
Creating Hospitable Environments for Technologically Naive Users: Y'all Come Back Now, Hear!

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ABSTRACT

HOSPITABLY ENCOURAGING NONUSERS of contemporary information storage and retrieval systems relies on a synthesis of both intercultural communication and bibliographic instruction. More specifically, sound communication strategies must be employed to bridge interpersonal differences, and contextual teaching approaches must be developed for introducing systems' purposes.

INTRODUCTION

Information is to our age what coal and iron were to the Industrial Revolution. Increasingly, the data which fuels intellectual progress are being retrieved through electronic means. "It is easy to get the impression that the future of libraries and librarians depends on new technology. We read the predictions in the literature. We hear them at conferences. We budget more and more money. We plan our services based on them" (Schuman, 1990, p. 34).

In the early years of this information revolution, researchers' access to databases was mediated by librarians who knew the system command languages and search strategies and who conducted searches for information seekers. However, since the mid-1980s, major online services have aggressively encouraged end-user searching through changes in marketing tactics, such as placing advertisements in professional journals and exhibiting at trade shows and professional conferences. They have also created new services, including lower

cost evening access, simplified user interfaces, microcomputer "front-end" search assistance packages, and databases on Compact Disc-Read Only Memory (CD-ROM).

THE EMERGENCE OF THE END-USER IN THE ELECTRONIC LIBRARY

Many visionaries (e.g., Meadow, 1979; Tenopir, 1987) have predicted that end-users eventually will take over the terminals. In fact, the number of end-users is increasing rapidly. For instance, in 1986, librarians constituted 85 percent of the holders of current passwords on DIALOG, a vendor for over 300 databases. Suggestive of the changing demographics of users, that year 80 percent of the 18,000 new accounts went to end-users (Summit, 1987)—i.e., individuals who search to satisfy their own needs but do not also search on behalf of others.

Other trends supporting the rise in end-users include the increasing access to personal computers and the rapid adoption of online catalogs in libraries of all types. At the same time, information seekers are being exposed to automated information retrieval through the CD-ROM products increasingly adopted by libraries and users alike. Since CD-ROM's introduction five years ago, studies have consistently confirmed the popularity of this new storage and retrieval medium (e.g., Allen, 1989; Glitz, 1988).

Looking to the future, we can increasingly expect gateway interfaces to integrate information environments of the sort already available at the University of Southern California. Professional teams there have developed a hypermedia interface which provides students with access to the university's online public access catalog (OPAC), selected bibliographic databases and reference tools, and associated academic courseware (Kinell, 1990). Additionally, employing an "Electronic Notebook" metaphor as an active research device, the common interface provides a personalized database, with outlining, copying, and note taking tools, and supports individuals' interconnected information retrieval, selection, and utilization activities.

Appropriate to the "lifestyle of the autonomous learner in the information age" (Chignell & Lacy, 1988, p. 12), this integrated hypertext environment offers unique opportunities for even relatively naive users to "leapfrog" some of the tedious aspects of doing research. Thus users may focus from the beginning on the more substantive aspects of research, namely the evaluation and synthesis of information that are crucial to critical thinking.

These developments signify the changing nature of libraries. Through increasingly integrated online information systems, libraries are able to manage and interrogate both local resources and,

as well, to reach beyond the boundaries of immediate collections as gateways to other informational resources. At least one visionary has predicted that tomorrow's integrated library systems will be "at the confluence and convergence of computers and telecommunications" (Raitt, 1987, p. 479). Increasingly digitized and globalized libraries could become the "world brain," capable of supporting worldwide, independent, individualized learning through electronic access to information.

Success in the contemporary information environment requires substantial knowledge. While both the procedural and conceptual fundamentals of retrieval success have received increased attention in recent years, little attention has focused on the reasons for initial uptake failures. Therefore, the subject of this article is the problem of nonuse of these value-added computer-based retrieval systems.

NEW PATTERNS OF SOCIAL STRUCTURE IN AN INFORMATION SOCIETY

The problem of nonuse gains in importance as the information technology revolution is increasingly characterized by less expensive and more plentiful communication and retrieval technologies. As a result, information technologies have invaded not only the business office and the manufacturing plant, but also the home and school, and a multitude of public institutions.

