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The Future School Library Media Center

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Not long ago, I was talking with a master teacher in one of the largest Denver metropolitan area school districts. The teachers of the district have been leaders in school reform and have made an honest effort to ascertain what national organizations have to say about school improvement. Workshop after workshop, seminar after seminar has been held discussing educational theories, ideas for reform, and local initiatives. My teacher friend is in a muddle—no, that's not strong enough. Disillusioned is a better word. He spends so much time in meetings, hears so many conflicting ideas, challenges so many state and national mandates as unworkable, that he wonders from where his strength to teach will come.

We all try to be positive, but it is becoming obvious that we are on the verge of a revolution, not a reform. When I look 20 years into the future, I see that there will be a great deal of diversity in American education—yet, much will remain the same, particularly in the smaller communities of the nation. Some of that diversity is already appearing, and I suspect there will be other scenarios. Consider:

Specialty schools (magnet schools)—many great ones already exist.

Charter schools that use vouchers—Colorado has them.

Homeschoolers—an exploding phenomenon.

With all the changes ahead, library media programs need to change. New national guidelines will need to reflect a sense that there will be a greater diversity of library media programs. The fictional scenarios that follow are just a few examples.

Scenario # 1—The Academic School

Filbert, Ohio is a suburban community of 45,000. There are six elementary schools, two middle schools, and one high school. After the fifth bond issue failed a couple of years ago, a citizens committee drew a different plan for the school board to consider, and the plan passed. Under the current tax structure, schools teaching the basics can be funded adequately, but these schools have no frills. All extracurricular and enrichment activities have been transferred to the Parks and Recreation Department of Filbert, and to Filbert Community College. Art, music, physical

education, band, orchestra, sports, and vocational classes are taught on a community enrollment basis with sufficient fees attached to support each of these activities. K–12 students have blocks of basic subjects and then are released to fee-based activities that the parents have scheduled for them. Some grant money is available to assist children of poorer parents in adding enrichment to the basics. Many parents have taken advantage of choice to see that their children are in school or activities all the time they are at work instead of the latchkey arrangements so common under the old system.

The library media center has been centralized at the public library. A mega-warehouse of K–12 materials is housed. The district library media specialist provides electronic access to every classroom in the district for a wide variety of data sources, audio sources, video sources, and telecommunications access. Every classroom has rotating collections of other materials, which are brought to the class as needed based on the topics under study. At the building level, a library media specialist helps teachers create resource-based learning experiences, motivational reading strategies, and information literacy experiences. The building-level person has no warehouse to manage.

Scenario # 2—The Entrepreneurial Educational Consultant

Sheila Feinstein lost her job as a school library media specialist last year as did most of the school librarians in her community. Because she had a family to support, Sheila talked to the public librarian, rented space from the library, and took the title of "education consultant." Parents and granting organizations were solicited to buy "tickets" to be used by individual children, groups of children, parents, and teachers for 30-minute blocks of uninterrupted time with Sheila. She soon found more business than she could handle, because her reputation for finding, helping, boosting, teaching, and connecting became legendary. Sheila found that even summers were busy, and that the public library collection began to respond to the needs of her clients.

Scenario # 3—The Teacher-Librarian (with Apologies to Canada)

The Basics Charter School in Dove, Colorado is looking for school library media specialists; in fact, they have contracted with a distant library school to offer a complete master's degree in one calendar year for 100 teachers. Having spent $50 million on technology in the past five years, the district now has 100 high-tech teaching stations built around full-resource centers, something like an octopus on four different campuses. There are 25 teaching stations in each building that house "families" of 45 students each. The plan is to have one teacher and one teacher-librarian for each family and one teaching assistant/technologist. A cadre of specialists hired at the district level stand ready to integrate their expertise (music, art, economics, physical education, literature) as the family instructional teams deem them necessary.

