposed either by the dynamics of change or the expectations of any of the systems of structured improvement.

**Libraries as Candidates for Structured Quality Improvement**

The effort required to accomplish a library's transformation to a quality-focused environment will be substantial; is it worthwhile? The
most aggressive proponents of quality improvement would argue that every organization, regardless of purpose, size, or character, would benefit from the introduction of TQM or a similar system of quality improvement. A more moderate position suggests that libraries are particularly good candidates for structured improvement because there is a good fit between the core components of quality improvement and the characteristics of libraries. There are some fundamental problems as well, but these may be overcome with appropriate attention during the adoption process.

**CUSTOMER FOCUS**

Although there may be some tendency to resist calling them "customers," library users (patrons, clients, etc.) have received considerable attention. Public libraries are often governed by boards explicitly representing the community and implicitly representing the interests of consumers. Academic libraries (and other types of libraries as well) use library committees to secure input from their customers. While actual usage of inputs from these customer groups may fall short of the ideal of quality improvement systems, it does represent acceptance, at least, of the basic concept. Library acceptance of quality's focus on internal customers may be a harder sell. In the case of external customers, there may be a tendency on the part of those who work in libraries to argue that the customer is not always able to judge the kind of service needed or to recognize those elements in the service that contribute to its quality.

**COMMITMENT TO CONTINUOUS IMPROVEMENT**

Few libraries operate in the same way or provide the same services as they did only a few years ago. While the desire to improve service may be only one factor in effecting these changes, it does offer encouragement for the ability of libraries and their staffs to commit to continuous improvement. Guided by a system of continuous improvement, the library will make conscious decisions about what improvements are needed or desired based on customer requirements rather than on trends in other libraries or the availability of an advanced technology.

**DATA-BASED DECISION MAKING**

Especially as they have become more automated, libraries have enhanced their data-collection activities. Some of the information being collected may be less than ideal for the purposes of quality improvement; it may be largely ignored by staff and other decision makers; or it may be inaccessible to those who would most benefit from it, but the existence and retention of data which measure library processes and outputs demonstrates a fundamental acceptance of the need for measurement.
PROCESS OR SYSTEMS THINKING

Most libraries are oriented to internal functions, processes, and systems, and some might argue that this orientation has worked to the detriment of large-scale change; however, it means one less barrier in terms of implementing quality's focus on systems. The notion that systems are made up of subsystems of interlocking processes (e.g., that the acquisitions system consists of subsystems for selection, prioritization, ordering, payment, etc. and that selection, in turn, subsumes the processes of reviewing newly available materials, applying selection criteria, etc.) is embedded in library operations.

EMPLOYEE INVOLVEMENT IN DECISION MAKING

In some ways, the largest gap between the principles of quality and the library may come in the aspect of employee involvement in decision making. Libraries have relied on comprehensive policies and standardized procedures to eliminate the need for individual decisions. The value of consistency has sometimes outweighed the value of customer satisfaction. The emphasis has been on quality control rather than quality improvement. Decisions about topics which require policy development and/or the design of procedures are often the responsibility of just the "professional librarians" or even boards rather than the responsibility of those who actually carry out the activity.

Among the characteristics of libraries that may impede the implementation of structured improvement programs or pose particular problems to be addressed in the implementation process are: status differences and specializations across staff; valuing of tradition; competing customer needs; the role of boards and advisory committees; large numbers of part-time employees; and staggered schedules of employees working with the same processes. The pressures facing today's libraries—stable or decreasing budgets, rising materials costs, new demands for accountability, and others—are not likely to disappear; quality improvement offers one opportunity for addressing them. It, unfortunately, also faces a threat—i.e., the significant changes which will result from the pressures noted above (whether or not quality efforts are adopted) may be perceived as resulting from the improvement effort itself.

The framework for problem solving and the two sets of tools that are part of systems for continuous improvement offer concrete means of moving from the philosophical notion of continuous quality improvement to the practical tactics required to actually improve quality and manage the library. Adopting the philosophy of quality without the tools leaves staff unnecessarily struggling to do what is needed; adopting the tools without the philosophy contributes to cynicism and resistance. Besides the framework and tools, teamwork is another structural aspect of most formal improvement programs. In practice, almost all organiza-
tions that implement a TQM-like approach to improvement also emphasize the use of teams. Libraries which have used task forces and staff committees to address important library issues (such as strategic planning, policy development, etc.) may find the use of cross-functional teams to improve quality an easy extension of those other experiences; libraries which have relied on individuals or "chain-of-command" structures to accomplish important tasks may have an additional challenge in this aspect of implementing quality.

Another aspect of quality improvement that may prove problematic is the notion of "quality." Libraries, like many other nonprofit, service, and educational organizations, have tended to define quality in terms of richness of resources. Total number of volumes owned, number of best sellers per site, size of professional staff, and similar measures have been taken as indicators of quality. Under continuous improvement, quality is defined as that which meets or exceeds customer expectations. The implications of this are profound. First, libraries must know what their customers expect and how they measure it. A second implication rests on the first—that libraries have an obligation to ensure that their customers are informed/educated about what kinds of expectations they could have. If traditional measures of quality are no longer valid, decisions must be reached about what new measures are appropriate and how they will be obtained. Practices that heretofore were taken for granted or policies that were unexamined become subject to consideration in light of consumer needs and expectations.

There is reason to believe that such changes are on the way. Sweeney (1994), for example, in an article in Library Trends, makes a case for what he calls the "post-hierarchical library." This organization, "characterized by a unique mission, self-organizing systems, and major changes in work processes" (p. 64) certainly sounds as though it has implemented an improvement system as it is focused "on the satisfaction of user information needs" (p. 64).

**The Literature of Change**

*Planned Organizational Change*

By far the largest body of literature on change comes from the perspective of planned organizational change. The studies focus on the psychological, sociological, communications, management, or other critical aspects of planned change; they analyze data at the organizational, group, or individual level. A few studies examine whole sectors or industries. There is also considerable attention paid to the outside environment in which an organization operates and the climate within the organization itself as factors which may influence the success of planned change. In general, the findings from this line of research can be linked to one of
several categories: external environment, internal culture and climate, management roles, participant needs, and restabilization (or anchoring) of the planned change.

External factors are viewed both as an important pressure toward change and as possible restraining forces. The traditional view of planned change argues that a sense of urgency, fostered by external demands, is one necessary antecedent to organizational change. External factors which may trigger the need for change include: market forces, customer demands, or the introduction of new technologies (Jacobs, 1994). These factors, once they reach a critical threshold, are presumably impossible to ignore; they may be discovered before reaching the critical stage through monitoring, environmental scanning, customer surveys, or other data-gathering techniques. External factors may also impede the accomplishment of change; some examples would include collective bargaining agreements, regulatory requirements, and lack of support from stakeholders. Some believe that it is more useful to remove restraining forces than to rely on the strength of driving forces; this presumes the change will occur unless it is prevented—probably not true of formal quality improvement.

Some factors that drive change may be either external or internal—e.g., changing values. Beckhard and Harris (1987) note a trend in workforce attitudes toward desire for more autonomy, flexibility, and meaningfulness coupled with less "organization loyalty" (p. 12).

Organizational culture and climate are internal factors significant to the success of planned change. Distributed power, open and decentralized communication systems, participative decision making, and acceptance of conflict have been identified as contributing to successful changes (Beckhard & Harris, 1987; Pacanowsky, 1988; Miller et al., 1994). There seems to be broad agreement that an openness to consider change and avoidance of mistakes early in the change process tends to accompany successful change efforts, but it is unclear whether such states as openness are causes or effects. Toffler (1985) has argued that internal dissatisfaction can exert a pressure toward change; factors such as unsatisfying organizational politics, poor management, or the entrance of a new leader can predispose an organization to change.

The role of management in implementing organizational change has probably received more attention than any other aspect of the change process. Managers are charged with the key responsibility of creating and communicating a vision of the desired end state (Beer et al., 1990; Schaffer & Thomson, 1992; Kotter, 1995). It is expected that managers will play a major role in ensuring that the conditions noted above (distributed power, etc.) will obtain. Managers also have prime responsibility for recognizing and rewarding those who join the change effort (Pacanowsky, 1988). Marshak (1993) argues that the management of
metaphors is a critical task for the change agent/manager because subconscious beliefs and assumptions exert a profound influence on the change process and are expressed in unconscious language and the use of metaphors. For example, one possible employee response to an announcement of plans to implement quality improvement is "It ain't broke, don't fix it," suggesting a mechanistic view of the organization; the manager's challenge then becomes to substitute in the organizational vocabulary the metaphors that imply a need for movement (perhaps using terms like "journey" or "exploration") or transformation.

Miller, Johnson, and Grau (1994) examined factors that contribute to employee willingness to participate in planned change and concluded that employees with a high need for achievement seek to be informed about the planned change and are better able to obtain higher quality information from informal communication networks. Despite this orientation toward success and increased access to information, these employees experienced anxiety related to lack of knowledge—especially about their own and others' roles. In a May 1995 Internet discussion on the change list (change@mindspring.com), Haywood and his colleagues identified at least ten factors that led people to resist changes in their work organization. Reflecting Haywood and other researchers, it is possible to enumerate general factors leading to resistance.

1. Perception that the change would interfere with future promotions.
2. Reasons for change were not clear to those expected to change most.
3. Perception that the change was not important to continued success.
4. Change decreased or eliminated rewarding aspects of jobs.
5. Change not compatible with prevailing values.
6. People felt coerced to adopt change.
7. A hostile working climate existed in the organization.
8. Resistance to change was not dealt with constructively.
9. Functional or territorial boundaries prevented collaboration.
10. Sponsors of the planned change lacked agreement on key goals.

These suggest some of the questions and issues that need to be addressed in order to move ahead with planned change; they may also be useful in identifying stumbling blocks that may arise during the change process.

One somewhat surprising aspect of unsuccessful change is that it is sometimes due not to failure to achieve the change but, rather, failure to stabilize or institutionalize the change. Adjustment of internal systems, such as MIS and reward systems, and distribution of resulting new artifacts, such as performance appraisal materials, reports, and organization charts, are all needed to securely embed the planned changes in the day-to-day reality of the organization (Beer et al., 1990; Kotter, 1995). Some change efforts fail because attention to the change process is dropped too soon (Kotter, 1995).
From the studies of planned change, it is possible to derive several approaches or models of the change process. First, one must ask if the change is to be evolutionary or revolutionary. If the former, existing structures will be maintained, at least initially, and the organization will go through a development or transition period while the old ways and the new co-exist, perhaps uncomfortably, with neither working optimally. If the latter, old structures and processes will be discarded, perhaps even before new ones are created to take their place (Ackerman [1986] describes revolutionary change, in a possibly less-threatening way, as transformation). The outcomes of the various approaches to planned change (evolution, development, transition, transformation, revolution) may be the same; what differs is the speed, drama, and intermediate consequences of the period between the old and the new. Specific models may be best thought of as points along a continuum, from evolution to revolution, gradually shading into each other rather than separate discrete approaches to planned change.

The "big bang" or top-down model emphasizes the urgency of the change and attempts to implement it everywhere in the organization at the same time. It is across-the-board and often accompanied by organizationwide meetings, educational interventions, highly visible involvement of top management, and major short-term losses in productivity. This model has been used successfully in TQM adoptions especially in manufacturing organizations.

Another approach which preserves the visible involvement of top management but allows for a more gradual implementation of change might be called "managed change," wherein specific opportunities are selected and pursued. Typically, this would leave the organization less likely to incur major losses in productivity but at the cost of a lengthier overall period of implementation. This model may be best represented by organizations which approach quality improvement through the use of pilot projects.

"Small wins" as a third approach is opportunity-driven; top management may or may not be involved, and strategic decisions are made about units or divisions within the organization that are most likely to accept the change and implement it successfully. This model is often experimental rather than being even a small-scale pilot project. Higher education implementations of quality—particularly those based in academic units—provide a common example of this model. The risk is that the change may never achieve widespread adoption.

A final approach is one that might be termed "back door" or bottom up; it almost certainly does not involve top management nor does it have visibility throughout the organization. Those who see the benefit of a particular change will adopt it; others may be completely unaware of what is taking place. Any training required for the change is obtained outside
of the organization as are any other needed resources, unless they can be redirected from other efforts without attracting attention. Snediker and Weaver (1991) discuss a guerilla approach to TQM at Battelle Memorial Institute that mirrors this model.

These four models or approaches to planned change will be discussed further in the context of strategies that libraries can use in implementing quality.

**Diffusion of Innovation**

A second large body of literature of potential interest to those wishing to initiate a major change is found under the general rubric “diffusion of innovation” or the less common and more limited “technology transfer.” Rogers (1983) defines diffusion as a process by which innovations spread to the members of a social system; diffusion is achieved when communication leads to an overt change in behavior. Typically, diffusion studies focus on the steps leading up to the decision to adopt an innovation. If one is interested in organizational change, this is potentially problematic because many implementation failures occur subsequent to an overt organizational decision to adopt. In practice, however, members of organizations have considerable control over if, when, and how to participate in the organization’s adoption of a specific innovation. It seems most useful, therefore, to examine diffusion of innovation studies for insights related especially to the individual change process.

After reviewing hundreds of studies on innovation and technology transfer, Rogers (1983) was able to describe a four-phase model of diffusion. In addition to the four phases of diffusion, he also posits that there is an agenda-setting or initiation period prior to adoption and a stabilization or routinization period subsequent to adoption. His four phases are: communication of knowledge, persuasion, decision, and confirmation. Leonard-Barton (1988) looks at span (many/few ultimate users) and scope (many/few ultimate uses) as factors influencing diffusion and offers a marketing model of the process that is roughly congruent with Rogers’s (1983) pre- , post- , and four phases but uses a more business-oriented language. These phases are: market research (analogous to agenda setting), advertising (encompassing the communication and persuasion stages), distribution (decision to adopt), and field support (confirmation and routinization).

Diffusion rests on five critical factors; the greater the extent to which the critical factors are satisfied by the innovation, the greater the likelihood of a successful adoption.

**Advantage.** The innovation is demonstrably better in some ways than what preceded it; it is more cost-effective, convenient, satisfying, faster, effective, easier, etc. Advantages may be inherent in the innovation or may be forced, for example, through the use of incentives.
Compatibility: The innovation works with whatever is already in place; it should fit existing values, use existing structures, meet ongoing needs, and reflect current or previous experience.

