

St. Mary's University, San Antonio, TX

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November 1, 1991

Searching on CD-ROM in an Academic Environment

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Searching on CD-ROM in an Academic Environment

How to avoid CD-ROM information overload

Margaret Sylvia & Leigh Kilman

Indexes and other information tools in CD-ROM format present users with a number of problems in retrieving information: incompatible interfaces; differing database construction and contents; use of natural versus controlled language; and an overwhelming amount of information to be retrieved.

New users attempting to become acquainted with searching on a CD-ROM index are often overwhelmed both by the amount of instruction necessary to begin a search and by the amount of material retrieved by a simple keyword search. Training users to be comfortable with searching techniques involves multiple teaching approaches, not only to reduce the amount of information to be learned initially, but also to teach users to reduce the information retrieved to an optimal amount.

Statement of Problem

St. Mary's Academic Library acquired CD-ROM products very rapidly during 1990 without adequately pre-assessing the need for patron instruction in the use of various bibliographic and statistical databases. The overwhelming popularity of CD-ROM products was compromised

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by the lack of extra staff support required to meet user education needs.

User training became reactive. Workshops concentrated upon keyboard skills since most users had little or no searching experience. Searchers learned to use keyboard commands without the sophisticated mastery of Boolean operations, best use of vocabulary, or selection of the most appropriate information source.

End-users did not learn what type of subject materials might be found in the various CD databases, and they did not know how these databases were organized.

They were unable to formulate an appropriate search strategy because they did not understand the concepts of Boolean searching. Users wasted time and effort browsing hundreds of entries because they did not understand how to use the Boolean "and" as a search aid. They used natural language terminology instead of thesaurus entries which led to an explosion of "false drops" in many cases. They searched terms in inappropriate databases and were disappointed with the results.

In short, the CD-ROM format became a barrier to information access. Searchers suffered from an information overload because they were not given a conceptual strategy around which to accumulate and synthesize their new data regarding CD-ROM searching and its relevance to information literacy.

Background

St. Mary's University of San Antonio, Texas, is an independent Catholic university celebrating its 139th year of educational service. The Academic Library

serves a diverse student population of about four thousand plus an array of faculty, staff, and community members.

Currently six different CD-ROM periodical indexes are available for patrons. In addition, we have several government document CDs available, such as U.S. Census data files.

All of our CD products share five workstations. Only two are permanently loaded. All other CDs must be retrieved by the patron at the circulation desk and loaded before searching. Also, each CD-ROM is limited to only one designated workstation for searching.

CD-ROM user skills in the Academic Library therefore range from finding the appropriate CD at the circulation desk to sophisticated Boolean operations once involved in a search. Our approach to meeting the challenge of this wide range of patron skills is detailed below.

Objectives

Through our discussions of CD-ROM use and user needs, several staff objectives became clear. We needed to create an end-user skill-building program based upon a conceptual foundation. Part of this program required us to develop a variety of instructional aids that complement the instructional goal but also can be used independently of one another.

We also examined all aspects, both formal and informal, of CD-ROM user education, i.e., instructional workshops, one-on-one instruction, printed literature, point-of-use materials, signage, and bibliographic instruction lectures. Finally, we decided to examine future user needs as the library plans for a local area network to be installed by early 1992.

Cognitive learning objectives were also established. We wanted the user to recognize and utilize a basic three-step strategy in any CD-ROM index search:

1. Define and select the best database.
2. Select appropriate choice of natural language or controlled vocabulary for search.
3. Examine Boolean operators and other available connectors. We also wanted the user to acknowledge that system-specific and keyboard skills change among databases, while the conceptual basics remain!

What we commonly called "CD-ROM information overload" is reduced through the use of conceptually grounded search strategies.

A broad objective for the user was also defined. Basically, we wanted to demystify the process of searching CD-ROM indexes. The intended aim was to make the user feel more confident at the CD-ROM workstation.

Solutions

The Academic Library is now applying a proactive and conceptually based search strategy to CD-ROM user instruction. Conceptual basics of automated searching are emphasized over system-specific skills. Boolean operations are defined, as are controlled vocabulary and natural language searches, and the CD-ROM's information universe. Although system-specific skills are not ignored, conceptual basics remain the focus of instruction.

End-user skill building is viewed as an accumulation of instructional formats and events that all contribute to the searcher's ability to understand and manipulate CD-ROM products. The instructional formats and events targeted for re-evaluation included workshops, one-on-one instruction, print literature, signage, and point-of-use materials.

A "top down" model is entrenched in our revamping of CD instruction. Basically, we envisioned a conceptually versed and fairly independent CD-ROM searcher. We then began constructing the building blocks (formats and events) leading to that end. User reaction is reinforcing our professional observation that what we commonly called "CD-ROM information overload" is reduced through the use of such conceptually grounded search strategies.

Signage

Signage was re-evaluated as an instructional format. An access barrier is created when patrons cannot determine what dedicated workstation to choose or what information is presented at that location. Small, bold-lettered signs were affixed to our CD-ROM workstations soon after their installation. However, these signs listed only the CD's nondescriptive title and proved ineffectual to the average patron.

Since then, informative signs have been designed and set in place. These new lightweight and movable signs are placed on the wall behind the appropriate CD-ROM workstation. They name the CD product and very briefly describes its "information universe." For example, the title "ABI/Inform" has proven to be unenlightening to our typical patron. The new sign boldly labels this workstation as "ABI/Inform — Business Periodicals."