Jody Smith, the district library media director, has promised the school board that, by matching one master teacher and one master materials specialist/technologist/resource-based teaching and learning specialist, an increase in test scores will be achieved. The library school, realizing the potential, has modified its curriculum to provide intensive study in curriculum analysis and design, analysis of high technology, learning strategies, materials in every format, assessment, information systems and networks, information literacy strategies, and human relations/leadership. Jody is about to plan her in-service training for the week before school begins. She faces 100 teachers and 100 teacher-librarians.

She outlines the curriculum for the year as follows:

1. The entire curriculum has been divided into topical explorations. Some of these explorations have been written by literature specialists, some by scientists, some by artists, and so on. For example, the colonial period of American history will be looked at from a science perspective rather than from the traditional political/economic view.
2. A single exploration consists of:
   a. a fascinating problem or quest.
   b. a brief overview of the topic written for the students (an amplified outline, but not as much as an encyclopedia article—certainly not a text).
   c. a series of required experiences, including reading, doing, studying, solving, and so on. Each of these required items provides the basic overview of the topic or common learnings. These common experiences cross the traditional curriculum (science, math, social studies, language arts, etc.). Materials come from a wide variety of print, audiovisual, and high-technology sources.
   d. a series of experiences that may be done by individuals, small groups, or large groups designed to provide depth.
   e. culminating activities that draw together both common learnings and in-depth probes.
   f. assistance in carrying out the various projects, including readings, read-alouds, people to investigate, help for problem solving, experts to consult, and so on. Extra credit is given for creativity and nontraditional approaches by the students. Grants are available for sophisticated equipment or experts to assist students as they develop their projects.
3. There are no textbooks. There is only the library media center with all its attendant connections to the community, the nation, and the world.
4. Assessment instruments are a mix of traditional-survey knowledge tests, ascertainments of performance, and in-depth learning.
5. The teacher and the teacher-librarian are guides on the side, not sages on the stage. Previous experience dictates that each topical exploration will come out differently each time it is taught, depending on the directions the students pursue.

Scenario # 4—The Community of Readers

Don Whaley is the library media specialist in an elementary school where parents, teachers, and administrators have decided to combine the best of the past with the idea of hands-on exploration. They decide to create a community of readers with a difference. Students will explore topics vicariously through reading and then through actual experience or by simulation. Each grade level chooses a year-long theme and subdivides that theme into six topical studies. Traditional disciplines are to be integrated into each of the topical explorations.

Each topical unit begins with a major dose of reading, as follows:

1. Topic-related fiction is selected for read-alouds, individual reading, and group reading. Numerous choices are provided. The emphasis of this section is to build enjoyment and build background knowledge of the topic almost painlessly. The fiction is enjoyed—not dissected.
2. Bridge literature is introduced. These are materials that are quasi-fiction, quasi-nonfiction. One or several titles are read-aloud or read by everyone, or several titles are read by cooperating groups. The emphasis here is to pique interest in pursuing in-depth knowledge of the topic.
3. Literary nonfiction is introduced. Numerous titles are presented for in-depth knowledge preparation. Some are read by everyone, others by individuals, and still others by small groups. The emphasis here is to build depth of knowledge and prepare students to meet the real world.
4. Skills needed by the students to accomplish the upcoming realistic experience are taught.
5. A real experience or a simulated experience with the topical unit is done. This experience might be a visit to a train museum for a two-week study, behind-the-scenes work with a symphony orchestra, a probing of the ocean depths vicariously through a science network, an actual cooperative science experiment with a local university team of biologists that will be carried out on the next space shuttle flight, or a two-week archaeological dig.
6. Results of the real exploration are shared with the rest of the school and the community.

Scenario # 5—The Data Center

Tammy Sigler was hired last year by a science magnet high school. In looking at the curriculum, she noted a major emphasis on experimentation on the frontiers of scientific questions. The students in the school are far above average but, as the principal explained, the students are not good at combining published and original data in any meaningful way. The principal desires that their competencies increase exponentially. Tammy has a master's degree in information science and a master's in biology.