Of course, "in an information society all people should have the right to information which can enhance their lives" (American Library Association, 1989, p. 1). Stated even more strongly, broad based "information literacy" is necessary for "survival...in the information age" (American Library Association, 1989, p. 6). Though clearly this is desirable, many questions exist as to how to best achieve this professional ideal of "service to all" (Trujillo & Cuesta, 1990) in our socially complex society.

At the same time, the importance of information access to personal empowerment is becoming increasingly apparent. As new means for creating, storing, distributing, retrieving, and using information are facilitated by emerging technologies and innovative applications, "information wealth" (Rice, 1987, p. 116) will interact with material wealth to create different kinds of social stratification. Appropriate information in an information society, then, can produce opportunities for those individuals with access and, increasingly, that depends on negotiating technology based systems.

This article will explore how to effectively encourage nonusers of contemporary information storage and retrieval systems through synthesizing insights from the literatures of intercultural communication and bibliographic instruction. Communication strategies for

bridging interpersonal differences will be presented and instructional approaches for introducing relevant content will be examined for their utility in introducing contextually diverse, technologically naive individuals to modern library information environments.

COMMUNICATING WITH INDIVIDUALS IN A PLURALISTIC SOCIETY

In recent decades in the United States, we have come to replace the notion of a melting pot with that of a mosaic. This shift in image has come about through the realization that full assimilation is not always desirable—even if it is achievable. Rather, ethnic and cultural differences in values and principles offer the potential for meaningful exchanges of overall benefit to the larger society. By implication then, interactions between nonusers and librarians could offer mutual insights into information-seeking patterns and preferences.

For the library as an institution to realize its unique role of ensuring that the larger society might enjoy the enrichment of multiple perspectives, it must “realize its potential as a cross-cultural bridge of humanistic sensitivity and compassionate understanding” (Stansfield, 1988, p. 551). This implies that, in removing physical, linguistic, cultural, economic, and educational barriers to opportunities, librarians must enhance learning experiences through meeting the informational, educational, and cultural needs of users (Mylopoulos, 1985)—both present and potential. Nowadays, as information is increasingly communicated by computer, this requires that librarians become involved necessarily in introducing nonusers to technology.

The pluralistic nature of our population creates serious challenges for professional information providers. Enlarging the job description of reference librarians and bibliographic instructors to include computer literacy places further responsibilities on their ever growing list of assignments—including changing printer ribbons and replacing printer paper, and troubleshooting computer equipment (Aluri, 1989). It also implies that they must be skilled in educating others about the usefulness of computer-based technology.

HUMAN ASPECTS OF INFORMATION TECHNOLOGY

A frequent source of confusion in discussions about information technology concerns the meaning of the term itself. Common usage usually equates technology with physical tools—particularly electronic devices—and their mechanisms of control—hardware and software. From such a perspective, technology is only discussed in mechanical and technical terms:

this perspective on information technology...fosters the notion that information, like data bits, is comprised of discrete units with the characteristics of physical commodities; it fosters the notion that information seeking, like electronic processing, is a set of procedures which can be formalized, followed, and taught as step-by-step sequences; it fosters the notion that tools, especially electronic ones, solve information problems and satisfy information needs. (King & Baker, 1987, p. 85)

Expert opinion challenges these common assumptions about the nature of technology. Technology, for instance, has been described as "the application of scientific and other knowledge to practical tasks by ordered systems that involve people and organizations" (Pacey, 1984, p. 6). This definition is in contrast with the common definition; this broader meaning envisions technology as the outcome of human endeavors which intend to achieve goals and fulfill needs using inanimate tools to help attain those ends (King, 1986). Such a perspective challenges the prevalent tendency to think of technology as machines isolated from their human purposes.

Realization of the enablement possible through usage of online technology requires, then, acknowledgment of the human contexts within which communication and information technologies function. Among the prevailing theories of information use is that human beings need information in order to reduce the ambiguity in their environment and that they use information to impose some structure on the events which constitute their world. Another theoretical view is that the world we live in is an orderly place, and information is a means to describe a portion of that order. Yet another perspective is that the world around us is random, and that we use information to reduce our sense of disorder so that we can cope with the randomness (Fine, 1984).