Complexity: Less complex innovations will be preferred over those that are more complex. If the innovation can "start small," has few essential components, and is easy to grasp, it has a better chance of succeeding.

Trialability: Innovations which can be tried out or adopted in a limited manner face fewer challenges in implementation. This factor is especially important to early adopters of the change as a way to lower risks.

Observability: Successful innovations are usually visible; they are obviously different from what preceded them. Further, their outcomes are clearly linked to their use.

A second key set of findings in Rogers's (1983) synthesis of diffusion studies is the pattern of adoption as defined by the characteristics of adopters. The terms which Rogers uses to describe the five categories of adopters have come into common usage but frequently without real understanding of what they represent. Innovators make up a very small percentage of all individuals, perhaps 2 to 3 percent; they are people who are perceived as daring and willing to try almost anything. They are often individuals of low status within the larger social system that they inhabit. Early adopters comprise another 15 percent of the population; they are role models and opinion leaders. Characterized by their integration in the larger social system, early adopters balance risks with potential for success, and they are viewed by others as quite knowledgable. The early majority are cautious deliberate members of the social system. They are neither leaders nor risk takers and may need incentives to encourage their adoption. In size like the 30 to 40 percent making up the early majority, the late majority are more skeptical and more likely to be motivated by peer pressure. They may accept the idea of change but resist any changes in their own behavior. Laggards cling to the status quo and place a high value on tradition. Often loners, but consisting of as much as 20 percent of the population in some organizations, these individuals are suspicious, even hostile, toward innovation and toward those who champion its use.

In addition to examining categories of adopters, Rogers has elucidated the roles of two other categories of individuals important to the change process. Change agents are those who create an awareness of the need for change within the social system or organization. These may be internal to the organization or outside of it (as consultants, for example). Besides creating awareness, the change agent motivates others, encourages them to act, and reinforces examples of the desired new behaviors. The most successful change agents are individuals who are empathetic, dedicated, politically savvy, and credible to others in the social system; they must have a high tolerance for ambiguity and role conflict. Opinion
leaders are invariably members of the social system and usually able to influence others either on a broad range of issues or in a single area of acknowledged expertise. Higher status, internal and external accessibility, and visibility are associated with opinion leaders.

One possible difficulty with the application of diffusion to libraries is related to the concept of the social system. There are probably several social systems operating within even a medium-sized library. Determining the most salient system for any individual or unit may be difficult and, in any case, is likely to vary with the type of innovation being considered.

Kanter (1983) writes about organizational change from a perspective that is part planned change and part diffusion of innovation. In Changemasters, she describes three commodities required to support adoption of innovation. Information, other resources (space, time, training), and support (lending legitimacy and approval) are associated with the successful transfer of technologies within organizations. Although less developed than either Rogers's or Leonard-Barton's models, Kanter's work focuses attention on the important role of information and training in the diffusion process.

Quality-Specific Change Strategies

There are few research-based examinations of quality-specific change strategies; however, there are literally hundreds of articles, books, and manuals directed to those who would implement a quality improvement effort. Many of these fall into the category commonly referred to, often in a pejorative manner, as cookbooks (for example, Barrett, 1994). The metaphor (if not the pejorative tone) is warranted, for typically these guides start with a list of ingredients (or checklist), offer a sequence and timeline for combining the various elements, and conclude with instructions to apply the process and wait for some period of time for the whole effort to achieve results.

A frequent recommendation of the quality-specific implementation manuals—e.g., Scholtes (1988) and Kossoff (1992)—is to approach the development of an implementation plan as a quality problem to be solved. The P-D-C-A Cycle (Plan, Do, Check, Act), also known as the Shewhart Cycle, is the basic approach used for most process improvements. In its simplest form, it is basic scientific method—define the problem and its causes; identify possible solutions; implement one or more "best" solutions on a trial basis; evaluate the trial; and either adopt it, modify it and try again, or move to testing additional solutions. This strategy is offered as the best way to approach the adoption of continuous improvement. While this may be good advice, it may not be feasible for the organization attempting to implement a quality program without the assistance of outside consultants. In order even to assemble a team to develop, evaluate, and implement a trial quality improvement effort, members of the
organization must be persuaded to participate and must be provided with considerable opportunity for skill building and acquisition of information. It seems that, in most organizations, a decision is made at a specific point in time to adopt a structured program of quality improvement. That decision may then be followed with the appointment of a cross functional team to flesh out the plans and, perhaps, develop specific action strategies, but the engagement of the organization occurs before, rather than subsequent to, the development of the plan.

A second key theme of the quality-specific literature is the necessity of management's, especially senior management's, thorough understanding of, and commitment to, the requirements of quality (Scholtes, 1988; Holpp, 1989; Kossoff, 1992). There is a presumption that quality improvement cannot work if managers continue to go about their own work in traditional ways. Proposed implementation strategies to deal with this issue include "cascade" training, wherein members of senior management are trained first in the principles and tools of quality and then expected to train the next level of management, and "walking the talk," whereby managers are expected to model the new behaviors and values of quality for the rest of the organization. Still other strategies, such as redesign of organizational systems dealing with rewards and information, clearly require the leadership and support of managers, although many others may also have essential roles.

Examination of implementation manuals, those noted above as well as a host of others, clearly shows an awareness of the basic principles of both planned organizational change and diffusion of innovation. But the link with these approaches is usually unstated and occasionally misconstrued, so the reader can be left with the impression that the quality improvement program as an organizational change is somehow substantially different from other kinds of changes. This may serve well the purpose of separating quality from "flavor-of-the-month" management trends but does a disservice to libraries grappling with the question of organizationally appropriate strategies for implementing continuous improvement.

At least one author (Crouch, 1993) notes explicitly that the implementation of a quality emphasis entails two parallel efforts—i.e., one focused on attitudes (values) and the other addressing the technical system (structure and tools). Libraries and other organizations which lose sight of this or allow the two efforts to become unbalanced run the risk of short-term success but ultimately, in the long term, failure.

Chaos Theory

The application of chaos theory to individual and social behavior is still in the early development stages but is an outgrowth of its application to natural and biological phenomena. Key concepts in chaos theory are "complexity" and "disequilibrium." Whereas organization theories based
on the assumption of equilibrium value adaptive processes—i.e., those which have the ability to return the organization to the status quo in spite of environmental changes, theories founded on chaos value uncertainty, and posit that organizations have the ability to self-organize in continual, ever-changing, and unpredictable interaction with their environments. If this latter is an accurate view of organizations, it has profound implications for dealing with change; indeed, it suggests that change should be viewed as a natural and desired state in organizations rather than a temporary and undesirable aberration.

Goldstein (1988) notes that organizations experience a kind of autopoiesis—i.e., self-production through mutual reinforcement of their identities, environments, assumptions, and behaviors. This situation not only allows but also encourages the organization to ignore inputs—e.g., customer dissatisfaction—which contradict the desired or accepted state. From the organization members' internal perspective, this is an appropriate survival mechanism, but from the outside it can be seen as an extremely powerful threat to survival. Chaos theory would then suggest that organizations need to achieve a far from equilibrium state in which exchange between the system (organization) and the environment would be amplified and made impossible to ignore. Goldstein argues that one way to achieve the far from equilibrium state is to cause the organization to generate more information about itself through a technique of difference questioning (p. 23) or asking questions which challenge assumptions about organizational norms.

He proposes three strategies to accompany the questioning. First, collect and compare individual rather than aggregated responses to the questions. Second, contrast the organization's real purpose with its autopoietic identity. Third, when a change has been initiated, look for points in the system where resistance arises and question participants about them; use this information to reframe the resistance. As a result, the change can be integrated into the culture of the organization in a way that does not return the organization to the status quo.

Theory of Learning Organizations

Senge (1990) can be credited with popularizing the "learning organization," a concept which comes from the work of Argyris and Schon (1978) on organizational learning and has been elaborated at the Center for Organizational Learning in the Sloan School of Management at the Massachusetts Institute of Technology. It is an extension and application of the principles of double loop learning in the organizational setting. Those who focus on the learning organization take an interest in change as it results from the transfer of individual knowledge to the level of the organization.
Schein (1993) posits that dialogue, a communication technique designed to surface the underlying assumptions of individual and group thought processes, is "a central element of any model of organizational transformation" (p. 40) and an essential strategy in organizational learning. He believes this strategy to be particularly effective in overcoming the barriers posed by hierarchical subcultures and allowing new organizational responses that go beyond the status quo.

Senge (1990), Argyris and Schon (1978), and Schein (1993) all make the point that the responsibility for creating a learning organization rests with organizational leaders whose roles are described as designers, stewards, and teachers. In other words, the role of the executive is to provide the framework in which others can apply their efforts in an integrated and meaningful way to achieve the organization's goals.

One advantage to learning-organization theory as an approach to change is that it treats change as one of the normal ongoing characteristics of organizations rather than as an episodic bounded event occurring outside of organizational routines. In this way, it is like chaos theory's attempt to override the tendency of organizations to return to the status quo. In terms of quality improvement, such characteristics may be desirable since one can assume that customer needs and expectations are unlikely to remain stable over time. Thus, the quality-oriented library will need to assess customer needs not just once but continuously, and it will need to change regularly in response to those needs.

**Synthesis of Perspectives on Organizational Change**

Like the four models of organizational change ("big bang" through "back door"), planned change, and the other approaches to change—i.e., diffusion of innovation, quality-specific models, chaos, and learning organization theories—are not necessarily distinct philosophical perspectives on organizational change. There is considerable overlap and complementarity across them. This suggests that it is possible to take advantage of the strengths of each by matching them to the particular situation of the adopting organization. In fact, as noted earlier, a close examination of the better implementation manuals makes it clear that these materials are based on some knowledge of more generalized models of change.

There are several factors that are emphasized in every approach. The important role of management in providing leadership and direction for the change is one common element. Another is the focus on the transfer of information and/or knowledge—from managers to other organization members, from the environment to the organization, and among peers. Some of the approaches explicitly, others only implicitly, link education and persuasion with the information/knowledge transfer process. Most note the part that individual choice plays in successful change, and,
with the exception of learning organization theory, which focuses on the continuous nature of change, all address stabilization or routinization as the final phase of successful change.

Planned organizational change and diffusion of innovation as the most complete of the perspectives are complementary. Diffusion of innovation explains the decision to adopt a quality approach among leaders and other organizational members as individuals, while planned change suggests factors that need to be dealt with to facilitate adoption at the level of the total organization. Further, diffusion of innovation may be particularly apt in planning for the technology transfer of moving quality tools and practices into the adopting organization. Both perspectives acknowledge the importance of the initiation or agenda-setting stage and its links to internal and external factors as well as stressing the part that satisfaction of these internal and external factors has in confirming the adoption decision.

PROPOSED STRATEGIES FOR LIBRARIES IMPLEMENTING QUALITY

The decision to implement a quality management program ought to trigger two distinct, but related, change processes in the adopting library. First, a philosophical decision to change the organization is made; implementation of this decision seems best accomplished through the use of planned change strategies with a focus at the organizational level. A second decision, to adopt specific tools and practices of quality, seems best implemented by treating it as a diffusion or technology transfer problem with a focus at the level of the individual employee. These two challenges, one philosophical and the other practical, are parallel but separate. They require compatible but different strategies, and they will most certainly test the ability of libraries to balance social and technical issues.

A necessary first step for the library is to determine what change approach is most likely to succeed given the size, environment, and conditions operating in the library. Whatever approach is taken, it must be compatible with internal values and conditions, but it must also be true to the requirements of quality improvement. Making compromises in the beginning, with the expectation that modifications can be made later, is unfair to those who will participate in the change—leaving them prone to skepticism and mistrust—and will run counter to the foundations of quality. In practice, this means that libraries should not expect to implement the philosophy without the tools (“everything would be all right if our staff would just put the patron first”) nor the tools without the philosophical underpinnings (“people can be taught to solve problems without expecting to become decision makers”).

A "big bang" implementation is assumed to work best in libraries with: pressing (external) drivers for change; strong staff support for structured improvements, at least among opinion leaders; committed
management and board; considerable experience in using teams; already highly effective communication channels; a staff small enough to meet face-to-face with the change agent(s); and resources adequate to compensate for a temporary loss of productivity. Few libraries are likely to meet these criteria, but those which do can look forward to a relatively quick implementation.

A "managed change" approach requires many of the same conditions—pressing drivers, supportive staff, management commitment, good communication—but is more likely to work when conditions are not quite so well met or when one or two conditions are missing. For example, a large library with multiple facilities might implement a managed-change strategy by targeting a single site which is representative of the system as a whole. Or a library with a functionally oriented structure and relatively little teamwork might begin its implementation of continuous improvement within a division experiencing particularly great pressures for change but which is otherwise typical of the other units in the system. The library's goal would be to use these as highly visible pilot efforts but then move quickly toward organization-wide adoption.

To an external observer, the difference between a managed-change strategy and that of "small wins" might be hard to spot, but to the library pursuing the second strategy, differences would be significant. Small-wins approaches are most likely to be used in situations where: commitment and support are uneven; some significant conditions are not met; or appropriate pilot sites are not available. It is a "we-think-we-can" strategy for the libraries which adopt it and entails at least tacit support from library leaders. Opportunities are selected based on favorable conditions including the likelihood of staff support and, usually, selected elements of a quality improvement system are inserted into the organization. To be most effective, the opportunities must have some visibility within the library but should not be too risky. If these strategic opportunities result in successful outcomes and do not engender active resistance, additional opportunities may be sought. Occasionally, unsuccessful experiments are also followed by additional opportunities. With some level of success, the library may attempt a large-scale implementation of its quality effort or may continue to pursue it on a case-by-case basis.