In doing some research to lay out her program goals, Tammy runs across a problem-solving scheme chart from various disciplines created by Edward Lumsdaine and Monika Lumsdaine (*Creative Problem Solving: Thinking Skills for*

a Changing World, McGraw-Hill, 1994, p. 16). To this chart, she adds Michael Eisenberg's "Big Six Model" and then studies the chart carefully.

Scientific Method **Science**	**Creative Thinking** **Psychology**	**Polya's Method** **Math**	**Analytical Thinking** **Engineering**	**8-D Method** **Industry**	**Creative Problem Solving** **Many Problems**	**Eisenberg** **"Big Six Model"**
Inductive data analysis and hypothesis.	Exploration of resources.	What is the problem?	Define and sketch system. Identify unknowns.	1. Use a team approach. 2. Define the problem.	Problem definition: data collection and analysis/ exploration of trends and context.	1. Task Definition: • Define the problem. • Identify the information needed.
Deduction of possible solutions.	Incubation—possibilities.	Plan the solution.	Model the problem.	3. Deal with the emergency. 4. Find root causes.	Idea generation—many ideas. Creative idea evaluation—better ideas.	2. Information-Seeking Strategies: • Brainstorm all possible sources. • Select the best sources. 3. Location and Access: • Locate sources (intellectually/ physically). • Find information within sources.
Test alternate solutions.	Illumination—definite decision on solution.	Look at alternatives.	Conduct analysis and experiments.	5. Test corrective action and devise a best-action plan.	Idea judgment and decision making—best solution.	4. Use of Information: • Engage (e.g., read, hear, view). • Extract relevant information.
Implement best solution.	Verification and modifications.	Carry out plan. Check results.	Evaluate final results.	6. Implement plan. 7. Prevent problem recurrence. 8. Congratulate team.	Solution implementation and follow-up. What was learned?	5. Synthesis (organize information from multiple sources): • Present the result. 6. Evaluation: • Judge the result (effectiveness). • Judge the process (efficiency).

Although many might adopt the scientific model, Tammy chooses instead to concentrate on a combination of the creative-thinking model and the science models, knowing that her budding scientist students must see the possibilities of changing the world early in their lives rather than concentrating solely on reporting on what scientists think they know. She recalls the story of the Australian doctor who suspected that a bacteria causes ulcers rather than stress and excess acid. She knows that this doctor had to overcome the total negative reaction from fellow scientists and battle a billion-dollar drug industry to get his theory accepted. She knows that some young person, perhaps many young people, will observe unique data in high school and she wants to help them be prepared.

Tammy adopts a quasi-integrated approach to data analysis for her information literacy program—teaching early units with dummy data gathered from the teen pop-culture and then hooking onto units jointly planned with teachers to extend the original instruction. She develops the following model, which she calls "The LMC as Data Laboratory."

THE LMC AS DATA LABORATORY

LOCATION AND COMPARISON

Beginning Research

- We find facts from a single preselected source and report them.
- We compare facts from a single preselected source.
- We find facts from several preselected sources and report them.
- We compare facts from several preselected sources.

Advanced Research

- We learn information-location attack skills for a variety of fact sources: reference books, nonfiction, databases, high-tech sources, data collection instruments.
- We find facts from a variety of sources and report them.
- We compare facts from a variety of sources.

Original Research

- We manipulate data from a variety of sources to draw conclusions, try new analyses, and gain new insights.

ANALYSIS AND EXTENSION

- We collect original data (observation, survey, experimentation).
- We combine published and collected data to draw conclusions, try new analyses, and gain new insights.
- We question data: rejecting poor, incomplete, inaccurate, and inconsequential facts as they flow into our analysis.
- We pursue new or unique ways of representing data in graphical form.