All of these constructs recognize that information seekers desire information for improved understanding. In this context, information plays a critical role in shaping perceptions of reality and behavior. Appropriate information, when used to educate, validates and extends people's experiences and mobilizes them.

In seeking information, people operate within an extended information environment. Variety in sources and resources characterizes the "information web," for instance, of fully networked scholars:

Scholars participate in many different information networks. In some of them the scholar acts as correspondent, in some as passive recipient, and in some as creator or initiator. The intersection of these many networks would be too complex to draw, but you can readily imagine what it would be like: perhaps like a galaxy of solar systems. The drawing would quickly lose any sense of a center even if you tried to draw only a few scholars and a few information providers (which might, of course, be other scholars). Rather than showing one center node intersecting

with many lesser nodes or "satellites," the drawing would have to depict many equal units sharing information on an equal basis. (Sack, 1985, p. 5)

Interlinking systems, then, provide wide networks of contacts which enable experts to become knowledgeable and remain current in their fields. As with person-to-person exchanges, through the exchange of information, individuals can gain improved definitions of both themselves and their ideas.

Ideally, the transfer technology is "transparent and open so that all the individual members need perceive is the information itself" (Sacks, 1985, p. 6). In practice, however, this is seldom the case, which makes all the more important the novice's understanding of the communicative purposes driving information creation and retrieval activities in both community and library systems.

The fundamental notion that communication drives information storage, retrieval, and transfer is essential, then, to nonusers' comprehension of the utility of such systems. To invite the uninitiated to enter into this dialogue, appropriate explanations must be presented in such a way that individuals understand information systems in the larger context of their own information universes (Huston, 1989).

INTERPERSONAL DIMENSIONS OF EFFECTIVE INSTRUCTIONAL OUTREACH

Reaching the currently unserved requires nurturing receptivity and willingness among individuals with the long term objective of increasing sensitivity and appropriate responsiveness on both sides (Stansfield, 1988). To accomplish this, you must "cultivate a professional humility" (p. 548). Librarians, as well as users, must assume the position of willing learners.

For instance, in initiating individuals to the culture of research and scholarship, with its particular behaviors, identity assumptions, shared philosophies, and traditional heritages (Kuh & Whitt, 1988), librarians can employ a respectful attitude of "turn taking." Novices, after all, are expert negotiators of cultural domains relevant to their everyday lives. An egalitarian attitude can set the stage for successfully transferring information about the culture producing the entities represented in databases, and create opportunities for learning about novices' cultures through empathetic listening (Rubens, 1976).

In today's world, where pluralism is more pronounced and elaborated due to social complexity (Goodenough, 1978), the bridging of differences is, admittedly, an increasingly significant challenge.

However, understanding the purposes for which technologies are employed and the purposes for which information is sought can provide the critical link between users, librarians, and sources.

CONCLUDING REFLECTIONS ON THE PROBLEM OF NONUSE

For all of us, there is an ever widening gap between what we understand and what we find we must understand (Wurman, 1989). Because "information frustration and hence information anxiety results when you know what you want but not how to get at it" (Wurman, 1989, p. 6), "dis-ease" has become epidemic in modern society. The cure lies in part in the creative responsiveness of librarians who stand at today's automated gates to knowledge.

To further complicate matters, in this age of accelerated technological change, technostress complicates information access, as is to be expected by any apparatus with the amount of power and prestige granted computers (Brod, 1984). Without the confidence which comes from successful experience, many people are understandably hesitant to approach an automated system, including those increasingly found in modern libraries. Librarians, then, must approach potential end-users; they must proactively interact with them in their own environments and on their own terms.

With the realization that "knowledge is a rich amalgam of the knower and the known" (Frick, 1984, p. 265), not yet initiated individuals' receptivity and self-esteem can be cultivated. This is in keeping with a basic tenet of good instruction, for "teaching reaches beyond transfer of facts to include transfer of confidence in the learning environment" (p. 265).

Meeting the challenges of encouraging current nonusers to explore automated library systems can provide opportunities for mutual growth, improved sensitivity, and interpersonal awareness. In turn, these human dimensions possess the most potential for extending hospitality to contextually diverse, technologically naive individuals.

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