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Measures of Excellence
for School Library Media Centers

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Collection Mapping: An Evaluation Strategy for Collection Development

David V. Loertscher

What is the function of a library media collection in a school? There seem to be two answers to that question—an intellectual answer and an answer as practiced in the schools. The intellectual answer is so well known that it is a platitude: “The function of a library media collection is to serve the curriculum of a school.” *Media Programs: District and School* provides a more lofty statement:

The collection in each school is rich in breadth and depth of content and represents varied types of materials, points of view, and forms of expression. It provides a broad range of media formats and meets the requirements of all curriculum areas, accommodating diverse learning skills and styles of users at varying maturity and ability levels.¹

As fine sounding as this goal is, school library media specialists generally do not carry out its direction. The collections they do build are influenced heavily by traditional practices and acquisition procedures. Cecil and Heaps, who wrote one of the earliest histories of school libraries,² describe the visit of a number of famous Americans to Europe in the early 1900s. They studied educational practice and brought back ideas which influenced American education. According to Cecil and Heaps, “These educational leaders and others of the day realized that the development of intelligent citizens depended not only upon teaching reading but also on providing reading opportunities. It was for the purpose of providing such opportunities that the school district libraries came into being.”³

The main point made by Cecil and Heaps was that early school library collections were built as supplementary reading repositories. One doesn't have to be very old to remember regular visits to the school library to get a good book to read, and a helpful librarian who tried to find “the right book for the right reader at the

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right time." But collections designed to support supplementary reading and collections that support curriculum are two different collections!

Supplementary reading collections overlap public library collections and are common in schools today because the techniques of building school library collections have been taught in graduate library schools by public library-oriented professors. A common scenario in a public school today would reveal a school librarian surveying the community (the school setting, students, and general curriculum), selecting titles from current review periodicals, using recommended national lists such as *Children's Catalog*, creating a consideration file, and selecting considered titles in priority order at acquisition time. Such a practice is based on the philosophy that the school library collection should contain the best of what is published in a current year. This practice guarantees that a school will have a public library collection housed in a school. Library media specialists who have such collections find themselves constantly trying to impose a collection of materials on unwilling teachers and buying materials they "hope" will be useful to students and teachers. They have large blocks of materials on topics not covered in any of the curricular guides or textbooks and so must campaign to get the subject taught by a teacher lest the investment in the collection is a total waste. In addition, library media specialists tend to build collections matching their own interests, tastes, and subject knowledge from their college majors.

If a collection in a school library is to support the curriculum taught in the school, a selection procedure quite different from that pictured above must take place. Such a procedure is not well described in the literature but is practiced by a number of school library media specialists who have rejected many of the theoretical collection building practices and have opted for a more practical approach.

The Study of the School Curriculum

The foundation of a sound collection building policy for a school is formulated by doing an in-depth curricular study. This study might include:

- 1** A survey of mandated curriculum for the school and curriculum guides which are actually in use

- 2 A survey of textbook adoption cycles and textbook approaches to curriculum
- 3 A study of the faculty teaching style as it relates to the written curriculum
- 4 A survey of the curriculum developers of a school to identify their ideas and expectations

A full-scale study of the curriculum in a school and district will take time and effort. It is not usually a part of graduate library school curriculum and it is rarely a part of a school library media specialist's job description. One of the best ways to get acquainted with the curriculum is to attend curriculum committee and textbook selection committee meetings. Such attendance will provide advance warning of curricular change and a solid perspective of what "ought to be happening," in addition to the daily perspective of what is actually being taught.

If a library media specialist has this solid curriculum foundation, then a sound collection development policy and its accompanying method of implementation can be constructed. The purpose of this article is to suggest a new collection-building and evaluation strategy.