A "back door," or in Snediker and Weaver's (1991) term, a "guerilla" approach may need to meet few, if any, of the conditions for institutional adoption, although its promoters may hope for it ultimately to lead to librarywide implementation. Like small wins, it looks for strategic opportunities and pursues them; unlike small wins, it may be used even without leadership support or acknowledgment. Typically, elements of a quality program are introduced and applied with little fanfare, the trial opportunities have little visibility beyond the immediate participants, and the champion is either buried in the library hierarchy or viewed as an oddball.
Once the library has determined the basic strategy it wishes to use, a series of tactical decisions must be considered. The strategy which has been chosen will determine the balance in emphasis between the philosophical foundations of quality, essential to every approach except the "back door" model, and the tools and problem-solving structure. This balance will, in turn, influence the tactical steps which should be taken and their sequencing, although many of the tactics are likely to be of use whatever the approach and will differ only in degree. It is important to remember that an organization becomes quality driven only as it begins to focus on the practice of quality; therefore, from a quality perspective, it is not necessary to be able to implement quality techniques perfectly, only to be committed to continuous improvement.

Since most libraries are likely to find that a "managed change" or "small wins" approach is best suited to conditions which exist there, the balance of this discussion is biased in those directions, and specific examples and suggestions are consistent with those approaches. Particular attention is given to ways in which the P-D-C-A cycle can be incorporated in the change process. The following discussion of tactical issues and decisions is organized around the phases of Rogers's model, which is basically linear but does not require that an earlier phase be completed before moving into activities associated with the next stage. Rogers's four-phase model is itself completely compatible with the P-D-C-A approach to problem solving. Be aware that some situations may make it desirable to move ahead (or back) to address specific library concerns.

**AGENDA SETTING**

While the library director and/or board may have already made a decision to pursue the use of quality improvement and should have involved other key managers, the agenda-setting period is an opportunity to focus attention on the forces that require the organizational change and to define the problems that a quality approach will solve. It further provides an opportunity to carry out both steps in a public setting which should engage the largest possible number of staff. Ideally, there has been substantial discussion leading up to this point. If not, the agenda-setting stage may need to extend over a relatively longer time period. It may be during agenda setting that decisions are made concerning the specific approach the library will adopt.

From the perspective of participants in the organization, agenda setting puts the issue "on the table"; it makes quality a part of ongoing organizational conversations. Quality improvement will get mention in minutes, brief treatment in library newsletters, be the subject of articles circulated to members of the staff, etc. One or a few opinion leaders among the staff may be sent to conferences or workshops dealing with quality, assessment, or other associated topics. The tone of official communications is not so much "this is what we are going to do" as "this
is what we are looking at as a solution to our problems" or "we think this might assist us in our goal to excel."

Tactical issues to be addressed during this phase include: management involvement and role; whether to use an internal or external consultant; how to refer to the change effort (metaphor, vocabulary, etc.); the vision and/or specific goals for the change; and identification of values that will serve to support the change. This would also be the time for the quality champion (board chair, library director, or another high-level administrator) to become visibly involved in the change effort.

Issues around management involvement and their role will entail decisions about:

- what level of training to provide to managers and when to do so;
- whether and how to use managers in training others;
- how managers will be involved in introducing the change;
- how unexpected problems will be handled;
- how to deal with perceived losses associated with change; and
- developing strategies for dealing with short-term decreases in productivity.

The library will also have to make a decision about whether or not to use quality or change consultants and, if so, how. Key questions should be:

- Does the library have or can it quickly develop appropriate expertise?
- Does the personnel system allow for hiring or reassignment of someone to carry out the role of change agent?
- Are support and training resources locally available?
- What experience does the library have with planned/major change?
- Are staff resources available to plan as well as carry out the changes?

Selecting a metaphor to describe the adoption of continuous improvement and a vocabulary to use in the quality effort may seem to be minor issues but, as Marshak (1993) points out, they engender attraction or resistance at a subconscious level in the participants to the change. If library staff do not believe there are serious problems to be dealt with, selling quality as a solution will be an uphill battle. Likewise, if quality improvement is used as a code term for downsizing, significant resistance can be expected (if staff size is to be reduced through layoffs, it is advisable to separate that decision/action from quality improvement in both time and space. If the two actions—quality and layoffs—take place in a similar time frame, whether linked or not as decisions, they will be perceived as having a cause-and-effect relationship).

The language of quality must have its basis in the vision and/or specific goals the library has established for improvement. Much attention
is paid, especially in quality-specific materials, to the need for leadership vision, but this is often problematic. Directors in public and educational agencies, such as libraries, do not have the same latitude in imposing their vision on the organization as do chief executives in for-profit entities. What must be clear is the desired end state. Participants need to know that after the change has been fully implemented, the library is expected to be substantively and qualitatively different, and they need to know what these differences are.

A third and closely related issue is how the values of the library, its staff, and stakeholders will be strengthened or changed by the adoption of quality improvement. This implies that the champion(s) of quality must know and understand these values at the beginning of the change process. How does the champion identify values? Often they are implicit in the formal and, especially, informal rhetoric of the library. When staff members or groups question a decision or policy, what arguments do they make? These are usually linked to what they perceive to be library values. What behaviors are held up as examples of outstanding performance? These are based on values. What are the “social” mistakes that only newcomers would make? These are violations of values—often unwritten and unvoiced.

To select appropriate tactics for accomplishing the language-, vision-, and values-related aspects of the change, the steps which need to be taken are:

- identify values which will support or hinder the change
- describe the desired end state to show how it relates to existing values
- begin to question values which will be undermined by the change (i.e., good enough may not be what our users expect or quality need not necessarily cost more)
- select metaphors and other rhetorical devices built on supportive values

Management, besides dealing with the issues identified above, will do well to begin grappling with the tough question of how far to go with formal quality improvement. For example, most libraries are currently structured in a manner that is probably too hierarchical and too functionally oriented to be completely compatible with continuous improvement. Is the library open to restructuring as the implementation of quality makes progress? How much flexibility is there to change systems that are used to maintain the library and its staff—e.g., performance appraisal or selection systems? (If there is openness to these larger issues, they may be strong candidates for P-D-C-A treatment at a later date.)

Most of the activities undertaken during agenda setting serve to smooth the way for both the social and the technical changes to come as part of continuous improvement, but they are particularly important in shaping new attitudes and to the success of change in philosophy and
values. (Libraries using a “back door” plan will probably ignore both this and the following phase.)

**COMMUNICATION OF KNOWLEDGE/PERSUASION**

Leonard-Barton’s (1988) implicit argument that these two steps occur simultaneously seems to reflect one of the differences between change at the organizational and change at the individual level. Whereas individuals may separate the two actions, first gathering information and then weighing it to determine whether the evidence is persuasive, organizations seem to mesh the two processes, collecting some information and evaluating it, then looking for additional information which either supports or contradicts the earlier findings. In both cases there is tremendous need and a corresponding capacity to seek and judge information. This is apparently one of the reasons why even changes that are well-planned and generally appealing take such a toll on productivity.

During the period when information is being conveyed and persuasive tactics are being applied, those leading the library toward quality will be busy: providing information in many forums; responding to questions; attending meetings; clarifying and reinforcing vision and/or goals; and balancing individual and organizational concerns. Again, the emphasis will be on the social and attitudinal components of the change, but setting the stage for adoption of specific quality technologies becomes important toward the end of the persuasion process. Library staff may initially be drawn to the empowerment aspects of quality, but they need to learn at the same time that this power is achieved through the rigorous and consistent use of quality-focused tools.

Three of the critical diffusion factors will receive attention as part of the knowledge transfer process. They are key to convincing library staff members to consider structured quality improvement as a useful innovation. Advantage, compatibility, and complexity will be conveyed through language chosen, examples used, and goals presented. Additional issues which should be addressed during this stage of the change process include:

- information about resources which have been set aside to make the change;
- planned opportunities for training and/or practice; and
- successful implementations in similar libraries.

Although the director and board may believe the decision to adopt quality was reached long ago, it is only when a critical mass of the participants also reaches this decision that a tentative organizational decision has been reached. Critical mass does not require a majority of staff; it may not even mean a large minority, though either would be a desirable outcome to this stage. If management support is strong, commitment
from a significant number of opinion leaders and lack of overt resistance from others should be enough to move forward in either the "managed change" or "small wins" scenario.

**TENTATIVE DECISION**

With the tentative decision made, the library begins to move from discussion and examination to action, although there continues to be great need for information sharing both with active participants and those still on the sidelines. Trialability and observability, the two as yet unaddressed critical factors in diffusion, become the center of tactical efforts. Strategic opportunities to implement quality principles and practices in the library are sought; the selected opportunities must not only exhibit the capacity of the quality system to work better than other approaches, but they must also be implementable on a small scale and observable throughout the organization. Pilot or experimental projects should also balance risks and impact. They should be big enough to matter but small enough to succeed in a reasonable time span. There may be occasions when a library would choose a risky visible project to persuade vocal opponents or to counter a specific criticism of quality improvement.

Tactical decisions will focus on:

- selecting appropriate pilot projects and/or experiments (keeping in mind the necessity to involve various levels of staff and diverse units);
- securing participation of opinion leaders on project teams;
- designing and delivering the needed training and support to teams; and
- determining appropriate rewards for successful projects.

In the library that is using a "back door" approach, the implementation of quality probably starts at this stage. Initial projects are likely to be guided by innovators rather than opinion leaders, and risk is less a factor than the perceived need to do something different.

**CONFIRMATION**

This is the phase of diffusion when structural adjustments begin to be made to accommodate the change and when the "technologies," tools, and practices in the case of TQM, are customized to the adopting organization. Assuming that the pilots or experiments have achieved some successes, the quality program starts to influence the way the library operates. Members of the "early majority" population begin to show interest in the innovation, and some even give it a try. Up until this point, the participants, in training for example, have been primarily innovators and early adopter/opinion leaders; now there may be more people interested in training for projects or teams than can be accommodated. If the library has been using a consultant to advise on the implementation process,
This is likely the time when that person is supplanted by members of the library's own staff.

It is management's responsibility to trigger the move from the tentative decision phase to confirmation, so one of the tactical decisions to be tackled is what indicators will be used to show that the library is ready to move into this stage. Indicators could be a certain number of successful projects completed, a specified percentage of staff trained in the basics of quality, or a measurable increase in staff interest and accompanying decrease in resistance. On the individual level, the confirmation stage has been entered when the specific tools and practices of quality have had an impact on behavior. As staff apply the tools, talk about root causes, begin to ask others for data to support decisions, etc., the change is observable.

This is the stage at which one or more teams of staff might be established to develop broader implementation plans and to identify desired outcomes and specific measures by which to shape and improve the quality effort in the library. In many organizations, this is the time when staff members take on significant responsibilities for training or facilitating the expanding number of new teams/projects.

Issues needing attention in the tactical area include:
- keeping balance between conceptual and practical aspects of quality improvement;
- identifying systems which must be modified to stabilize the change and making those modifications;
- maintaining a steady or increasing pace in the projects undertaken; and
- if major structural changes are to be made, shape the plans for doing so.

Stabilization

As the confirmation stage gradually shifts into stabilization, the innovation loses its separateness and its distinct identity; structured quality improvement becomes "just the way we do things around this library." The language and metaphors espoused in the beginning of the implementation process may remain in the organizational vocabulary or may have been subtly replaced with other terms, but there is consensus about their use and meanings. Although quality may not be perceived as a separate aspect of the library's operations, the champion and other leaders should not be too quick to assume that the adoption will "stick" without further attention. Continuous improvement is hard work even when it is the norm, so the library needs to provide reinforcement as well as ongoing opportunities for staff members to refresh and expand their quality-related skills.

Tactics which should be considered at this stage include:
- appropriate attention to any lingering resistance;
• further structural changes; and
• formalized system for monitoring changes in the external environment.

CONCLUSION

There is probably no perfect example of how to implement structured quality improvement just as there is no perfect model of organizational change. Based on the literatures of change and quality, it is obvious that the right approach for any library will be that approach which best reflects both the internal culture and external environment of that library. Libraries adopting a quality focus should plan thoughtfully and strategically and should be prepared for what will, in all likelihood, be a lengthy process. In preparing for the implementation of quality improvement, it may be helpful to think separately about the attitudinal or philosophical changes it will require in managers and staff and the technical or practical changes it will require in systems and procedures.

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Quality in School Library Media Programs: Focus on Learning

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ABSTRACT
The quality of school library media programs is inextricably linked to the quality of education offered in the schools. In a school-reform effort to enhance that quality, schools have evolved to a focus on learning. Following a similar pattern, school library media programs have changed in focus from collections to programs to instruction and, finally, to learning. Research about learning indicates that it must be constructed by the learner and facilitated by a teacher in a caring environment. School library media specialists have pivotal roles in creating a culture in the schools that is learner centered. If that culture is created, validation of the quality of school library media programs will occur in the hearts and minds of children as they discover the joys of learning.

INTRODUCTION
Libraries are educational institutions; their quality may be judged according to their fulfillment of that role. But school libraries, perhaps unlike other types of libraries, cannot be judged independently from the schools in which they exist because they are inextricably linked. The success of school libraries depends on the quality of education offered in the school. The definition of "quality education" has been undergoing challenge and revision since the publication of A Nation at Risk (National Commission on Excellence in Education, 1983), which sounded a national alarm about the mediocrity in the nation's schools. The immediate (and continuing) reaction of many policymakers has been to demand
more in order to boost the quality of the educational system: more time in school, more core subjects, more testing of students, more national curricular standards (Wood, 1992, p. xx).

Many education and management experts have rebutted this policy trend, arguing that what is needed is not more low-quality work but a renewed emphasis on high-quality education. One such expert, William Glasser (1992), has recognized the applicability and value for the schools of the emphasis on quality being adopted by the nation's businesses: "In today's competitive world, only organizations whose products and services are high quality thrive, and our schools are far from thriving" (p. 2). Glasser has noted the power of the emphasis on quality that has emerged from the work of W. Edwards Deming, whose ideas transformed Japanese industry and are now being adopted by American business.

Certainly the first step in raising the quality of education is defining the purpose of education. Education cannot be limited to academic pursuits. It must focus on teaching students how to learn, linking them to the community, and showing them that they can make a difference (Wood, 1992, p. 59). Wood has summarized the power of schools to transform lives: "Elementary school can be a place where, in addition to and beyond the mere memorization of facts, children learn to think, to cooperate, and to be actively engaged. It is the place where we can lay the foundation upon which democracy is built" (p. 9). Educators have realized that a focus on learning (as it is broadly defined above) should provide the basis for educational reform; a focus on learning will lead to high-quality schools and student success. Glasser (1992) has summed up this focus in a powerful statement: "Education is the process through which we discover that learning adds quality to our lives" (p. 174).