Tammy is a good teacher, but as she begins to teach her model, she notices that most students are following it slavishly—1, 2, 3, . . . —and she is not pleased. Knowing that scientists who have excelled rarely get the "Aha!" feeling at a prescribed point in a research continuum, she decides to first introduce the students to a step-by-step process but then let it flow into a messy configuration that may seem chaotic and random at first, but which produces results. She creates debriefing sessions with her students at selected points during their research process and shows them the following chart, on page 84, for discussion:

define verify ????? seek possibilities

???? alternatives record brainstorm

analyze incubate THINK experiment begin again

locate sources plan synthesize ideas extract outline

????

solution judge check

define verify ????? seek possibilities

???? alternatives record brainstorm

analyze incubate CREATE experiment begin again

locate sources plan synthesize ideas extract outline

????

solution judge check

define verify ????? seek possibilities

???? alternatives record brainstorm

analyze incubate THINK experiment begin again

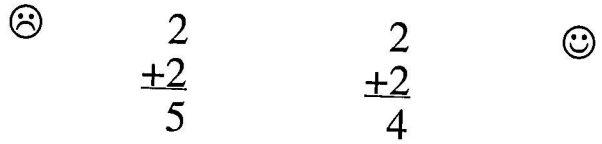
locate sources plan synthesize ideas extract outline

????

solution judge check

At various points during the research process, Tammy provides the students with little reminders on bookmarks. Here are just a few:

Do your facts add up?



Do you use varying perspectives?

Do you think about currency?

Do you use good sources?

Slowly, Tammy begins to get results as her students begin using both structure and seeming "unstructure" to achieve their results. The students begin to understand that science is often as messy as it is orderly.

After a few more months of teaching, Tammy is still unsatisfied. She is evaluating some of the assigned research papers with the teacher and finds that her best hopes have yet to be realized. She decides that she needs a little bigger stick to show in addition to the carrots she has extended. In conference with her teachers, the group decides to provide two scores for every paper, one for content and presentation, and the other for information handling. Tammy promises to come up with a technique for evaluation, which she will present to the teachers before introducing it to the students. She researches the literature again and runs across a four-step strategy for evaluation of the research process presented by Carol Kuhlthau (*Assessment and the School Library Media Center*, Libraries Unlimited, 1994, pp. 63–64) using the following techniques:

1. Students create a timeline of the research process to track their progress.
2. Students flow chart the entire research process.

3. Students hold conferences with teachers and librarians to assess progress.
4. Students write a summary statement of their focus during the assignment.

She also discovers, in the same publication (pp. 106–14), suggestions by Barbara Stripling on possible assessment techniques:

- personal contact with students through observations and interviews,
- students performances and exhibitions,
- portfolios, and
- authentic tests.

Barbara also suggests having students practice reflection through:

- learning logs
- process logs
- progress logs
- recalling
- explaining
- analyzing
- challenging
- transforming
- synthesizing

Using these suggestions, Tammy creates a simple evaluative log and portfolio tracking guide for students, which she and the teachers put into practice. She finds that students begin to respond positively. Slowly, the task for which she was hired comes about.

Implications for Collections

No matter which scenario is selected, those above or others, there seem to be some important implications for collection building as technology continues to provide library media specialists with new opportunities to deliver information and resources.

I have written elsewhere (*Computerized Collection Development for School Library Media Centers*, Hi Willow Research and Publishing, 1986) of a collection development scheme that creates two essential elements of school library media collections. These have been described as:

1. A basic or core collection that provides diversity of formats and topics.
2. Emphasis collections of varying sizes that are built according to faculty input and provide depth as required by the focus of the curriculum.

I have also suggested that the emphasis collections be coordinated in a network area so that various libraries can draw upon one another's strengths and have the potential to contribute to network participation.

It would seem that, now, another matrix must be superimposed upon the above scheme. In the emerging library media world, there might be three levels of materials and information provision:

1. Instant access at the point of need.

   This level would include techniques as simple as rotating classroom collections of materials from a central repository (something that has been doable for many years but not generally taken advantage of).

