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ABSTRACT

Computer/automated catalogs have been in use in secondary schools for some time and have numerous advantages. A public access catalog (PAC) allows networking with other libraries, use of the Boolean search function, and the retrieval of bibliographic citations from a variety of access points. Moreover, PAC's have recently become more user friendly. The size of the collection input into a PAC determines the hardware needs (e.g., microcomputer- or minicomputer-based). A machine-readable database using full MARC format is recommended for compatibility in the event of interface with another PAC. In addition, the following factors must be considered when preparing a PAC: (1) the attitude of the staff; (2) method of record conversion; (3) hardware acquisition; (4) the effects of the PAC on the library; and (5) appropriate file system operation. The value of an integrated library system, patron usage, and system management are other considerations which must be weighed. (KM)

ONLINE CATALOGS IN SECONDARY SCHOOL LIBRARIES

(A paper presented at Institute V of the Tulsa Area Continuing Education Cooperation, August 26, 1985)

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ONLINE CATALOGS IN SECONDARY SCHOOL LIBRARIES

Libraries of all kinds have been searching for a solution to the problem associated with a printed card record of their holdings, manual circulation systems, and other record keeping. Many "temporary" solutions to the various problems have been used with success ranging from the complete breakdown of circulation information to a complete and accurate catalog. Just what problems have necessitated the attempts at solutions. First, a card catalog is difficult to keep alphabetized when numerous people file in it, subject heading selection is not always noted and variant headings are used for the same subject, and so on. Second, librarians and staff have a problem with the sheer number of cards that nust be maintained.

For how long has automation been seen as a solution to these problems in secondary schools? A quick listing of reported programs will identify this time period. In 1968, Walker reported on the Ann Arundel County (MD) school district, Breiland in 1969 reported on the 1963 Albeuquerque (NM) Public School systems automation, likewise McCauley in 1971 reported on the use of electronic data processing, and Brown in 1978 discussed the Baltimore public schools program (Drive, P.21). What do these programs include: batch ordering and cataloging, networking via WLN and OCLC, and turnkey systems. The latter term may be new to a few of you. A turnkey system is one purchased and used as-is, usually including both hardware and software. Very little use descretion is accepted by vendors of turnkey systems.

Let us now move to one of the major hardware sources for secondary school automation - microcomputers. According to three leading educational research firms: Quality Education Data, TALMIS, and Market Data Retrieval, thirty percent of the junior high schools have microcomputers with seventy-one percent of them located in the media center. Sixty percent of the high schools have microcomputers but only forty-two percent have any located in the library (Pattie, P.18). A 1981-82 survey of library microcomputer use in Nebraska revealed the following: Library use instruction accounted for 2.8% of microcomputer use; library catalog and materials, 4.2%; library budgeting, 2.1%; and circulation, ordering, and periodicals accounted for 3.5% of the use (Truett, P.15).

ADVANTAGES OF A COMPUTER CATALOG

A computer/automated catalog provides for ease of maintenance, faster imputting of information, reduced turnaround between reciept an shelving, and frees up time for the librarian to work with students. Other advantages will be outlined later.

CURRENT USERS OF COMPUTER CATALOGS

Time permits only a brief listing and description of three current users followers. Eric Anderson has described the use of "DB Master" software from stoneware to provide access to all media in the library in the Dakota Community Unit 201 (IL) (Lathrop, P.71).

As part if Title IV-C project, Point Pleasant High School (WV) acquired a TRS 80 Model III microcomputer with a 48K memory, dual disk dvive, a line printer, and five megabyte hard disk drive. The library de/eloped a

user friendly catalog providing check-out and check-in, fines accounting, reference searching, status inquiry, and reports generation. It took four months to key in the records for a 12,000 volume collection with each entry containing the author, title, call number, date, publisher, type of book, and up to seven subject headings. Before the conversion took place the library weeded the collection, developed search mnemonics, and determined location and other installation procedures. Today this catalog is in use 500 minutes each day (Graham, pp 23-26).