The organization of schools has not always been built around learning. When public schools first became a national system, they were modeled after factories. Industry had learned how to mass produce items efficiently and effectively; surely children could be most efficiently educated using the same paradigm. Although that model has proven to be flawed for organizing effective education, it has been difficult to replace. Fortunately, the school reform movement has been building in momentum over the past fifteen years. School leaders are again looking at business (as businesses are turning to models based on quality, not mass production); the leaders are blending those ideas about quality with what they know about how children learn and what the primary focus of our educational system should be.

School libraries have evolved in philosophy much as the schools themselves have changed, from a concentration on the "things" of schools (buildings, textbooks, schedules, library collections) that make the system manageable and efficient to an emphasis on individual needs of students and learning supported by caring school communities. The public
schools have been slowly evolving since they became widespread early in the twentieth century; school libraries have changed much more quickly because they essentially did not even exist during the first half of the century.

In 1954, only 37 percent of public schools even had libraries, and there were one-third less school librarians than libraries ("In Service to Youth," 1994, p. 26). In 1991, the number of public schools with library media centers had risen to 96 percent, although 17.9 percent of those had no librarian (Ingersoll, 1994, pp. 14, 21). The well-established public library probably provided a model initially, but today's school library media programs have evolved more in concert with educational reform principles than with changes in public library service. A look at the major developments in school libraries since 1950 reveals the evolution of a learner-centered philosophy that will lead schools into a model of quality education for all students.

**Evolution of a Vision**

The overall focus of school library programs from 1950 to the present can be characterized in four stages: a concentration on collections in the early and mid-1950s; a focus on the library program to make the collections useful, which emerged from national standards in 1960 and 1969; a major emphasis on instruction as revealed by the 1975 and 1988 standards; and finally the current shift to a focus on learning and a complete blending of process and content instruction.

**Collection**

By the early 1950s, leaders of the field were trying to define the role of the school librarian. A 1953 issue of *Library Trends* on school librarianship included an article by James (1953) that outlined five tasks for librarians: (1) provision of books and audiovisual materials to students and faculty; (2) assistance with curriculum development; (3) class visitations; (4) consultation with departmental groups; and (5) preparation of bibliographies for course units (pp. 316-20).

Despite the illusion of involvement with curriculum, librarians at this time probably maintained the somewhat passive role of assisting students and teachers only when asked. Much of the professional emphasis was placed on building centralized collections, many of which had their origins in pooled classroom collections. The Sputnik launch in 1957 resulted in the release of some federal funding for school libraries with the idea of building collections to turn libraries into resource centers.

Along with the emphasis on collections, there was also a slight movement toward involvement in the school instructional program during the 1950s. The involvement was often characterized in terms of collection use—the librarian might consult with a teacher on the most appropriate
sources for particular units; the librarian might teach students about relevant sources. In 1956, the American Association of School Librarians (AASL) issued a statement about the role of the school library ("a center for print and nonprint") and school librarians ("coordinators, consultants, and supervisors of instructional materials") that again revealed the emphasis on collection use (Craver, 1988, p. 48).

Program
The 1960s were turbulent for schools just as they were for society as a whole. New subjects were added to the curriculum (humanities, fine arts, communication), and new teaching strategies were tried (team teaching, tracking, block scheduling) (Craver, 1988, p. 49). In 1960, AASL (1960) issued national standards for school libraries that emphasized the teaching role of librarians, but the teaching was materials-based. Librarians were to teach students how to use library materials in relation to classroom units. School libraries were starting to develop programs that would make their collections well used.

The 1969 standards, issued jointly by AASL and the Department of Audiovisual Instruction of the National Education Association, placed greater emphasis on curricular and instructional planning with teachers. These standards recognized that the resources and services that formed the library program included use of audiovisual materials: the school library became the media center; the school librarian was renamed the school library media specialist. Although the standards did not recommend changing the nature of library instruction beyond helping students use the media center, the standards did lead the way in establishing with administrators and teachers that instruction and curriculum were primary role responsibilities of school library media specialists, and that nonprint had joined print to make the library a different place with expanded opportunities and resources (AASL and Department of Audiovisual Instruction, 1969).

Instruction
In reaction to the feeling that the 1969 standards did not adequately emphasize the instructional role of the library media specialist, AASL and the Association for Educational Communications and Technology (AECT) jointly issued new standards in 1975 called Media Programs: District and School (AASL & Association of Educational Communications and Technology, 1975). These standards advocated a more active instructional role, with the school library media specialist initiating and participating in curriculum development as well as consulting with teachers about the best resources for instructional units. These standards represented a shift in the instructional role from instruction about the library and use of its resources (whether integrated with a unit or not) to involvement in the larger teaching world of the school through instructional and curricular development.
During the 1970s and early 1980s, the literature about instructional development in school libraries was largely written by professionals in academic settings who prescribed levels and types of involvement (Loertscher, 1982, pp. 417-21; Turner & Naumer, 1983, pp. 29-37). They were trying to provide models for school library media specialists who were being called upon to make a major shift in their priorities, from concentrating on their own programs to helping to develop the curriculum of the entire school. But the building-level librarians were faced with overwhelming obstacles in trying to make that shift: no additional support staff was made available; library media specialists were still trying to maintain their independent curriculum of library skills instruction; most elementary libraries were fully scheduled with back-to-back classes; and few librarians had ever received training in either instructional or curricular development. School library media specialists were in an extremely stressful situation. Some got mad but tried to discover how to make instructional development work (Stripling, 1984, pp. 290-96). Others simply gave up and resorted to their secure role in a library program independent from what was going on in the classrooms.

This turmoil over the responsibilities and focus of the school library media specialist caused an increasing differentiation in library programs that has continued to this day. In the same school district today, all across the country, one library program can be actively integrated with the curriculum and instruction of a school while another can be tightly scheduled with classes that serve as teacher planning time in which the librarian teaches library skills in isolation and predetermined order.

Arising from this professional chaos were new national guidelines (not standards) written by AASL and AECT entitled Information Power: Guidelines for School Library Media Programs (AASL & AECT, 1988). These guidelines tried to define more clearly the instructional role of the library media specialist, advocating a collaborative partnership among teachers, principals, and library media specialists to design a library program that matches the instructional needs of each school.

In this publication, three roles were specified for the school library media specialist: teacher, instructional consultant, and information specialist. As an information specialist, the library media specialist provides both physical and intellectual access to library resources. This role has dominated school libraries since their earliest days. In the teacher role, the school library media specialist broadens the scope of the traditional retrieval and use-of-information curriculum to include skills of thinking; critical reading, viewing and listening; communication; and lifelong learning.

The instructional consultant role takes the library media specialist beyond the library program to integrating the information curriculum throughout the instructional program by collaborating on instructional units and consulting in the development of curriculum. This role
description reflects a professional movement to determine the parameters of a library program based on whole-school needs rather than the needs established for the library program itself. But the guidelines seem to retreat from too radical a stance about the importance of the library media specialist involvement in school curriculum—the librarian is merely a "consultant," not an initiator or co-planner.

Learning

While Information Power was being bandied about by library media specialists, other educators were wrestling with school reform issues. A groundswell movement had arisen in our country to transform schools according to principles of effective schools. Sizer's (1985) Coalition of Essential Schools listed nine common principles which seemed to be present in effective schools across the country (pp. 225-27). The essential elements of these nine common principles can be encompassed in four aspects of schools—teaching, learning, atmosphere, and structure. The essential features have been categorized and summarized in Figure 1.

When library media specialists began investigating school reform principles, they discovered that the reform ideas coincided with their own evolving vision of a school library program. Library media specialists were trying:

- to develop in-depth learning experiences in the library on subjects that were personally significant to the learners;
- to emphasize thinking and inquiry skills;
- to foster a community of learners through cooperative learning and group interactions;
- to provide an atmosphere that allowed each student to feel safe and to experience success;
- to help the students complete authentic assessment products;
- to make students responsible for their own learning; and
- to teach through coaching.

As the school reform movement was gaining momentum, the DeWitt Wallace-Reader's Digest Fund decided to support school change by helping elementary and middle schools transform libraries into centers of learning for the school. This Library Power project, begun in the New York City schools in the mid-1980s, has now expanded to twenty communities across the country. Although each community builds its own program according to local needs, the entire project remains focused on building active and engaged communities of learners. Data are now being collected in the various Library Power sites to assess the effectiveness of using the libraries as centers of inquiry in order to transform teaching and learning in the schools. Early indications are that the Library Power project has had measurable and demonstrable impact on both the quality of school library programs and the quality of learning exhibited in the schools.
Learning thus became the heart of the school reform movement and the Library Power project. In these reform efforts, school library media specialists had finally found the key to true integration into the instructional life of the school—i.e., centering the library on learning. In the last forty-five years, school library media programs have changed focus from collections to program to instruction and finally to learning. The focus on learning is new but potentially more powerful than any other school library change. There are profound implications for the services, structure, and operations of the library, as well as for the roles of the school library media specialist. The measure of quality of school library media programs has now become how well they establish and extend a culture of learning in the school.

Learning

If the model of a high-quality school library media program is founded on learning, it would be helpful to define learning in terms of current research findings. Much of this research has been labeled "constructivism." Researchers and educational reformers are finding that the constructivist approach to learning produces deeper understanding and more engagement by the learner. In the constructivist approach, the learner constructs his or her own meaning through active participation—i.e., asking questions, finding information, trying out new ideas, modifying and refining ideas based on feedback and reflection, and communicating the new understandings. This approach is contrasted to the old process/product approach of behaviorism in which knowledge is broken down into little segments which are fed to the learner on a predictable schedule.
Kuhlthau (1993) has identified three stages in the evolution of library skills instruction that parallel the evolution of library programs themselves. The first strategy was the source approach; the location and use of specific sources were taught. As library programs began to focus more on instruction, they adopted the pathfinder approach, which outlined each step in finding and using information. The premapped plan was used in the same sequence by every learner. This stage coincides with the behaviorist approach to learning. The third (and presently used) method is the process approach, which engages the learner in constructing his or her own meaning from examining a variety of evidence. The learner is not following a prescribed invariable path nor is he or she seeking one right answer (p. 10).

An examination of research about learning reveals a few underlying principles; these ideas must form the structure of our schools and our school libraries. These principles have been previously described by the author in a Chattanooga, Tennessee, Power News newsletter article (Stripling, 1994, pp. 1-2).

**Self-Knowledge**

The early years of a child's life are spent in self-discovery as the child steps out and tries to make his or her way. In the Western philosophy of learning, called by the educator Howard Gardner the "transformative" approach, the child is encouraged to teach himself/herself through discovery; the caretaker's role is to provide opportunities for engagement with the world. Gardner contrasts that approach to the Chinese philosophy of teaching, the "mimetic" approach, in which the caretaker provides models and careful guidance on specific tasks. The child does not find his or her own way to create art, for example; instead, he or she is taught specific techniques.

Cognitive research in the Western world shows that, unless children are given the opportunity to get to know themselves and to discover their own world, they cannot relate learning to the outside world. A student must progress through both self-knowledge and an understanding of the outside world before he or she can wrestle with universal issues. That progression from personal to social to universal has obvious implications for the curriculum.

Cognitive research has also made clear that learning related to real life is more relevant, powerful, and long lasting for a student. The real-life aspect of the classroom that is important, then, probably follows the same progression, from personal to social to universal.

**Core Understandings/Learning How to Learn**

Students do not learn effectively from collections of facts; new information must be put into a meaningful context for it to become knowledge. As information proliferates and student access explodes, the challenge to
educators is to discern core ideas that students should understand and revolve the curriculum around these ideas. The movement to map curriculum around concepts is an expression of this approach to learning. Once concepts have been defined, students and educators should mutually decide essential questions that will help them grapple with key ideas embedded in the concept.

Throughout learning, students reflect on understandings they have gained. Each understanding should lead to new questions so that the students become involved in a thoughtful learning cycle. As they experience this cycle, they are learning how to learn.

Personal Need

Research certainly shows that students learn better when they are intrinsically motivated. That motivation must stem from personal interest. The job of the educator is to help students find that personal hook to the essential understandings of the curriculum, not to relinquish all responsibility for deciding what students should learn.

We also know that each student learns differently. Students have different strengths and, according to Gardner (1983, 1993), a number of different intelligences. One student may be particularly talented verbally, another may excel artistically, and another physically. Since each student's approach to a learning task will vary, educators cannot predetermine the path; they must simply provide challenges and scaffolding to help students along their own paths.

Active Learning

Active learning is an absolutely basic learning principle. Research is clear that if students are passive receptacles for information, little or no learning takes place. That is probably why, when adults are asked what they remember about their elementary schooling, they most often cite the projects they did by themselves.

The key to turning isolated facts into understanding pivots on the connections that the child makes with what he or she already knows or believes, with his or her own persona, and with his or her world. No one but the child can make those long-lasting connections. Through active learning, each student will develop essential learning skills:

- asking good questions
- identifying prior knowledge
- selecting and evaluating information
- drawing conclusions based on evidence
- communicating decisions and understandings
- creating new knowledge based on learning.

Facilitation of Learning

With all the emphasis on the student's role in learning, the teacher seems peripheral to the process. Research, however, emphasizes the importance of facilitative teaching to learning. The catalyst for changing
ideas is confrontation with a contradiction. The teacher's role is to confront students with the possibilities, to keep pushing at the edge of the student's potential for learning. That constant modeling and confrontation lead to modification of ideas.

Once we acknowledge the facets of learning that have been highlighted through research, our task is to undergird our reform efforts with that understanding. Our emphasis should not be on simply providing flexible access to the library; it should be on using flexible access to foster active learning, in-depth pursuit of core ideas in the curriculum, and students' use of information as they learn how to learn. Educational reforms will have greater effect if they are based on research-proven principles of learning.

In each school, a cadre of teachers, the administrators, and the library media specialist must assume responsibility for integrating the principles of learning into the library-based curriculum of the school.