One-on-One Instruction

One-on-one instruction is a critical component to CD-ROM user training at St. Mary's. Although the Academic Library offers several CD-ROM training workshops each semester, the small size of our clientele allows our librarians the luxury of extensive one-on-one instruction. And, since all of our CD workstations are physically located only a few feet from the reference desk, access to patrons before and during CD searching is almost inevitable. Unless the patron rebuffs assistance, the reference staff has

agreed upon a "minimal" degree of training in this instructional format.

Minimal training is based upon three concepts: briefly describing the CD-ROM's information universe; explaining that database's natural language and controlled vocabulary access; and initiating the searcher in Boolean operations allowed in that particular product. System-specific skills are *not* ignored, but concepts are stressed.

Transferability of concepts is essential as we own many different CD products. Minimal training is tailored to fit an individual's needs, but surprisingly quick and easy in the one-on-one format. This framework of instruction fits every user's needs. One-on-one quickly reinforces data accumulated by the sophisticated user. It also allows the librarian the opportunity to initiate the novice CD patron by visual, tactile, and oral stimuli.

CD-ROM Workshops

CD-ROM workshop instruction at St. Mary's Academic Library is initiated both by librarians and other faculty. Past workshops have been compromised by the lack of computer confidence expressed on the part of those attending these popular workshops. Workshops became keyboard skill sessions instead of tutorials in the conceptual mastery of a CD-ROM product. Although system-specific skills can never be ignored, workshops are again stressing the importance of a conceptual search strategy.

Workshop attendance is usually limited. End-user skills are taught to small groups, thus guaranteeing terminal access for each patron.

CD-ROM search strategy concentrates upon three basics: the CD-ROM's information universe; vocabulary access; and Boolean or other connector possibilities for that database. Keyboard skill questions are easily answered even in this conceptual framework. Print literature is used to reinforce objectives. Guided and independent practice at the terminal are viewed as essential to learning objectives. Workshops will continue to be offered, but never again at the expense of the conceptual mastery of a CD-ROM product.

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Point-of-Use Materials

The creation and display of point-of-use items for CD searchers is not an exact science. While some seems to be better than none, if there's too much it appears to be ignored.

Each CD product we own has a brief (one-page) search guide. Multiple copies of these one page guides are housed at the appropriate workstations. Display seems to be at least as important as information content.

Due to our recent CD acquisitions, we no longer can dedicate one workstation for each CD. Thus, most workstations are cluttered with two sets of support literature. Permanent display of just one search copy is being considered.

Besides brief search aids, point-of-use materials include online and printed database definitions, online tutorials, printed and online thesauri, and lengthy search guides. Not all of our CDs provide all of the above items. Tutorials are listed on menus while print sources are housed at the workstation. Wall signs are considered to contribute to database definition.

Print Literature

The use of print literature as a CD-ROM instructional aid was also re-examined. Printed literature is used as point-of-use search aids, in workshops, formal lectures, and as general interest items.

Overall, printed aids were redesigned to be shorter in length, but strong-

er in the chosen instructional objectives. The point-of-use search aids were redesigned as a series to be used at the workstation or in a formal lecture. Brief literature was created to describe the CD format, and the CD-ROMs we currently provide.

Printed literature is seen as an information vehicle that must conceptually reinforce our learning objectives, be usable independently of the librarian, and also be usable in a formal learning situation with a librarian.

Long-Range Plans

As we prepare for the installation of a local area network, the St. Mary's Academic Library staff is examining a variety of issues, including CD-ROM use and user education. The user no longer will be concerned with some aspects of the physical format of information storage.

For example, our current physical restraints of using only designated workstations for certain automated indexes will be removed. In our view, this and other changes only reinforce the need to build end-user skills upon a conceptual foundation.

Automated index instruction still will be offered in a variety of formats. Workshops will be offered in greater variety and with more keyboard time for participants. Print literature will be available. Signage again will be revised. Point-of-use materials will dramatically change. The status of one-on-one instruction will certainly be affected, but to what degree?

Reference service will be affected by our change in automated index access. The physical removal of old CD workstations will be augmented by the addition of many more workstations located elsewhere in the library. Fourteen workstations are planned.

Unfortunately, these stations no longer will be in sight of the reference desk. At least one training workstation should be available for instruction at the reference desk. Finally, we need to find a way to instruct remote users who may never enter the library.

Overall, the St. Mary's University staff is eagerly anticipating changes in automated access for the patron. However, we intend to begin cultivating the conceptually equipped users of tomorrow, today!

Author's Note

CD-ROM user needs, CD-ROM as a barrier to information, and CD-ROM as "information overload" were themes addressed in poster sessions at the 1991 ALA Convention in Atlanta. This case study is an elaboration of our CD-ROM "information overload" poster session.

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Edited by Charles R. McClure: Editor in Chief; Ann P. Bishop, Assoc. Editor; Philip Doty, Assoc. Editor; Joe Ryan, Resource Review Editor

ISSN: 1051-4805 • Volume 1 (1991) Pub. quarterly
\$95.00 per year for organizations • **\$35.00** per year for school libraries (K-12 and individuals if shipped to home address)

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