The most widely reported computer catalog in use is at Mountain View (CO). This was the first elementary school in America with a totally computerized card catalog (Lathrop, p.70). Although developed for an elementary school, this catalog can be used by most secondary schools. The system requires an Apple II microcomputer, a Corvus ten megabyte hard disk drive to handle fifty thousand items, and "Computer Cat" software developed by Colorado Computer Systems. The cost for the basic hardware and software comes to eight to twelve thousand dollars with an annual maintenance cost between four hundred and six hundred dollars. A similar minicomputer based system would cost between forty and sixty thousand dollars to purchase.

Let's look at some of the features of "Computer Cat" available to users. It is extremely user friendly; searchers begin with the prompt "Looking for ..." When unable to locate an item the response "Sorry I can't find anything on ... Please ask the Librarian" results. Cross references are also contained online. An extensive array of librarian features abound in "Computer Cat". It is easy to locate items, correct errors, delete records, and obtain bibliographic printouts. Contrary to the lack

of readily obtainable information from a card catalog, Computer Cat can provide a print-out via any field in entry. The system prints shelflist cards, book pockets, and spine lables. All formats of materials can be input into the system and item reocrds (holding records field) can accomodate special search comments. Repeated searching on the same entry can be performed using the default feature. And last, but not least, input can be accomplished through the use of OCLC records.

NETWORKING

For those of you unfamiliar with the acronym "OCLC" it stands for Online Computer Library Center. OCLC is a network vendor allowing participating libraries to indicate holdings, input records, borrow via ILL, order via the acquisitions subsystem, etc. WLN (Western Library Networks) and RLIN (Research Libraries Information Network) are two other nationwide networks. What can a network do for you in a secondary school library? It's primary advantage is that it allows for reciprocal arrangements: Borrowing and access to holdings records. Networks encourage librarians to "Discover" each other and share.

A local network in the New York C Metropolitan area known as INTERSHARE supports a union catalog and circulation system, uses OCLC for input, and provides record input support.

CHARACTERISTICS OF A COMPUTER CATALOG

Often the acronyms PAC (public access catalog) and OPAC (online PAC) are used to refer to a computer catalog. I will use PAC during the remainder of this page. What are the characteristics of a PAC?

One of the primary features of a PAC is a postcoordinated or doolean search funtion. This means that no or few phrases are preassigned. The user combines terms during the search. Keyword searching is an example of this. For example in an article on seventeenth century English Literature, references will be made to the manes of various authors. A search of only the authors names may yield a significant number of references in most PAC's or index's. Whereas when combined with "seventeenth century" or specific year time spans the retrieved number of references is reduced significantly and if the items have been indexed properly the references will be more relevant.

Amoung other features, the database consists of bibliographic citations for materials in the collection. A PAC provides indexes that permit users to locate materials by a variety of approaches, i.e. author, title, series, subject, call number, etc. Related headings are linked by a system of cross references. A PAC provides a quick and easy way to display records in a similar arrangement for a variety of physical fomats.

A most recent development in PAC's is that they have become easy to learn to use, i.e. user-friendly and finally, the size of the collection input into a PAC determines the hardware needs. For example, twenty to fifty thousand records may use a microcomputer based system and 100,000 to 750,000 require at least a minicomputer. If a library has more than

750,000 records a mainframe will be required (Fayen, p. 12).

LIBRARY MANAGEMENT PROGRAMS

I have discussed specific library PAC's and the characteristics of a PAC. Anderson, by means of a chart, identifies just a few of the currently available software systems, which provide catalog and/or circulation control (Anderson, pp 70-71).

PAC REQUIREMENTS

It is highly recommended that a machine readable database using full MARC, a standard for acceptable bibliographic information, format be built. The use of a MARC format usually insures compatibility for input if and when another PAC is used. If an abbreviated record is all that is created for use in a PAC, the process of converting these to MARC can be as expensive as creating an original full MARC record.

Related to this is the nature of the syndetic structure (indexing terms). A traditional catalog provides for an inadequeat number of access points and often omits media. A PAC can accomodate most selected index terms and media formats. In addition the operation of a PAC allows a library to more completely analyze nonfiction, literature, and music.

PREPARATION OF A PAC

"The challenge is for school library media specialists to examine their old routines for performing library functions, and to update their skills and manner of performing those functions when appropriate. Experiment with automation on the local system which would isolate the local school library media center rather than connect it to the broader recources available. For example, is it really effective to use non-MARC format for bibliographic records? Would that use preclude joint ventures of cataloging, interlibrary loan or reference service?" (Immroth, p.36).