**Roles of the School Library Media Specialist**

The three roles of a school library media specialist as they were outlined in *Information Power* were designed for a focus on instruction in the library. The paradigm borders on the traditional teacher-in-control classroom atmosphere: as information specialist, the school library media specialist is the authority on sources and their use; as instructional consultant, the school library media specialist works with teachers to plan the school curriculum and library-based instructional units; as teacher, the library media specialist teaches students the information curriculum integrated with the school's curriculum. All of these roles revolve around the library media specialist as the central figure in the library program. There is no question about "Who's in charge here?" These roles are portrayed in Figure 2.

A shift to a learner-centered library changes the roles of the school library media specialist. First, the learner is the center of the program, not the library media specialist. Second, the library media specialist is not making all of the decisions. In a constructivist learning environment, the learner has primary responsibility for determining the direction and scope of the learning. Glasser (1992) says that, in a quality school, the work to be done is established through a conversation between the teacher and the student based on the needs of the student (pp. 31-37). The students must set their own standards for learning, reflect on their performance, and work hard until both they and their teachers agree that they have succeeded in reaching the standards (pp. 89-103).

The library media specialist and classroom teachers have essential roles in the learning process. Research on learning indicates that learning occurs in an atmosphere of confrontation and support. The learner must be supported as he or she tries out new ideas and new strategies, but he or she must also be confronted with ideas that he or she would never think of independently. The learner must be provoked to expand the
Zone of Proximal Development (ZPD), as it is called by Vygotsky (1978), which is defined as the distance between the understanding a student would reach working independently and the depth of understanding able to be gained with expert guidance (p. 86). If libraries are learning-based, then it makes sense that the roles for the library media specialist would encompass both confrontation and support.

In today's quality library media programs, library media specialists have four roles (caregiver, catalyst, coach, and connector), all of which mediate with the learner who is at the center of the learning (Stripling, 1993a). These new roles are depicted in Figure 3.

**Caregiver**

The caregiver role fulfills one of the five conditions that Glasser (1992) has identified for creating a quality organization: “Quality is always a product of warm, caring human relationships” (p. 177). The relationship between a student and the library media specialist is developed as...
they work together to find the student's personal connection to learning. The importance of that connection has already been established. In fact, research indicates that students learn when they identify their own personal understandings and modify those understandings as they work with new experiences and information. Each student must construct his own understandings. Library media specialists and classroom teachers share the role of caregiver. They provide the opportunities through resource-based learning for students to pursue their own areas of interest (within content parameters). Starting an inquiry project with students by identifying "What do I know?" is a strategy often used by library media specialists to help students identify their own mental models.

In the caregiving role, library media specialists also help students individualize their learning and use of resources according to their learning styles or areas of strength. The dual tasks of support and confrontation which are necessary for learning certainly come into play when library media specialists work with learning styles. Well-planned units should lead students through all learning styles, with the recognition that all students will need extra support at certain phases. For example, if a student loves to collect facts, he will flourish during that stage of learning. That same student, however, may have great difficulty seeing the larger picture and drawing personal conclusions from those facts. The library media specialist (or teacher) has scaffolding (support strategies) already planned to lead that student through a decision-making process.

Figure 3. New roles of the school library media specialist
Some students love words; others approach ideas more visually. All students should have opportunities for expressing their ideas in both words and pictures. For example, if students have researched a decade in American history, they can be expected to express the trends they discovered in synthesis statements for "A Decade in Review," and they can be asked to symbolize their decade in one visual symbol that they can explain. In the caregiver role, library media specialists use both personal and academic support and confrontation to help students find meaningful connections to their learning.

Coach

If students are responsible for constructing their own learning, then library media specialists and classroom teachers must serve as coaches, supporting students when they become confused and confronting students when they become complacent. Most experts agree that quality learning never occurs through coercion; in fact, that premise forms the basis for much of the work of Glasser. Teachers cannot make students learn, nor can they provide all of the information, nor can they do all the work of learning. As a coach, the library media specialist makes it possible for the learner to discover the sources, strategies, and answers that satisfy the learner's needs. The library media specialist creates a culture of learning in the library. That culture has been compared to living on the horizon; learners are "drawn and challenged by the faint ambiguities just visible at an emerging edge of the mind's own story" (Carr, 1991, p. 217). Carr (1991) emphasizes the importance of learners creating their own meaning in libraries, having opportunities to struggle and be lost:

School libraries ought to be created as places where the individual can articulate, pilot, and direct the personal experience of knowledge, places where a person can look at anything for as long as necessary and as deeply as necessary in order to get lost, find a useful way, and make it into a path for the mind. (p. 220)

The role of coach also implies co-learner. If the library media specialist is engaging fully in the process of discovery alongside the student, a climate of learning pervades the library. Students will be more willing to take risks, to keep searching, to ask additional questions, and to think in greater depth if learning is a shared experience with the teacher.

Connector

The roles of caregiver and coach are mutual responsibilities of classroom teachers and the library media specialist. But school library media specialists must add a third role not often assumed by classroom teachers—that of connector. The school library media specialist provides connections in several ways: process with content skills; teachers with each other.
and with the library; students with each other through cooperative learning; and students and teachers with the world of information, both within and beyond the school walls. High-quality learning must always be connected to real life; it must be useful (Glasser, 1992, p. 177).

Research has shown that students do not learn process skills in isolation from content. Every library media specialist has already discovered this through practice; students do not learn how to use an index unless they need it to find something they want. Consequently, the thrust of library media programs has been to "integrate" with the curriculum. Teachers have tolerated the intrusion of research skills into their content-teaching time, depending on the personal charisma of the library media specialist and the willingness of the teacher to go beyond the textbook.

What research is starting to show now is that students cannot learn content skills without process. In other words, students cannot gain new understandings about the Civil War or the humpback whale unless they can identify their previous understandings, ask penetrating questions, identify relevant information, wrestle with ideas to draw conclusions, present their new understandings to others, evaluate their own learning, and ask new questions. Both process and content skills need to be integrated and practiced throughout the process of learning in order to produce thoughtful understanding. A model for this integration is illustrated in the Thoughtful Learning Cycle in Figure 4 (Stripling, 1995, p. 165). The connections the library media specialist makes between process and content are absolutely essential to good learning.

The library media specialist is a leader in connecting through collaboration. Collaboration between the classroom teacher and the library media specialist is fundamental to good school libraries. Beyond working with individual teachers, the library media specialist weaves a web of collaboration among teacher teams (grade level or interdisciplinary). Interdisciplinary collaboration can be approached in different ways. The whole language approach, in which literature is used as the core of interdisciplinary connections, revolutionized the teaching of reading, particularly in elementary school, because it used real literature and it made connections among different subject areas. Unfortunately, because everything revolved around one piece of literature, the connections to different content areas were somewhat tenuous at times. Reading *The Very Hungry Caterpillar* (Carle, 1969) would lead to the study of caterpillars and butterflies even if the science curriculum did not include them at that grade level. In music, students would sing songs about caterpillars; in math, students would solve word problems about caterpillars; in social studies, students might study butterflies of the world. Content standards were sometimes bypassed in order to make interdisciplinary connections.

An alternative emerged to the early interpretation of whole language; this strategy encouraged connections to be made on the basis of topics or themes. For example, students might study the westward movement. In
English, they would read a book about the westward movement, in science they might study inventions in the West, in social studies they would concentrate on the westward movement, and in math they might study distance or measurement. This approach to collaboration helped to establish firmer connections among subject areas but still resulted in some areas having to ignore their own curriculum to tie in.

A third method of connecting subjects has arisen which has great potential for building solid connections among different subjects without sacrificing the integrity of any subject. By basing units or curricula on concepts, educators are able to increase the thought level and provide a depth of focus on subjects traditionally "covered." If, for example, the library media specialist helps the teachers identify "risk taking" as a concept, then the westward movement can be studied in terms of risk taking. Essential questions are identified that could apply to any subject area:
What does it mean to take a risk? Who tends to take risks? Why do people take risks? What happens when you take a risk? How can the perils of risk taking be lessened?

In connecting English with the social studies unit of risk taking in the westward movement, the library media specialist and teachers select a novel about risk taking—personal, professional, or social. No longer do the teachers have to select a book about the westward movement. The whole process of scientific experimentation is risk taking, so any science topic can be investigated along those lines. Risk taking in math lends itself to probability or estimation. Risk taking even brings out depth in the study of art, both in the practice and history of art. Why do artists take risks? What changes in art have resulted from risk taking? The connection between art and the westward movement has been made without sacrificing the important ideas in either subject area.

The concepts-and-essential-questions approach has been suggested by a number of educators and explained well by Jacobs (1989). Library media specialists are using this as the basis for their collaborative efforts with teachers as they develop units and map the curriculum.

As important as helping teachers to collaborate is the idea of fostering cooperative learning among students. Learning is social. Students must have the opportunity to share their ideas with others, to listen to the variety of perspectives that social learning brings, to solve problems in a group situation, to profit from the expertise of others, and to coach others in areas of their own strength. The interplay of ideas brings about depth of understanding; students' ideas are both supported and confronted as they interact with others.

Good social learning situations do not happen on their own. They must be planned and supported by master teachers. The school library media specialist and classroom teacher must work together to structure cooperative learning groups; to teach group and individual responsibility skills; to offer support and coaching when needed; to set high standards for performance; and to devise individual and group accountability.

As information continues to explode, the library media specialist's role of connecting students and teachers to ideas may predominate over any other role. Carr (1991) expressed the importance of school library media specialists providing access to the world through their libraries: "Librarians in schools have a particularly important challenge: to demonstrate the library as an empowering link to a world of experience, thought, and information that lies well outside the school" (p. 220). It must be very clear that library media specialists provide not just physical access to information but intellectual access. Elementary through high schools are the last structured learning environments in which everyone participates; school librarians have the opportunity to teach each young citizen strategies for intellectual access. If school libraries fail in that
mission, students will not acquire fully developed lifelong learning skills, nor will they likely be users of information through academic, public, or special libraries.

Two issues are of primary importance in providing intellectual access. First, school library media specialists must be sure that their definition of information skills includes thinking, organizing, questioning, evaluating, concluding, communicating, and presenting. In fact, the term "information skills" should probably be abandoned in favor of the more applicable "process skills." It is not enough to teach students how to access the Internet; they must also be taught how to select relevant information in an electronic environment, how to evaluate electronic sources, when to use which type of source, how an electronic environment actually changes the information that is readily available, and how people interact differently with information received electronically.

A second issue that emerges with the idea of intellectual access to information beyond the walls of the school library is equity. As information access becomes more dependent on technology and the funding level of libraries remains the same or decreases, inequality in the availability of resources increases dramatically. A common saying is "Information is power," but the power is becoming increasingly concentrated in those areas with money for technology. There are profound implications for school library programs in this equity issue, which will be dealt with in the "Implications" section of this article.

Catalyst

The fourth role of the school library media specialist involves being a catalyst for change in the school. Because library media specialists understand the curriculum of the entire school and work through the learning process with all teachers and students, they have a unique perspective. They are in a position to effect change in both teaching and learning through their collaborative planning, curriculum development, and facilitation of learning. But before library media specialists can be catalysts, they must absolutely understand the principles of learning; school reform with the library as the center of inquiry; facilitative teaching; and their roles as caregiver, connector, and coach. All change efforts must be learner driven. Change supported by the library media program will be systemic as opposed to change forced upon a school by central administration or even by the principal. New ideas will take seed in the library and grow throughout the school, being nourished by continuing support and provocations by the library media specialist.

As a catalyst, the library media specialist can exert considerable pressure and support for teachers and students to work together to create a quality school. Two conditions of a quality school may be met in this way: "Quality is the best that everyone in the organization, working both
A quality organization is always alert for ways to improve what it does and how it does it" (Glasser, 1992, pp. 177-78).

Because not everything can change at once, the library media specialist would be well-advised to pick one area of focus at a time. For whole-curriculum change, an effective place to start is with concepts and essential questions. Individual teachers can build single units around concepts and essential questions; the result will be an increase in inquiry-based learning through the library because textbooks are not comprehensive enough to allow students to study a topic from a concept perspective. Once teachers have worked through a successful unit by themselves, they will be more likely to try interdisciplinary connections through concepts. They will also begin looking at their curriculum and remapping it according to concepts and in-depth learning.

An area for change which has a powerful effect on student learning is assessment. Schools are moving from traditional, pencil-paper, rote-learning tests to authentic assessment. The underlying foundation of authentic assessment is that it is connected to students' real lives; it lets students discover and display the essential usefulness of their learning. Authentic assessment has the following characteristics:

- involves a high level of thinking;
- creates a learning experience in itself;
- puts information in a real-life context;
- continues throughout the process of learning;
- derives from content that is important, appropriate, and connected to real life; and
- involves reflection by teacher and student.

Several types of authentic assessment have emerged: portfolios, performances, exhibitions, personal contact (observations and interviews), and authentic tests. All of these involve reflection and student responsibility for learning, which have been identified as critical elements in producing high quality learning. In authentic assessment, students have the opportunity to demonstrate what they know and think instead of showing what they do not know, as often happens on a traditional test.

Because authentic assessment instruments involve in-depth independent learning, they often can be completed only with access to a library. Well-designed library assignments can easily result in authentic assessment pieces. If the library media specialist hopes to use authentic assessment to impact student learning, several strategies can be followed. First, the library media specialist must become an expert on authentic assessment. Numerous books are available for study (Graves & Sunstein, 1992; Hart, 1994; Herman et al., 1992; Hill & Ruptic, 1994; Kuhlthau, 1994; Mundell & DeLario, 1994; Murphy & Smith, 1992).
Second, the library media specialist must build a repertoire of authentic assessment products by using published suggestions (see a taxonomy of authentic research products in Stripling, 1993b, pp. 47-51); adapting real-life communication media to research assignments (for example, television game shows, newspaper editorials, highway billboards); and adapting products used by real professionals in their work (land-use reports, advertising spots, background papers). The repertoire moves authentic assessment to the forefront in collaborative planning sessions.

Since true authentic assessment products involve the student in thinking while the product is being prepared (instead of the traditional thoughtless copying involved in reports and most tests), the library media specialist must structure the unit so that students have time for reflection and feedback.