The Elephant Method of Collection Building

The sage advice that in order to eat an elephant, cut it into small pieces is a sound strategy for collection building. The idea is to divide a collection into a number of small but manageable segments which match the various parts of the curriculum. Each of these segments can be built, weeded, or maintained as curriculum needs dictate. Each segment has a corresponding piece of the total budget, depending on the priorities assigned to the goals of expansion, replacement only, or de-emphasis. These are the guidelines for school library media specialists: Do not build the collection as a whole. Build pieces of the collection. Create a collection that is tailored specifically for the school it serves.

For the purpose of collection development, the total collection should be divided into three major segments:

- 1 A basic collection designed to serve a wide variety of interests and needs. This collection provides breadth.

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2 General emphasis collections, which contain materials that support a whole course of instruction such as United States history or beginning reading. These collections provide intermediate depth in a collection.

3 Specific emphasis collections, which contain materials that support units of instruction such as "Civil War" or "dinosaurs." These collections provide full depth and support as advocated by the national standards.

The mechanism by which a collection is divided into the three main collection segments, evaluated and then managed has been titled collection mapping.

Collection Mapping

A collection map is a visual supplement to the card catalog which graphically displays the breadth and depth of a library media collection. Such a map may be displayed as a large poster in the library media center where its function is to communicate collection strengths and needs to patrons. Each school's library media collection map might be completely different from the collection map of a neighboring school. Schools within a district or a region might have coordinated selection policies creating complementary collections which could be shared regularly. A sample collection is shown in table 1. This mapping technique was refined over a three-year period in two developmental studies. The first included over thirty schools whose library media specialists were in the author's classes, and the second was a formal national study conducted by Dr. May Lein Ho with the author's assistance at the University of Arkansas. Scales for the map were created from data in the national study. Charting an individual collection using the scales as shown above compares a school's collection with the national sample.

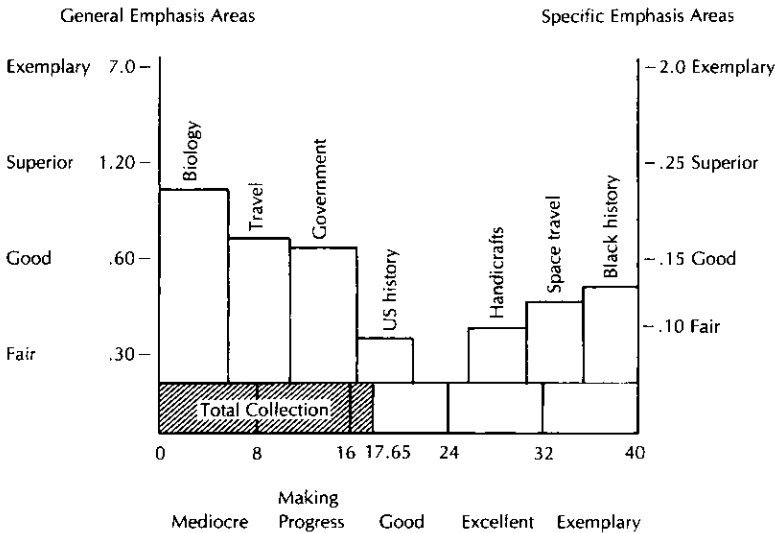
The selection of emphasis areas is the prerogative of the library media specialist and is based upon the curriculum of the school and the number of items which have been purchased in a topical area. Special collections, such as reference and periodicals, can be charted, and emphasis areas can be multimedia or a single medium. A collection map need not be static; that is, it can be recharted regularly as curricular shifts and collection shifts occur. It is evaluative in three aspects:

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Table 1
Collection Map

School name:
 Number of students: 556
 Total collection: 9,818
 Number of total collection items per student: 17.65

	Number of items	Number of items per student
General Emphasis Areas:		
1. Biology	588	1.0575
2. Travel	376	.6762
3. Government	352	.6331
4. US history	234	.4208
Specific Emphasis Areas:		
5. Handicrafts	41	.0737
6. Space travel	60	.1079
7. Black history	81	.1456
Total:	1,732	



Note: Three component parts of a collection are charted. At the base of the map, the total collection is graphed horizontally and compared with the national standard of 40 items per student. This collection contains the basic collection and provides breadth. The general and specific emphasis areas are charted vertically on top of the total collection, each with its own scale of items per student.

