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Creating and Maintaining the Bibliographic Database for Library Automation. ERIC Digest.

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INTRODUCTION

System software and vendors come and go, hardware becomes obsolete, but a bibliographic database can survive for decades. A high quality, well maintained bibliographic file can be transferred from one generation of a system to another or migrated between successive systems from different vendors.

By the year 2000, the bibliographic file mounted on an integrated automated library system installed in 1990 may be the only original system component still in place. The file will have been amended, updated, and expanded by the addition, deletion, and change of records. In addition to being the most lasting system component, if not properly constructed, the bibliographic database can also be the most limiting element of a multifunction integrated automated library system.

The purpose of this digest is to highlight bibliographic file creation and maintenance practices that will affect a library's ability to use various automated system capabilities for both current and future applications.

DATABASE CREATION OPTIONS

There are a number of ways of creating the bibliographic database to be mounted on a local automated library system. Most approaches rely on a resource file of machine-readable records to provide cataloging copy, in preference to creating and keying all records from scratch.
Cataloging resource files come in a variety of forms: a library database mounted on a local automated system, a CD-ROM stand-alone cataloging support system, or a remote file accessed via telecommunication linkages (such as OCLC). The resource file is searched for a record that describes the item being cataloged. If an exact match is not found but the file contains a record for a similar item, a derived catalog record is created by selecting and editing the near-matching record to represent the item in hand.

If no copy record can be identified, an original record is prepared. All copy cataloging requires some editing to add local library-specific data such as call number or local subject headings. Record creation and record editing can be performed either on the system that supports the resource file or on the local automated library system.

THE IMPORTANCE OF ADHERENCE TO MARC

Some libraries unknowingly impose limits on future applications of their system (or make the implementation of such applications more expensive) by following the overall structure and conventions of MARC formatting, but failing to maintain data elements that seem obscure or redundant or otherwise appear to have little or no importance for the current automated system. This is particularly common when records are created by original cataloging or by editing a near-matching record to conform to the slightly

different item in hand.

The data elements most frequently overlooked are those recorded as coded data in the record leader and the 008 fixed length field. For example, a record assigned the local library classification of PER and a local subject heading "Periodical" is clearly a record for a serial; why go to the added effort and expense of ensuring that the value "s" for serial is recorded in the bibliographic code element of the leader? Why not use a bibliographic level default of "m" (for monograph) or blank (in assigned meaning) in all records?

What may appear to be a reasonable time and labor saving variation from standard MARC practice can become a major limitation or expense. A library wishing to use its automated library system to inspect its bibliographic file, select all records for serials, and output these records in machine-readable form for submission to a union list of serials or as a printed list of holdings, will be unable to do so if the system bases the identification of serial records on the expectation that all serial records, and only serial records, contain "s" in the bibliographic level element of the record leader.

Other important data elements are standard numbers such as the Library of Congress Card Number (LCCN) and the International Standard Book Number (ISBN). Although often regarded as of little importance in local system databases, these numbers assume significance in external applications, such as when a library is seeking to produce a microfiche or CD-ROM catalog; to migrate the database from one automated library system to another; to merge its records with those from other libraries on a shared automated system; or to report holdings to a union catalog.

APPROPRIATE FIELDS: CONSISTENT FORMATS

It is not enough to record data in the appropriate field. It must also be recorded in a consistent format. Some automated library systems and cataloging support systems enforce formatting consistency by providing input validation routines that either alert the operator to an incorrectly formatted number and prevent it from being added to the database, or automatically reformat the data once it has been keyed. However, most multifunction integrated automated library systems neither check nor manipulate input data; they accept whatever is keyed and output it unchanged.

Appropriate and consistent formatting conventions must be followed if standard numbers are to be readily available for machine manipulation. Local automated system vendors' data recording guidelines tend to focus on formatting data for internal, local applications--use within the automated library system. Capabilities to support the output of MARC records from local automated systems are relatively new. Their introduction emphasizes the need for libraries to expand their data entry horizons beyond the confines of current local system usage.

CORRECTING A DEFECTIVE DATABASE

It is expensive to develop and maintain a bibliographic database, and the cost can escalate dramatically if ill-considered shortcuts result in records that cannot support the full range of automated library system applications, necessitating major revision or upgrade of the file.

A library can correct defective records by calling them up and changing them one at a time or, if the problems are widespread and consistent, it can contract with a bibliographic tape processing service to prepare custom software to correct the records automatically. Some automated library system vendors also provide these services. The more customization a vendor is required to perform to prepare a file for loading or transfer, however, the more the library can expect to pay for the service.

GUIDELINES FOR A HEALTHY BIBLIOGRAPHIC FILE

1. Follow the established national standard for the recording and formatting of bibliographic data: the US MARC Format for Bibliographic Data.
2. Include and maintain all relevant data elements in the records, especially the coded data in the record leader and the 008 fixed length data elements field.

3. Look beyond current system requirements to the time when additional system capabilities will be implemented, the file will be transferred to a new system, or standard output will be required for other applications. Specifically, include and maintain standard control numbers such as LCCN and ISBN.

4. Pay special attention to coded data elements and standard numbers in original record creation and in the editing of near-match records drawn from a resource file.

5. Select an automated library system that has the ability to output bibliographic records in the MARC format. (All current systems have the ability to accept the input of MARC formatted bibliographic records.)

6. Document changes in database creation practices, procedures, and policies. Many problems and inconsistencies in bibliographic databases can be overcome by external tape processing. It is easier, faster, and less expensive to fix known problems. Memory is not a reliable guide.

ADDITIONAL READINGS

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