   Instant electronic access in classrooms and homes to basic information sources would be another important feature. For example, at every computer station, a tool such as Microsoft Office should be present—users would have instant recall of databases, video, audio, electronic mail, help hotlines, network connections to remote resources, and so on. Library media specialists choose instant resources appropriate for age and developmental level, such as Kids Catalog rather than First Search (OCLC).

2. Access from the warehouse.

   At this level, the library media center will help students and faculty quickly retrieve materials, from the school library media collection, other classrooms, district or regional collections, public libraries, and academic libraries, through interlibrary loan.

3. Referral beyond the warehouse.

   At this level, the library media specialist will assist users in finding where materials are located so that they might go to that place. There might be corporate databases accessible only across town at the corporate library, or a special collection at a nearby university library, or a plan to visit the Library of Congress.

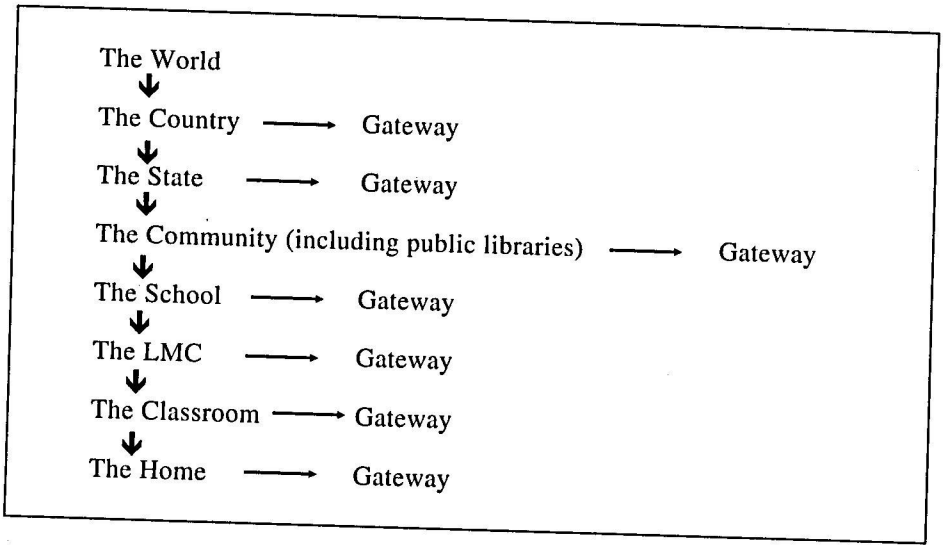
Superimposing these three levels over the basic collections-building strategy provides numerous possibilities for creating collection-building goals, designing facilities, forecasting budgets, and implementing evaluation systems designed with user needs in mind.

To view this process another way, in the past, we have created a centralized LMC that tries to be a switching center:

All classrooms ⟶ The LMC ⟶ Gateway to the World

There is nothing wrong with the LMC as a switching center as long as the technology employed is simple and the number of users is relatively small, but when the LMC really becomes the "heart of the school," it is easy for the switching center to become overloaded and break down. This phenomenon is currently the case in Texas, where the statewide access to the Internet (Tenet) is a centralized computer system providing a gateway to the world. The system is overloaded and at some point it becomes irrelevant to all except the most persistent users.

A better tactic is to provide numerous switching centers at the lowest level possible nearest the user, providing a safety net at the next level up to insure the democracy of information access:



At first, the library media specialist might react with a defensiveness because so many users may seem to bypass the LMC collection and its gateway. However, the above model is already a reality, and the challenge is to learn how to compliment, not compete.