A focus must be maintained on student learning, not on the student learning product. Many teachers make the mistake of assessing student performance on a one shot, end-of-the-unit, how-dazzling-is-the-final-product basis. But the essence of learning is understanding. If a student cannot express his or her new understandings, defend his or her point of view, explain the gaps in his or her own knowledge, and ask new questions at the end of the unit, then that student probably has not participated fully in the “Thoughtful Learning Cycle.”

**Implications of Centering the Library on Learning**

School libraries should be centers of learning and not information. Dervin and Nilan discovered that many library user studies defined information as a product to be given out, to be studied for a “right” answer (in Kuhlthau, 1993, p. 3). But in a learner-centered library, the learner uses information to construct new ideas and personal points of view. The learner is seeking to make sense of information: “The person seeks meaning, rather than a right answer, and views information as a way of learning and finding meaning or as a process of construction” (Kuhlthau, 1993, p. 3).

If school library media centers are to create a culture of meaning that pervades the school and raises the quality of the educational experience, then there are implications for the structure, operations, and services of the library. Everything should be directed toward creating engaging experiences for learners; offering stimulating materials; and fostering a climate of learning, sharing, and reflecting. The litmus test of every decision should be: Will this decision have a positive effect on student learning?

These efforts to focus the library on learning extend beyond the walls of the library and even the school. School library media specialists must build learning communities that use all the resources of the local and electronic community, that establish partnerships with other libraries and community agencies, and that invite the community into the school to share in the learning experiences.
Structure

Time is a structural element of libraries that can have a powerful effect on learning. All proponents of school reform and quality schools have declared that time must be treated flexibly if all students are to achieve a high level of learning. Students must be given the time they need to be successful. Accordingly, school libraries, which are at the center of the learning process, must be flexibly scheduled. Students and teachers must have access to the library when their learning needs demand it. Flexible scheduling does not mean that nothing is scheduled. It simply means that the library has an open schedule; as teachers and library media specialists develop resource-based units, they schedule the students into the library to pursue their investigations at appropriate times (maybe once a day for three days in a row, maybe two hours on one day, maybe small groups every other day).

Since students will be constructing their own meanings, the time they need in the library will vary tremendously. Not all research can be done in forty-five-minute blocks. Therefore, the partnership between the library media specialist and the classroom teacher is essential in identifying the individual needs of students and structuring research time accordingly.

The physical space of the library is another structural element that impacts learning. The environment of the library must be engaging. The practice of putting all the books on the wall and lined-up tables in the middle so that lessons can be delivered and students can be controlled at all times reflects a teacher-in-charge atmosphere that belies constructivist learning. A learning-centered library must have flexible space that can be used for large groups, small groups, and individuals. Each space should be surrounded by resources, real objects, exhibits, colorful and interesting objects, art, student work, and/or technology.

According to John Dewey, learning is both acting and reflecting. Students must have space in the library to do their work, to engage other students in their discoveries, and to work together on projects that are spread out on tables or on the floor. Students must also have space for reflecting quietly and individually—nooks, special corners, study carrels. In addition, the physical space of the library must accommodate public sharing of new understandings because sharing intensifies the learning experience: “Libraries need to be forums for the telling of the mind one has made up, because it is in the telling that knowing becomes clear” (Carr, 1991, p. 220). Students may share in many different formats (e.g., print, posters, exhibits, hypermedia programs, dramatizations, speeches).

The way resources in a library are structured also impacts learning. Quality school libraries will be structured as virtual libraries with network access to resources in the community and the world. The access in virtual libraries operates in two directions. Not only will students be able to
extend their learning beyond the library into other libraries, public documents, databases, and in fact almost limitless resources, but students, parents, and community will also be able to go the other direction, tapping into the school library's resources from remote locations (classrooms in the building, other schools, the home). Virtual libraries expand learning opportunities beyond the physical space of the library, beyond the fixed hours of school operation, and beyond the student population itself.

**Operations**

Centering the library on learning will necessitate a rethinking of policies. In a librarian-dominated library, rules are often made for the convenience of library operations—i.e., students may check out only two books at a time, each student has a five-minute limit on use of the electronic index, books may be checked out for two weeks and may not be renewed, only students who have been "trained" can use computerized sources, audiovisual materials can be used only in the library.

Changing policies to accommodate learning will probably improve students' physical access to learning materials. However, a key component of constructivist learning is students' responsibility for their own learning. Access and responsibility must go hand-in-hand, and school library media specialists will have to place special emphasis on helping students learn responsibility in the use of the library. Students may check out any and all materials if they are responsible for returning the materials in good shape and in a timely manner. Students may use electronic sources if they use them responsibly (i.e., students do not change the operating system on the computer; students do not violate Internet ethics by entering inappropriate messages or by accessing materials that are neither relevant nor appropriate for their learning needs). Library policies must foster both the engagement and the ethics of learning.

The operations of the library also include collection development. The philosophy of collection development has certainly changed in the last forty-five years of school libraries. In the infancy of school libraries, the goal of collection development was simply to collect materials that had been spread throughout the school into a centralized and more equitably accessible library. As school libraries began to focus on program, the emphasis in collection development was on building core collections. Professional books emerged which identified quality materials to be purchased in each Dewey area. The quality of the collection could be determined by the percentage of these core books that were available.

As the focus of school library programs shifted to instruction, the method of collection development also shifted. School library media specialists began to develop their collections around instructional units, so certain Dewey areas in a library would be quite strong while others would contain only a few current materials. The collection was supposed to match the curriculum of the school; the closer the match, the higher the quality of the collection.
Now the focus has shifted to learning, and the learning is controlled by individual learners. The expectation is that the curriculum will be mapped according to core understandings, but that students will choose aspects of those understandings to study in depth. Two forces are operating on the collection: students will be studying in greater depth (and therefore will need more diverse and complex sources of information) and students will follow their own paths, pursuing connections where they find them and branching into new areas as their own learning dictates (the actual learning curriculum may be as varied as the number of students in the school).

Collection development, then, for learning-centered libraries, is quite different. No library can function independently. Collections must be developed in conjunction with other library collections and in partnership with other librarians (school, public, academic, and special). Networking, both physical and electronic, has become essential. Review sources will still be vital for in-house resources, and those resources will continue to be important in every library (we are not moving to libraries with no materials on-site, particularly in school libraries). In place of review sources for external resources, school library media specialists must teach evaluation of electronic sources and information. No student should emerge from the public schools without the evaluation skills that previously only their school librarians had to possess.

The in-house collections themselves are shifting to a greater focus on learning through technology. The funding of libraries must increase to accommodate the greater expense of electronic equipment and resources. School library media specialists must be careful to base all of their decisions on learning, not on the glitz of the technology itself. Everyone in the school must understand how computer-based sources contribute to learning. Students must be guided to choose the best source for their questions, whether that source is on the shelf, on the local computer, or in cyberspace. Learning is not enhanced when students spend twenty-five minutes finding the scientific name of an alligator by surfing the Internet when they could have found it in two minutes in a reference book twenty feet from them.

Services

The greatest impact of a library's focus on learning is in the area of services offered through the library. School library programs must be directed toward thoughtful engagement of students. Tours, two-day orientations, fact-grabbing games, copy-from-the-encyclopedia reports, isolated library-skills instruction, and marathon scavenger hunts must be abandoned. The services offered by the library must all be based on the thoughtful learning cycle with support for both process and content learning throughout. Classroom teachers and library media specialists must understand the essential interrelationship of process and content. They
must also structure learning assignments that cause students to probe for meaning, to gather information themselves, to draw conclusions, to share their learning with others, and to ask additional questions.

Perhaps the greatest service a school library media specialist can offer to a student is to participate as a co-learner. As students' inquiries delve into complex ideas way beyond textbooks, classroom teachers and library media specialists do not have to pretend to know everything; they can enjoy the thrill of learning right alongside students.

School library services that are focused on learning provide intellectual access. ALA Goal 2000 suggests that libraries, which have become known for intellectual freedom, must also become identified with, and advocates for, intellectual participation (ALA, 1994). School libraries have a vital role in that goal. The foundations for learning that occur in school libraries will provide the lifelong learners who use all other types of library services. Unless school library media programs foster thoughtful learning, students will emerge as crippled citizens, unable (or unwilling) to sort through the morass of information in our changeable society before making life decisions.

**Implications for the Profession**

Basing school library media programs on learning means that the tools and strategies of learning must be available to all students. School libraries are obligated to provide equitable access to a rich environment of electronic, audiovisual, and print resources. Every professional librarian understands that. In many schools, however, funding for libraries has not kept pace with the cost of electronic access; consequently, school libraries are moving quickly to a bifurcated and inequitable structure—i.e., the haves and the have nots.

Because school library funding has, to a large extent, come from school funding, school library media specialists have not had to lobby independently for support. But that quiescent role will have to change to counter the escalating costs of providing access to information and the increasing inequity in library support and services. School library media specialists will have to become vocal and political activists for library funding, joining in a lobbying effort with librarians from all types of libraries. A national effort to build electronic library networks should include all types of libraries with the realization that each library has something to contribute and something to gain from such networks.

In addition to the equity issue, school libraries have another serious professional problem to address—lack of relevant professional training. The requirements for becoming certified as a school library media specialist vary from state to state; however, many states require an advanced degree (sometimes an MLS or MLIS, sometimes a Master's in education), many require teacher certification, and some also require previous teaching experience. The number of school library media certification programs is decreasing (a drop of sixteen programs since the listing in *School Library Media Annual 1992*) (Shontz, 1994, p. 301).
At the same time that school library media certification programs are decreasing in number, the demands on them are increasing. School library media specialists need to be prepared in traditional library operations and collection development, but learning-based library programs place additional demands for training. School library media specialists (both new recruits and those already in service) must have experience with effective teaching strategies, curriculum development, resource-based learning, thinking skills, multiple intelligences, learning styles, cooperative learning, storytelling, production of hypermedia programs, and developmental stages of young children and young adults, to name a few areas. At this point, school library media specialists are scrambling for the training they need to meet the expectations of their new roles.

GUIDELINES FOR THE FUTURE

The school library profession has been fortunate to have prescient leaders throughout its history who have, through the American Association of School Librarians, issued national standards or guidelines on a fairly regular basis. The guidelines predict future trends, establish important goals, and maintain a focus on quality in school library media programs. Many of the changes that have occurred in school libraries over the last half century have been the result of the support and provocation provided through a national standards document.

The American Association of School Librarians and the Association for Educational Communications and Technology have recently begun work on a revision of Information Power, the guidelines issued in 1988. The vision document and implementation plan that emerges from this process will lead school library media programs into the twenty-first century. In pursuing this vision, school library media programs cannot follow a path isolated from, or even parallel to, other types of libraries. Libraries of all types must join paths and collaborate on every aspect of their programs, from hours of operation to collection development to programming. By interweaving the services of all libraries and establishing new partnerships with other institutions, librarians can provide the quality of libraries that will build and support communities of learners. Quality in school library media programs is inextricably linked to quality in all libraries.

Quality libraries are joyful places of learning, where patrons develop the habits of heart and mind (Wood, 1992, p. 75) that allow them to participate fully in the outside world. The atmosphere in libraries should reflect Glasser's (1992) final condition for a quality organization: "Quality always feels good, and the greater the quality, the longer the good feeling lasts" (p. 178). The ultimate judgment of a school library's quality may reside in the heart of each child who discovers and pursues the joy of learning.
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The New Knowledge Environment: Quality Initiatives in Health Sciences Libraries

ELLEN NAGLE

ABSTRACT
LIBRARIES AND LIBRARIANS MUST CHANGE significantly what they do in order to meet the challenges of the changing health care environment and the new technological era. Opportunities to strengthen partnerships, evolve new roles, and develop new high impact services in support of the clinical, research, and teaching are discussed. Quality initiatives in the management of health knowledge are described along with implications for the profession.

INTRODUCTION
The Summer 1993 issue of Library Trends was devoted to the topic of health sciences libraries and information centers. The issue editor noted that it had been almost two decades since this had last occurred. Similar themes were identified as still pertinent: "(1) changes in education for the health sciences professions; (2) increased accountability in an era of scarce resources; and (3) advances in the production, recovery, and synthesis of information (Dalrymple, 1993, p.1). Now, only two years later, there is the opportunity to reflect upon quality initiatives in health sciences libraries.

The task has been daunting for two reasons. It is tempting, but nevertheless impossible, to try to update all of the excellent state-of-the-art papers from the previous issue in this one article. Too much has occurred in the brief intervening time. Second, it is the belief of this author that the preponderance of health sciences libraries are carrying out quality initiatives, and that these represent the leading edge in librarianship. Be-
cause space precludes the enumeration and description of such a wide range of initiatives, this article will focus on a few areas where changes have occurred most rapidly, and where the impact on and by the profession is the most profound. Not surprisingly, the themes previously identified continue to be relevant.

**THE EVOLVING VISION**

"The fundamental idea of the library must change. . . . In the coming era of knowledge capitalism, those individuals and organizations will flourish who are able to apply knowledge to create knowledge and to organize it to produce knowledge" (Matheson, 1995, p. 1). In her presentation of the 1994 Janet Doe lecture, Matheson went on to say that, in the next decade, there will be a sharp differentiation of librarians and libraries, with libraries being transformed into "knowledge servers." Our profession can revitalize and reinvent itself, setting new boundaries and responsibilities. Matheson invited librarians to "seize the day" (pp. 1, 7). This message echoed that of a previous Janet Doe lecturer who spoke about "reinventing" the medical librarian. Attention must be paid to recruitment to the profession, innate qualities which could be considered prerequisites of effective professionals, and strategies for attracting the best and brightest to the field of medical librarianship (Anderson, 1989).

It is now generally accepted that the primary mission of an academic medical center is the discovery and dissemination of new knowledge to enhance health. It follows that medical librarians can help lead and shape the evolution of an information policy in the institution. Some have suggested, therefore, a convergence between the disciplines of medical librarianship and medical informatics. Common interests include delivery of relevant information to the site in which it will be utilized, a broadening of the primary client base beyond clinicians and researchers to policy experts and distributed communities, and a need to integrate diverse information systems into decision-support systems. Librarians and medical informaticians both serve as curators of archival knowledge and share concerns about quality and the economics of publishing and distribution of information. Both professions have led the way in using technology; they have a commitment in common to the furthering of medical education (Frisse et al., 1995).