The staffs' attitudes toward service make a difference and must be considered. In addition the staff must be involved in the selection of a PAC because of their experience with organizing materials, serving users, selecting materials, and in providing information itself rather than only guidance to information.

Before selecting a PAC, the conversion of the records can begin. The decision must be made whether to use the services of a bibliographic utility, i.e. OCLC, RLIN, or WLN at about one to two dollars per record, or use the services of a vendor providing less than complete MARC, records, i.e. REMARC at $.25 to $.50 per reocrd, or use a commercial keyboarding vendor such as EKI to convert the shelflist at up to $3.00 per record. And remember, no matter how you convert your records or update them, always keep a backup tape or disk copy.

A decision must also be made whether to buy your own hardware, use someone else's (networking), or to purchase a vendor's service. The advantages and disadvantages can be found in Fayen's article on evaluation. [Fayen, pp 18-20]. Whatever your measurable cost estimates for a PAC are, these should be doubled to come up with a total realistic picture of the total cost.

A consideration of the effects of the PAC on the library must also be part of the preperation. Although patrons readily accept a PAC, librarians do not because of a fear of change and the fear that staff numbers will be reduced; never assume that automation reduces staff needs; change is a fact of life and is inavoidable; PAC's merely allow for a more efficient utilization of existing staff; be sure that

individual user needs are considered in preparing for a PAC and users must be allowed a choice of pathways to learn how to use the PAC.

SYSTEM OPERATION

The operating system's means of locating data must be an important consideration in selecting a system and preparing for it. The two primary means of operation are using a direct index or using an inverted file.

Direct index means that each field is assigned an index value and the information is stored under the index information. For example many systems assign a unique number to each title. No matter what field is searched, that field, where appropriate, has been assigned the unique title number. Systems using direct indexing typically include the following features: menues, right truncation, and are similar in search structure to a card catalog. A direct index usually precludes Boolean and Keyword searching.

An inverted file builds indexes from a set of pointers, called a directory, to records. These pointers allow keyword searching, right truncation, and the use of Boolean operators.

To determine which file system operation is appropriate consider the following 1) Is the PAC the only automated feature? 2) Is there a need for networking? 3) How are new records added? 4) How large and complex is the collection? 5) What are the characteristics of the users? 6) Are there other institutional constraints?

The manner of searching a PAC is determined by the file structure. Depending upon which structure is selected you can use Boolean operators, phrase searching, positional operators, browsing, numeric value searching i.e. dates or ISBN, and derived search keys as in performing an author or title search in OCLC.

System operation also impacts the use of authority files. Some systems can validate a record upon input, that is, match a new entry with an existing one but this is a costly procedure. Or a system may use cross-references to link variant forms.

INTEGRATED LIBRARY SYSTEMS

Once the PAC feature's have been determined the library must next determine if an intergrated library system is desired. This can consist of subsystems for acquisitions, cataloging, a PAC, circulation, binding control, and perhaps a media booking system. Fayen's 1984 Library Technology Reports study lists twelve "Integrated systems. (Fayen, pp. 40-59).

EVALUATION OF COMPUTER CATALOGS

Two areas of evaluation of a PAC are important to consider before the final stages in the selection process. Patron usage: Acceptance, accessibility of the PAC to patrons, frequency of use, and ease of use must be considered. Catalog system management or how records are input, retrieved, and changed must also be evaluated.

CONCLUSION

Finally, the following items should have all been considered before developing the specifications for your PAC.

1. Patron involvement
2. Feasibility assessment
3. Library staff involvement
4. Consultant utilization
5. Use of existing hardware and software and need for hard or floppy disk drive(s).
6. Dollars available
7. Time available
8. Progress Reports
9. Adequate Terminal installation
10. Consider changes resulting from a PAC
11. Conversion completion
12. Read all available literature
13. Hardware location

At this point a library should be adequately prepared to put a proposal out for bids and begin installation. If this has been properly accomplished, a library should find that a PAC will aid computer literacy, improve user skills, and provide user satisfaction.

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