Implications for Automation

In the past, early adopters of automated systems have generally been concerned with quantity, not quality. The rush to get a system up and running has often led to incomplete systems (circulation only) or OPACs with incomplete or poor-quality cataloging data. Downloading records from every available data source has resulted in the mixing of authority files for names, subjects, and classification numbers, with few cross-references. Confusion reigns in many OPACs, and the students (novices) are not presented with an indexing tool any better than the previous card catalogs.

The smaller the collection, the greater the need for the OPAC to provide complete and detailed analysis of the collection. Where is the exact poem I need? The play? That biographical sketch? Every book, database, periodical held in a small collection must pay its way and provide, through the OPAC, instant access to its content.

I dream of a day when quality and in-depth indexing is the by-word of school library OPACs—when instant access is provided to all the resources of the LMC before moving concentricity out to other collections of the community, region, state, nation, and the world. Smarter systems designed with children in mind, better databases designed with children's information needs in mind, far beyond a few electronic encyclopedias, will appear.

Implications for Materials

Publishers respond to money in the marketplace. If schools and libraries can afford little, both the quantity and the quality of the materials to lodge on fancy technological systems will be limited.

Just as Project Gutenburg is making the classics available to the world, so should quality resources be available for children to download free of charge into their computers at home or at school. Information systems designed *for kids* will appear—Kids Catalog being just one small move in that direction. Look for:

1. Pop-culture databases designed with young people in mind, where kids can ask questions in kid language, and the computer will tutor them through answers to lead them elsewhere or direct them to human helpers.
2. Curriculum files with instant access to materials needed in school subjects, materials to help create projects, and helpful tutorials that will teach tough processes or skills. Children will have accounts paid by taxpayers that allow them access to copyrighted materials.
3. A Kid's Internet for free discussion and exploration by the kids of the world.
4. Better reviewing tools that provide critical analyses of materials from a kid's point of view—summarizing the usefulness and quality of the materials in accomplishing instructional tasks rather than emphasizing literary merit. "Try before you buy" will become so easy that few errors will occur in collection building.
5. Continued development of realistic worlds in interactive format, from history to science, art to business—bringing virtual but controllable experiences where interventions and consequences of interventions are the norm.

Implications for Personnel

The young people and the teachers of this nation deserve library media specialists who have the qualities essential for designing effective journeys through the technology maze to quality educational experiences. I see the time coming when the majority of library media specialists (or whatever they will be called), rather than the minority of these professionals, possess both the human qualities and the expertise to be essential in the instructional process rather than being peripheral to it.

I can see the time when the mediocre and poor-quality staff in the profession are released to find jobs more suited to their talents and abilities.

I can see the time when the audiences at AASL conventions are seas of multicultural persons of both sexes engaged in moving the field along, the time where the leadership of AASL reflects the cultural background of the country as a whole.

Implications for Facilities

The decentralization of the resources of the library media center into the classroom and into the home will continue and must be pushed. There is no sense in providing access to a printed dictionary 500 feet down the hall in the LMC when the student should have a print copy available right in the classroom or have it instantly available on the learning-station computer.

Learning stations at home and school will provide access to a wide variety of tools and materials needed in learning experiences. These learning stations will be simple and portable so that they might be carried around in the pocket or purse, much as the current palmtop computers can be carried. No cords forming tether lines will obstruct these tools. They will be electronic reference centers designed with the child in mind.

At each new level of sophistication, library media specialists will breath a sigh of relief at the prospect of not having to warehouse that material anymore. Some measure of victory over the warehouse will be achieved.

Implications for Services

Looking into the future, the basic elements of library media services ring as true as ever—a warm and caring individual who

- promotes the love of reading,
- stands as advocate for youth,
- promotes learning through materials and technology,
- inspires excellence,
- provides the best learning tools,
- joins teachers in the creation of exciting learning experiences, and
- guides individual students as they venture into the world of information and technology.

It will be as true in 2020 as it is in 1994: The tools of learning, the best technology, the finest books, and the best sources of information don't jump out at students and automatically make a difference without an intermediary—the library media specialist.