The role of health sciences librarians is evolving into that of a knowledge worker, creating products and modifying services to meet client needs in the area of scientific communication. Their libraries are changing in basic ways as well: re-examining missions; re-engineering; and acclimating education staff to the new and ever-changing environment. Change is a constant in the academic health center, particularly in technology, economic conditions, and the need to position the institution competitively. Florance and Matheson (1993) argue that libraries must redefine
fundamental assumptions about their roles and services, examine management perceptions of libraries, and develop competitive strategies in basic services and in new arenas. Librarians need to demonstrate their value; they have the opportunity to market their expertise to the institution.

In describing the development of a virtual library in the hospital/corporate sector, Jajko (1993) defines it as "an entity for knowledge management that effectively incorporates both the traditional library domain and the use of telecommunication and computer technology to facilitate rapid access and use of information" (p. 52). Technologies are utilized to provide a seamless integration of knowledge. In planning for the virtual library, Jajko identifies several premises about information: it is a critical resource; there are different types and uses of it; it will coexist in print and electronic form; it must be organized; and it must be planned and managed globally. The end-user is the focus of the information; customization will create the user base (pp. 55-59). Braude et al. (1995) discuss the challenge of digital bibliography, adding value and direction to the creation, organization, and dissemination of the new forms of publishing and communication of medical information. According to Creth (1993), there should be explicit discussion by health sciences librarians of the importance of leadership in the profession and in their specific library organization. Librarians need to discover ways to articulate and implement a vision involving them more fully in the work of health services if they expect to play a central role in those services.

**EDUCATION AND TRAINING OF HEALTH SCIENCES LIBRARIANS**

The Medical Library Association (MLA) has been a model for other library associations in developing and providing opportunities for continuing education and in promoting standards for lifelong learning among its membership. Education of health sciences librarians and the maintenance of standards of professional education have been a priority of the organization for the past fifty years. The topic of credentialing librarians was officially raised by then MLA President Mary Louise Marshall in 1946; the first certification code was implemented in 1949 (Bain, 1985). MLA has subsequently implemented several variations of credentialing and certification. The current Academy of Health Information Professionals is the most extensive and widely accepted in MLA's history. Qualifications for membership in the Academy of Health Information Professionals include fulfillment of competency requirements in ten areas. Mentoring of provisional and prospective members is an important aspect of the program. MLA offers a roster of thirty continuing education courses covering seven essential areas of knowledge. A dynamic list of "new perspectives" courses, taught by health sciences librarians and other specialists, is offered in conjunction with the MLA annual meetings.

*Platform for Change* (Medical Library Association, 1992) presented the educational policy of the association. It described the context of medical
librarianship, the need for a learning continuum, and required information science knowledge and skills in the health sciences. This publication is further discussed, along with implications of a major MLA membership survey on the importance, and acquisition, of knowledge and skills by Roper & Mayfield (1993).

Despite these far-reaching initiatives, many in the profession had been concerned that new librarians as well as current practitioners were not learning the skills needed to effectively deal with the rapid changes in the health information environment and the transformation of the health practice setting. Responding to this perceived need, the National Library of Medicine's Board of Regents initiated a study on the education and training of health sciences librarians carried out by a panel comprised of health professionals and administrators, representatives of library associations, health sciences librarians, medical informaticians, library school faculty, and NLM staff. They were charged with analyzing "the possible programs and activities of the NLM, of individuals, of professional associations, and of other institutions that might be undertaken over the next ten years to assure that society benefits from the skills of health sciences librarians; and persons who chose health sciences librarianship will be properly educated and trained..." (National Library of Medicine, 1995, p. 60).

Following a year of study, hearings, and deliberation, the panel's report was released. They recommended eight goals in four broad areas:

Evolving Roles for the Health Sciences Librarian
- Prepare for the new forms of information, new users, and new practice patterns that may be required for health sciences librarianship.
- Match the capabilities of health sciences librarians to the needs of employers.

Professional Educational Programs for Health Sciences Librarians
- Update and enhance the curricula of schools of library and information science.
- Explore new approaches and degree programs for preparation of health sciences librarians to assume new roles.

Lifelong Learning Programs for Health Sciences Librarians
- Foster educational programs enabling health sciences librarians already in the workplace to update and extend their professional education and training.
- Experiment with alternative methods and courses of study for adult learning.

Broadening Recruitment into Health Sciences Librarianship
- Attract the best and brightest candidates the current market can provide.
- Achieve greater cultural and ethnic diversity in the profession.
The report included findings, recommendations, and suggestions of implementation steps for each goal. One of the immediate outcomes of the report was the announcement by NLM of Challenge Awards to support planning in one of the four target areas. Organizations, libraries, or library schools could apply singly or collaboratively to undertake planning in order to propose an approach for achieving priority goals. The report focuses on skills necessary for health sciences librarianship, including an understanding of, and ability to, work in the health care milieu. However, much in the document should be of interest to employers and educators across the spectrum of librarianship, identifying essential skills and necessary educational programs and objectives which pertain to the profession in general.

RETHINKING REFERENCE

"It is the mission of access engineers to design, develop, and operate methods of delivering library and other information on demand to users wherever they may be" (Campbell, 1993, p. 5). As the keynote speaker for the "Rethinking Reference" Institutes, Campbell challenged reference librarians and others to develop new models of user services in the context of the changing library institution. Speakers at the institute discussed new foundations for reference, the change process, new values, rethinking the reference desk, services in an online environment, new reference models, and unresolved questions regarding bibliographic instruction (Lipow, 1993). Health sciences librarians have attended these institutes and have wrestled with the issues of current and changing reference services in other venues. Calabretta (1994) discusses the breadth of knowledge, skills, and attitudes necessary for quality service, and the effects of new technologies on reference. She stresses that changes in service must be constantly evaluated to ensure that they lead to improvement and not to have "the latest technical wizardry in place" (p. 16).

For several years, health sciences libraries have experimented with new models of reference service. There has been an increasing use of paraprofessional staff assigned to a wide range of functional areas and duties (Makin & Speer, 1993). Additionally, computer specialists and consultants are being brought into the realm of public services. Reports of removing or relocating the reference desk, reference service on a "by appointment only" basis, e-mail reference service, and other experiments were frequently discussed at conferences. At the 1994 annual meeting of the Medical Library Association, the Medical School Libraries, and the Public Services section held a widely attended "Great Debate: Removing/Replacing the Reference Librarian at the Reference Desk." The debate did not resolve the question nor did it present a single prescriptive model. It did focus energy and attention on the wide range of issues to
be considered and on the differences of opinion within the profession
about the evolving directions of public services.

The two MLA sections followed up that debate at the 1995 annual
meeting with the session "Rethinking Reference: The Debate Continues."
The program took the form of a keynote address on "the need for change"
and a panel discussion among library administrators and public services
librarians. The following questions were posed to administrators:

- How do you maintain staff morale in a constantly changing environ-
  ment, where responsibilities are fluid, additional services are added,
  and staff are reduced?
- Is a "reference librarian" needed to develop and provide instruction
  for electronic resources? Can’t systems staff do this better?
- How do we bring other staff (nonlibrarians) into our reference/teach-
  ing activities and still keep clear lines among responsibilities, rewards,
  position levels, etc? Or, do we want to have those lines?

Public services librarians were asked:

- Are public services librarians losing their commitment to user service?
  Are they becoming overly fascinated and involved with the electronic
  world and forgetting how to apply it to their specific users’ needs?
- How is service to users affected when reference desk hours are short-
  ened so that staff can have more time to evaluate new electronic re-
  sources and develop print and on-screen guides for users?
- Is electronic access to reference the most effective way to answer refer-
  ence questions? Isn’t a reference interview important? Does effective-
  ness of electronic reference depend on the type of library (i.e., hospi-
  tal versus academic)?
- How do you communicate with users you never see; how do you know
  what they need?
- To better serve clients, do we need to change their expectations of
  instant gratification—i.e., information on demand—to a response time
  that permits more thoughtful and thorough results as is typical of other
  professions (Robbins et al., 1995)?

Clearly, these questions relate to the overall concept of the changing
vision of the library and to concerns with delivering quality assistance to
clients. They have been brought back to staff meetings and are currently
being discussed at statewide and regional meetings. The dialogue will
continue for the foreseeable future. Performance measures and outcomes
assessments are necessary to help articulate and evaluate solutions.

**IMPACT ON QUALITY HEALTH CARE**

Recent studies have refocused the attention of administrators and
clinicians on the added value that information and library services can
contribute to the delivery of high quality, cost-effective health care. Previously, although benefits of library services to the health care enterprise were acknowledged, most reports were anecdotal or subjective. There now exists a body of evidence which has utilized more rigorous research methodology to investigate and to quantify the contributions of librarians to quality care of the patient, the primary mission of the health center.

The Metropolitan Detroit Medical Library Group developed a major outcome-based study "to examine the associations between: (1) the economic indicators of hospital costs, charges, and length of stay; and (2) the use of [library-mediated] MEDLINE searches for such cases" (Klein et al., 1994, p. 489). This objective, prospective study contained an economic evaluation. It was carried out from September 1989 to September 1990 at three teaching hospitals in metropolitan Detroit. The researchers derived 192 test cases from a consecutive sample of medical and surgical inpatients. MEDLINE searches were requested from participating libraries. A second component of the study examined 10,409 control cases from the same diagnostic related groups (DRGs) as the test cases but where MEDLINE searches were not utilized. The study found that statistically significant relationships existed between hospital expenses and the timing of the search. Those patients for whom searches were conducted earlier in their stay had lower costs, charges, and lengths of stay. The average savings per case were $7,379; the highest savings in a single case were $62,812. The Detroit study indicated, in the most objective study to date, the impact of librarian contributions to effective use of hospital resources.

In a significant study of the effect of information on clinical decision-making, Marshall (1991) directed a research project involving a sample of 448 physicians in the Rochester, New York, area from September 1990 to March 1991. They were asked to request information from their libraries in fifteen participating hospitals relating to a current clinical case. Following that, they evaluated the impact of the information on the care provided to their patients. The study showed that 80 percent of the respondents indicated that they definitely or probably handled the case differently because of the information given to them. Changes in care include the following: diagnosis (29 percent); advice to patients (72 percent); choice of drugs (45 percent); choice of tests (51 percent); and length of hospital stay (19 percent). Physicians also indicated that the information provided to them by their libraries contributed to avoidance of hospital admission (12 percent); surgery (21 percent); additional tests or procedures (49 percent); and patient mortality (19 percent) (Marshall, 1992). The Rochester study has been viewed as significant in demonstrating the relevance of hospital library services to positive outcomes in patient care.

These studies confirm earlier findings by King (1987) who investigated the impact of hospital library services on 176 physicians, nurses,
and other health professionals in the Chicago area. The care providers requested information from their libraries relating to a current clinical situation or case. They evaluated the quality of the information provided to them, assessed its contribution to care of the patient, and its impact on their management of the case. The study found no differences between the overall assessment provided by the different categories of health care professionals. King found that 77 percent of the physicians and 74 percent of all the health professionals definitely or probably handled their case differently because of the library services provided to them.

The Medical Library Association and the Association of Academic Health Sciences Library Directors cited these studies and others in a joint statement they released entitled Health Care Reform and the Health Sciences Librarian: Excellence in Health through Access to Information (Medical Library Association, 1993). This statement and several similar ones prepared by state or regional health sciences library organizations responded proactively to the push for national health care reform. Although a reform initiative at the national level is no longer imminent, statewide legislative mandates for reform are occurring throughout the country. The statement prepared by the Joint Legislative Task Force of these two preeminent health sciences library organizations emphasized that information is integral to all health care processes. It advocated the inclusion of a strong information component in any reform package in order to provide U. S. citizens with affordable quality health care.

The paper described the ways in which health sciences librarians contribute to each of the components of health care reform—i.e., universal access to quality cost-effective health care; education and distribution of health professionals in appropriate combinations to meet national needs; networks of care; effective use of new technologies; and research and new discoveries. The document enumerated ways in which librarians helped promote excellence in health care and at reduced costs and provided assistance in preventing litigation for malpractice. Librarians are also committed to universal access to health care information, thus leading to improved participation by patients in their own decisions regarding health care. The report described the ways in which health sciences librarians are integrating the use of innovations in information technology and informatics in educational programs for health care professionals. Health sciences librarians have developed networks to support information dissemination, transfer, and use; they are leaders in the application of technology and encourage its use by health care providers. The NLM carried out a study to better understand the effect of computer-mediated literature searching on patient care and other activities of the health care professional. They utilized the Critical Incident Technique, a qualitative research methodology, to identify the range of instances where researchers and health professionals turn to online databases to access information, to identify the effect on their decisions and actions, and to
identify the outcomes perceived by the providers and their patients. A sample of 552 health care professionals in a variety of settings was interviewed, and 1,158 reports were analyzed. Incidents were divided into several categories including: used the most appropriate diagnostic test; proper diagnosis; development of an appropriate treatment plan; implementation of a treatment plan; maintenance of an effective physician-patient relationship; and assistance in modifying health behavior of patients. The highest number of incidents reported related to developing an appropriate treatment plan. Twenty-five outcome incidents of lives saved or longevity increase were noted. The authors concluded that rapid access to the biomedical literature is often critical to patient care and has a positive influence on outcomes (Lindberg et al., 1993).

**IMPROVING THE VALUE OF INFORMATION**

Librarians have taken on new responsibilities in providing quality improvement programs in use of the literature for clinicians, educators, and researchers. This role is significant because of the limited time of clinicians to deal with the proliferation of literature in all forms. Emphasis is not on finding information but on obtaining the "best" information available for a given situation, to find answers to many pressing questions, and to winnow out the quality from the quantity of available information. In the past, health sciences librarians provided assistance through clinical librarian programs, participating in rounds and bedside conferences with providers, Literature Attached to Charts (LATCH), and other means of document delivery. These methods are still utilized but are being assessed in the context of the new environment of integrated end-user access to information (Demas & Ludwig, 1991; Veenstra, 1992).