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1 Mapping will show collection strengths which can be compared to the curriculum of a school.

2 Mapping will compare collection size in topical areas to a national sample of emphasis collections.

3 Mapping will show the quality of the collection as it responds to curricular demands.

A number of other uses of a collection map will be enumerated later in this article.

Creating a Collection Map

Creating a collection map is quite simple and takes three to five hours depending on the types of records kept and the experience which the person has with the collection. The technique is as follows:

1 Decide which general emphasis collections support whole courses of instruction, such as United States history, geography, art, etc. Count the number of items in the collection treating that topic (count the number of items available in each Dewey Decimal Class: Reference, 000, 100, 200 . . .).

2 Decide which specific emphasis collections support units of instruction, such as Civil War, insects, dinosaurs, etc. Count the number of items in the collection, treating each topic by Dewey Decimal class.

3 Divide the total size of each emphasis collection by the number of students in the school and chart the resulting items/student figure on the collection map.

4 If an emphasis collection is not large enough to be visible on the collection map, it should not be charted unless it is to become a target for collection development.

5 Divide the total size of the collection by the number of students in the school, and chart the result on the collection map under "total collection."

The worksheet in table 2 contains the data used to map the collection charted earlier in this article.

The collection map drawn from the information in the worksheet is a quantitative picture of a school library media collection. An

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Table 2
Collection Map Worksheet

School name:
 Number of students: 556
 Total number of items in the collection: 9,818
 Number of total collection items per student: 17.65

Collection Segments

	Total	General Emphasis				Specific Emphasis		
		Biology	Travel	Government	US history	Black history	Handicrafts	Space travel
Reference	354	9	12	16	24	9	2	4
000	84							
100	86							
200	88							
300	1,194			306		32		
398.2 (elementary)								
400	164							
500	1,090	579						
600	942							32
700	620						39	
800	508							
900	1,522		345		145			
Biography	774		18	27		16		6
Fiction	2,182				63	24		16
Story Collection	98							
Easy (elementary)								
Periodicals	56		1	3	2			2
Professional Col.	56							
Total Segment	9,818	588	376	352	234	81	41	60
Items/Student	17.65	1.05	.67	.63	.42	.15	.07	.11

additional step must be taken to transform the map into a qualitative picture as well. This second step may take months to complete after the initial map is created and displayed to the general public.

Each of the segments of a collection map should be evaluated on how well it responds to the demands made upon it. A library media specialist might have been careful to choose "quality" materials in the first place, but those materials must stand the test of usefulness. Every time a major demand is placed upon one of the emphasis areas of the collection or upon the base (which is charted in the total collection), the library media specialist and the

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teacher should evaluate how well the collection responded. With input from the students, these two individuals can quickly rate the collection on the following criteria:

- Diversity of formats available (both books and AV)
- Recency of the collection (were the materials up-to-date?)
- Relevance of the collection to unit needs
- Duplication (were there enough materials for the number of students taught?)
- Reading/viewing/listening levels (were they appropriate for all students?)

If a rating scale is used with each of the above criteria (5 being high and 1 being low) and the average rating computed, then a quality score for that collection segment results. If the average rating is above 4.5, then a gold medal sticker should be affixed to the topic graphed on the collection map. If the average rating is above 4.0, a silver medal is given. A score above 3.0 gets a bronze sticker and scores below 3.0 get a frowning face sticker.

The resulting poster size map complete with graphs and stickers is an evaluative picture of the quantity and the quality of a library media collection.

Uses of the Collection Map

Thus far, a library media specialist who had been following the collection mapping technique, would have studied the curriculum of the school in depth and then created a poster-size collection map for public display. The next step is to make use of the map as a planning tool, a bragging tool, and a begging tool. Here are a few suggestions to make the tool effective.

- 1** A publicly displayed collection map draws the attention of faculty, students, administrators and parents to the strengths (and weaknesses) of a collection.
- 2** A collection map suggests the most logical areas of the curriculum that can be served most effectively. Conversely, curricular areas not charted show collection weaknesses.
- 3** A collection map might show purchasing targets and graph where the collection should be in a year (three years, five years, etc.).

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4 Emphasis areas charted on the map which are not a part of the curriculum show segments which are irrelevant—topics that may have been supported in the past, but are taught no longer.

5 The collection map serves as a collection development tool. Library media specialists, teachers, and administrators can jointly decide what will happen to each of the emphasis segments. Will that part of the collection be strengthened? Will that topical area be maintained? Will that segment be allowed to die?

6 Consideration files for purchase will be divided into sections which match the segments charted on the collection map.

7 The collection map and the collection targets that result from it will have individual budget amounts assigned.

A Sample Collection Development Plan

Perhaps the best way to envision the use of a collection map is to examine how it would play a role in a total collection development plan. The following description of collection development procedure assumes that a library media specialist has automated most of the routine functions of the library media center. While a computer is not needed for the plan to work, the assumption is made that manual systems are being outdated rapidly.

Preliminary collection mapping: With or without a computer system, the library media specialist maps the collection. Meetings are held with the principal and teachers to discuss collection strengths and weaknesses and to create preliminary collection targets.

Computer system: The library media center has an integrated online catalog including four terminals (two for public access, one for circulation, and one for administrative use) connected to a 60 megabyte hard disk. Acquisition, cataloging, circulation, overdues, online catalog, and access to a network are components of the system.

*Software:*⁴ A generic database and a word processor are part of the software package supplied by the vendor. One word processor file contains a master set of curricular units. Each record is something like a pathfinder containing unit title, teacher, dates taught, unit subject headings to probe in the catalog, outside resources called upon, and evaluative data concerning the role of the library media collection and services for that unit.

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Acquisition system: A consideration file is kept on a computerized database. In addition to the usual information (author, title, etc.), entries are made for the teacher or department who requested the item, the name of the proposed unit(s) for which the item could be useful, and a priority rating. When an order is prepared, the library media specialists re-reads the goals and objectives of collection development and how much money has been targeted to collection segments, and then begins the selection process. The file is sorted by curricular unit and called up for examination. Priorities are examined and changed and items are selected until the planned budget is spent. Items for the base collection are selected on the basis of requests from students and teachers and an analysis of the reviews which have been published during the year. All items that are in the final selection are transmitted via modem to the vendor.

Cataloging system: When materials are received, they are sorted by curricular area with the aid of the acquisition database. Cataloging data are retrieved from a network. Call numbers and subject headings are adjusted as needed. One or several curricular unit codes or titles are added, like subject headings, so that a total bibliography can be printed as needed. The cataloging data is then added to the online catalog. As curricular changes occur, global changes in unit headings are made easily.

Unit planning: The library media specialists meets with a teacher for unit planning. The specialist comes to the meeting with a list of the resources, which has been printed out from the online catalog, and the unit "pathfinder" printed out from the word processor. The teacher and the specialist review the objectives of the unit, the pathfinder, and the bibliography and make their plans accordingly. Materials not available in the school are ordered from other schools, public libraries, regional collections, etc. Changes in the pathfinder and the bibliography are made on the computer as plans are finalized.

Unit evaluation: After the unit has been taught, the library media specialist and the teacher meet briefly to evaluate their success. The materials used are evaluated. If an emphasis area of the collection has been used, then an evaluative sticker is affixed to the collection map. The library media specialist adds materials that need replacing to the computer acquisition file and records the needs for additional purchase.