The success of these clinical support services was due, in large part, to the quality filtering component which was added by librarians. Now quality filtering and other methods of identifying and assessing literature and information sources to provide validated results are being emphasized by librarians and by health care providers. Five objective indicators of quality have been proposed: methodological rigor; document attributes; peer recognition; reputation of the journal; and inclusion in a quality-filtered database. Methodological rigor assesses the nature of the research study with randomized controlled trials regarded as the most rigorous, followed by cohort studies, and then case-control studies. In applying document attributes, one identifies types of documents and certain components such as the presence of tables and charts. Peer recognition considers frequency of citation of one's work and evidence of grant support. Journal reputation considers the journal impact factor calculated by the Institute for Scientific Information (Johnson et al., 1992). Kuller et al. (1993) compared the effectiveness of quality filtering by librarians and physicians. They identified certain elements, such as Medical Subject
Headings, used more routinely by librarians, and concluded that librarians should provide this service in order to give more dynamic library service.

Quality filtering at the input end has also been suggested. This could take the form of increasing publication standards for writing, editing, and reviewing; use of structured abstracts; and the use of detailed requirements for reporting statistical information. Dissemination of information could be enhanced by the development of quality-filtered bibliographic databases which utilize expert assessment before the item is included. Finally, health care professionals need to learn how to obtain and critically appraise literature (Patrick, 1994).

Widespread attention has been focused during the past two years on critical appraisal of the literature by means of a series of articles published in JAMA. An editorial introducing the series stated that clinicians without these skills are "relatively helpless in deciding what new information to incorporate into their practice" (Guyatt, 1993, p. 2096). The articles update a set of readers' guides published in 1981 in Journal of the Canadian Medical Association. The JAMA series has transformed the readers' guides to users' guides, reflecting an approach to medical practice called "evidence-based medicine."

Evidence-based practice involves the ability to access, synthesize, and apply information in medical literature to the clinical situation. After the clinician identifies relevant studies, the next step is to decide whether to believe the information and then how best to use it in patient care. The importance of quantitative reviews, or "overviews," which summarize scientifically valid studies is recognized. Integrative studies using practice guidelines, decision analysis, and other factors are also stressed. The Evidence-Based Working Group, which produced the new users' guides, recommends that decisions about the best patient care should begin with a search for an overview or practice guideline. They state that "optimal patient care in the 1990s requires an ability to use the medical literature to solve clinical problems" (Guyatt, 1993, p. 2096).

Users' guides published thus far cover such topics as how to use an article about therapy or prevention; a diagnostic test; harm; prognosis. Clinicians were then given guidelines to help determine if the studies were valid, and if so, what were the results, and how could they help the patient? Subsequent articles provided "guides to the literature" of overviews and decision analysis. Meta-analysis, where comprehensive literature reviews are prepared and the contents of each study analyzed and combined statistically, is also advocated. Librarians have long been teaching and preaching the need for critical analysis of the literature. This series has provided an enhanced opportunity for them to market these skills in the health center and to promote the use of library resources and services. Many libraries have publicized the series of articles in newslet-
ters and workshops. At the University of Rochester, "gold" or expert searches have been placed on their network utilizing evidence-based medicine and meta-analysis techniques (Nesbit, 1995).

NEW EDUCATIONAL ROLES

The recommendations of two reports from the Association of American Medical Colleges (AAMC) have had profound effects on the evolving role of the health sciences librarian as educator. The GPEP Report, entitled Physicians for the Twenty-First Century, was a report of the AAMC's Panel on the General Professional Education of the Physician (1984). The panel addressed current educational methods in light of the needs of students who will be practicing medicine primarily in the twenty-first century. The report found that the traditional information-intensive approach to medical education is being made obsolete by rapid advances in biomedical knowledge and technology. It recommended that memorization of facts be replaced by acquisition of information-seeking skills. Physicians of the twenty-first century will have access to advanced information and telecommunications technologies. Involvement of health sciences librarians as participants in this new approach to educating students has been significant. Medical Education in the Information Age (Association of American Medical Colleges, 1986) described the need to incorporate medical informatics into the curriculum. It said that medical students need to learn how to organize and access computer-based information and to utilize bibliographic retrieval systems.

Resulting innovations in health sciences curricula; in undergraduate, graduate, and continuing education; and the increased use and availability of new technology have led to an expanding role for health sciences librarians. Educational challenges include teaching access to literature and other information sources; organization of information; critical appraisal skills; and the use of the emerging technologies to access and manage information.

Rankin and Sayre (1993) find tremendous variations in the content and instructional methods of librarians due to the fact that their teaching roles are now so closely tied to the missions of their institutions and to specific curricular opportunities. They report that librarians believe that increased education in information skills will change the use behaviors of students and practitioners alike. Timing of instruction is important, with the most effective teaching taking place when it is integrated into the rest of the curriculum. They note opportunities for teaching within the health care setting in support of the clinical teaching model. Patient education and outreach to referral networks are other focuses for teaching. Examples of teaching with and about the emerging technologies, provision of instruction in specialized subject areas, and new roles in collaborative teaching have been described (Kelly & Nagle, 1995).

It has been argued that, within the seemingly static confines of the four-year medical school, the curriculum is actually quite dynamic,
responding to, and instantly incorporating, new scientific discoveries into the preclinical years and eventually into clinical training. Teaching informatics skills and critical appraisal to future physicians, thereby enabling them to use the digital library, is vital. These skills should be taught by a partnership of librarians and medical informaticians (Florance et al., 1995). Florance et al. describe strategies for informatics education at nine institutions.

One fast-growing trend in health sciences educational reform is the move to problem-based learning (PBL). Pharmacy, nursing, and veterinary medicine programs, in addition to medical schools, are shifting in whole or in part to this new curricula. PBL represents a shift from the lecture-oriented didactic approach of the traditional curriculum to a problem-solving approach based on individualized active learning and small group interactions. In keeping with the GPEP Report, PBL teaches information-seeking and problem-solving skills rather than reliance on rote memorization. It represents a challenge and an opportunity to librarians, as well as to faculty, in the health sciences.

There have been numerous papers and discussions in the last few years describing the participation of health sciences librarians in implementing PBL-related programs. Impact on the library has been scrutinized and assessed. At the University of California, Irvine, in a pilot program, the medical school integrated library interaction with the second-year curriculum. Library instruction was presented in a four-hour sequence. Following that, librarians attended basic sciences sessions where simulated problem cases were presented to students. During a follow-up session for each clinical problem, students reported on the results of library research. Feedback from students regarding the library component was positive, but the librarians have recommended that they be involved at an earlier level of planning in order to maximize the information-seeking experience (Minchow et al., 1993).

The University of Pittsburgh implemented the initial phase of its revised curriculum in 1992 with an emphasis on PBL. The Falk Library has developed a large-scale program to integrate information-seeking skills into the year one curriculum. Librarians stress the importance of gathering and using information for PBL and for student skills development in general. Five cases were studied during a two-week course on the patient-doctor relationship. The 144 students were divided into sixteen groups assigned to two faculty facilitators and one librarian each. The librarians were also designated as information coordinators for the cases. One outcome reported by the library and by librarians at several other institutions using PBL was the intensive use of, and need for, significant library resources. The library became the hub of activity during independent study time. In preparation for subsequent offerings of the program, librarians assumed increasing leadership in planning the course.
ians reported a closer partnership with teaching faculty in the educational process (Schilling et al., 1995).

A survey of second-year students at four medical schools found that PBL students used the library more frequently, used resources which supported independent learning, and acquired information skills at an earlier time in their education. The PBL students also indicated greater ease in use of these skills (Rankin, 1992). McGowan (1995), however, questions the assumptions that such differences should exist, arguing that appropriate integration of information skills can take place in traditional curricula if basic principles of curricular correlations are followed. McGowan postulates a role for librarians in teaching the knowledge and skills of acquiring information.

**The Virtual Library Building**

Some may believe that, in this era of electronic access, unprecedented connectivity, distributed systems, and distance learning, the library as a building is no longer important. This is far from the case for health sciences buildings, as one can deduce from two important recent symposia on quality library buildings for the future. Some heightened interest may be due to the aging of a large number of health sciences libraries, which were built when federal funds were available in the 1960s. However, most of the interest in remodeling, renovating, and planning new structures is in response to new information management challenges and library environmental changes necessitated by the new technologies.

In the symposium "Building the Information Frontier: New Libraries" (Ludwig, 1995), topics of papers ranged from new hospital libraries as a new marketing opportunity, to ergonomics in the electronic library, to the concept of the library from brick face to cyberspace. Authors considered whether the library will be all infrastructure, and how it, in a digital library information space, complements information. Planning and construction of the award-winning Eskind Medical Library at Vanderbilt University was described. It is suggested that the library may be regarded as a model for the twenty-first century.

The symposium, "Building the Library/Information Center of the Future," held in April 1994, was co-sponsored by the University of Maryland at Baltimore and NLM. Librarians and architects shared the podium and described works in progress and in the planning stages. Speakers discussed the evolution of library buildings, trends in library design, resources for PBL, and tomorrow's building. Case studies in new construction and in renovation were presented. It was made explicit that libraries will be judged by how they respond to the environment of ever-present change in mission, technologies, information storage and dissemination, and curriculum (Ball et al., 1994).
NATIONAL LIBRARY OF MEDICINE INITIATIVES

Any discussion of quality initiatives in health sciences libraries must acknowledge the extraordinary accomplishments of the National Library of Medicine as well as the leadership and support NLM has provided to libraries throughout the United States. NLM has emphasized the importance of equal access to information by all health professionals through its outreach grants program and by its continued support of the National Network of Libraries of Medicine (NN/LM). In addition to the traditional bibliographic and factual databases which it has provided for several decades, NLM has sponsored research and training in medical informatics and encouraged investigators to contribute to advances in biomedical communication.

Roderer (1993) describes several NLM programs of special significance: the NN/LM; Integrated Academic [now Advanced] Information Management Systems (IAIMS); and the Unified Medical Language System (UMLS). The IAIMS concept was enunciated by Matheson and Cooper (1982) in a study developed by the AAMC and sponsored by NLM. Their report recommended that libraries take a leadership role in the development of integrated information management in the health center. To date, twenty-five institutions have received forty grants from NLM supporting the planning or implementation of an IAIMS model.

New initiatives at NLM include the Visible Human project, a digital image data set of the entire body utilizing magnetic resonance imagery (MRI) and computed tomography (CT) scans; DocView, a Windows application that can provide document images over the Internet; and Online Images from the History of Medicine (almost 60,000 images are available). The National Center for Biotechnology Information is responsible for building, maintaining, and distributing GenBank, the National Institutes of Health genetic sequence database that collects all known DNA sequences from scientists worldwide. The Communications Engineering Branch of NLM is developing and providing several biomedical image engineering projects including MIDAS (Medical Image Database Access via Satellite); a machine-readable archives in biomedicine; and SAIL (System for Automated Interlibrary Loan). NLM has played a leading role in the High Performance Computing and Communications (HPCC) initiative (reports and fact sheets on all of these programs and projects are available from NLM and are accessible via HyperDOC, the NLM Home Page). If health sciences libraries are innovators in quality knowledge management, much credit for that goes to NLM for its pioneering work.

QUALITY INITIATIVES: A SAMPLER

As has been previously noted, quality initiatives in health sciences libraries are too numerous to do justice to all of them in the confines of this space. Many have been described above. The following are consid-
ered to be representative of the kinds of knowledge management projects currently being implemented in health sciences libraries.

HealthWeb is a collaborative effort by health sciences librarians and information professionals from the Committee on Institutional Cooperation (CIC) member universities. They are building HealthWeb, a tool to facilitate access to health-related information resources found on the Internet. The project will provide an integrated interface to a collection of selected and evaluated resources. Each participating library will concentrate on areas of excellence, disciplines in which it and its institutions have particular strengths (Cooperative Web Project, 1995).

The Ohio Valley Community Health Information Network (OVCHIN) is a community-based, consumer-defined, publicly- and privately-funded demonstration grant program developed to evaluate the efficacy of delivering health information to rural residents in southern Ohio and to the urban and suburban communities in the Cincinnati area. An initiative of the University of Cincinnati Medical Center and Ohio University, the project is funded in part by a grant from the Telecommunications and Information Infrastructure Assistance Program (TIIAP), sponsored by the National Telecommunications and Information Administration (NTIA). The project has forged partnerships to provide access to databases and other electronic medical resources. Access to information for several topics of high interest—including aging, cancer, substance abuse, AIDS, and others—will be facilitated. Access will be via a Free-Net and from public access workstations in public libraries, health clinics, pharmacies, and community centers (Guard et al., 1995).

LUMEN, the Loyola University Medical Education Network, is a World Wide Web-based demonstration project to support the provision of information about a major curriculum reform at the Stritch School of Medicine (Ludwig, personal communication, July 11, 1995). Specific goals of the project are to: integrate health sciences curricular content; enhance access to medical information worldwide; encourage self-directed learning; nourish intellectual interactions; prepare students for future technological advances; and promote the development of hypermedia projects.

The JEFFLINE Digital Office is a project of Academic Information Services and Research at Thomas Jefferson University. It provides a graphical table of contents to the information on the university's electronic library information system. Choices include the Library Electronic Bookshelf, the online catalog, OVID databases, graphics, sound, and digital video. Affiliated research centers are linked to the system. Other research resources and access to federal and international institutes and databanks are provided (New JEFFLINE..., 1995).

CONCLUSION

*Challenge to Action*, a joint report of the Joint Task Force of the Association of Academic Health Sciences Library Directors (AAHSLD) and
the Medical Library Association (1987), was published in 1987. The report provided detailed guidelines for the planning and evaluation of health sciences libraries in the academic medical center. It advocated a role for the library as a partner in the center and suggested a framework for library self-evaluation and strategic planning. The report stressed the value of coordinating information management efforts within the context of institutional planning and development. It emphasized the unique position of the library and the importance of developing new partnerships. The document focused on strategies to enhance the library's contributions to the research, education, and clinical missions of its institution.

Technological advances have burgeoned since Challenge was issued; curricular innovations have proliferated; and health centers have been re-engineered. Nevertheless, the roles identified in the report and the guidelines for libraries and librarians as institutional leaders in information management remain as accurate and compelling now as when Challenge was first issued. Today an unprecedented value has been placed on information management. Unparalleled changes in the health care environment mandate the need for quality information. Opportunities abound for health sciences librarians to assert their leadership to bring quality knowledge management to the health sciences enterprise.

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