Collection map updating: Collection mapping is done annually, using the computerized unit bibliographies for emphasis area size figures. Collections developed or improved during the year are charted. Progress toward collection goals is summarized for annual reports. The poster-size collection map is updated for public display. Perhaps the old and new maps are displayed to show progress.

The Elephant Method in Perspective

Library media specialists who adopt the elephant method of collection development and use the collection mapping technique place themselves in a position to manage a collection and a collection development program. These persons see and understand curriculum structure and mesh a body of materials into that structure. The power to manage the whole comes from the management of simpler and smaller collection segments. Purchasing is done as a part of a systematic plan. The collection is accountable to curricular needs. Progress in collection building is apparent and more defensible. A dollar invested can be tracked in terms of outcome and use. Annual reports document impact on the curriculum—not aggregate collection size and circulation figures.

One of the greatest challenges of the collection manager is to plan amid change. Textbook cycles last five to seven years in many states and require adjustment of collections and even massive collection renewal at times. A bigger problem is change in teaching methodology and teaching styles as a result of teacher turnover. A science teacher in a building may use a variety of insect identification resources, another, biographical sources, and a third, none of these. Teachers who have been faithful users of library media collections might move to a new school. The temptation is often to ship a favorite body of materials with that teacher since no one else will likely use those materials. The changing picture here is a challenge to the collection manager. How nice it would be to resort to old collection building habits where the best of new publications are added each year and collection size and condition are the paramount concerns. The old method assumes that teachers must adapt to the library—not the library to the teacher. It assumes that teaching materials and library materials are two different things. It also guarantees that when budgets are tight, the library budget is a number-one target for reconsideration.

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The elephant method structures the collection into segments understandable to non-library media specialists. In just a few moments, collection strengths and weaknesses can be perceived. Administrators and teachers who understand the composition of the collection can help determine which segments of the collection should be built, maintained or de-emphasized. Curricular change and its impact on library media collections can be understood and that impact measured. Sound long-range plans are possible based on curricular plans. One of the most important facets of the elephant method and the collection map is that the principal, who is the instructional leader of the school, can guide the direction of the curriculum with its accompanying teaching resources, can measure the impact of the library media collection, and can budget accordingly.

Variations on a Theme

Library media specialists are famous for taking an idea and improving upon it for a local situation and condition. The technique of collection development proposed here can be readily altered as needed, but as an evaluative tool it should not depart from the following guidelines:

- 1** A collection of materials should be broken down by curricular topics into segments small enough to manage easily.
- 2** Collection maps or other graphical or printed representations of collection strengths and weaknesses must be understandable to someone who has never had a course in library science or instructional technology.
- 3** The technique of collection segmentation should have a qualitative evaluation component—not just a quantitative one.
- 4** Any collection building technique must promote a systematic meshing of curricular targets and supporting teaching and learning materials. It must address both subject specialization needs and interdisciplinary possibilities.
- 5** The system must be simple.

For too long, collection building, collection sizes, and budgets in dollars per student have been mysterious ideas not well understood by administrators who were expected to be advocates for library media centers. Library media specialists must demonstrate

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to their publics that the money they spend can be tracked and that it fills specific needs in the curriculum. Arguments justifying library media collections must be as forceful as arguments supporting school bus fleets. Both require regular attention and renewal programs lest the health and well being of students be jeopardized. School buses, elephants, and collection maps may be factors worth library media specialists' attention.

Notes

1 American Association of School Librarians and Association For Educational Communications and Technology, *Media Programs: District and School* (Chicago: American Library Association, 1975), p. 68.

2 Henry L. Cecil and Willard A. Heaps, *School Library Service in the United States: An Interpretative Survey* (New York: H. W. Wilson, 1940).

3 *Ibid.*, p. 41.

4 Most of the computer applications envisioned here can be performed with a single computer and good database and word processor programs. Examples would be Appleworks, PFS Write—File and Report, Dbase II, Applewriter, and many others.