Treasure Mountain
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Evidence-Based Practice and School Library Media Programs

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2 A Framework for Evidence Upon Which to Base Sound Practice (And Tell Our Story)

Educators at all levels are being asked to collect various forms of evidence about the impact of their actions upon achievement. This evidence, added to guidance from educational research, personal experience, and judgmental skills guide what we do each day. This entire process constitutes what we mean by evidence-based practice. It would be the same for a physician: guided by medical research, personal judgmental skills, and experience during practice, the patient's health is affected each day.

Traditionally, library media specialists collected a variety of organizational data that described their programs and allowed comparison to state or national standards. The purpose was to give an indication of support upon which a quality library media program could develop. Such data as size of staff, budget, size of collection, numbers of computers and flexibility of facilities were important and still are. Yet, they have lost their punch in an academic-achievement-oriented frenzy. It would be the same for doctors who would claim that hospital facilities and equipment are the major factor in restoring health.

Called "input measures," counting people, things, and environments provide a potential impact but not a guaranteed one. For a period of time, the library profession was interested in output measures interpreted as results or outcomes. For school library media specialists, these never did provide a gauge on learning or a link to standardized test scores. They looked at circulation as an output, or the number of visitations of children to the LMC during a typical week. We needed measures of impact on learning.

The troubling part of extending measurement closer and closer to learning is our inability to invent a thermometer-in-the-mouth that will measure degrees of learning. And our current frustration is centered in the fact that too much faith is being put in the almighty achievement test.

Chapter two presents in almost handout form, a two-pronged look at the type of measures that have the potential to get closer to learning. Since we cannot precisely measure our target, we offer measures that "if it quacks like a duck, waddles like a duck, and looks like a duck" it must be a duck. Substituting the term "achievement,"

we would say, "If it looks like achievement, acts like achievement, and it performs like achievement, it must be achievement." We would then challenge the doubters to prove that it **wasn't** achievement.

In this chapter, we prescribe multiple views: first, a triangular view followed by a second dimension of both direct and indirect evidence. We will then present a simple matrix to help the library media specialist see the possibilities of measuring a little every day to create a big picture. Finally, we present ripple-effect measures of programmatic elements that could be measured. It may seem a little daunting at first, but it all forms a matrix that affects practice and planning. Here is an overview of these elements:

Views from which to triangulate evidence:

1. **Triangulation of Evidence-Based Practice** – explains various views our evidence should create.

2. **Learner Level Evidence-Based Practice** – explains appropriate measures at the student level we might collect.

3. **Teaching Unit Level Evidence-Based Practice** – explains appropriate measures as classes use the LMC for research.

4. **Organizational Level Evidence-Based Practice** – reviews the tried and true measures we have collected for years and suggests a few new ones.

A second dimension of measures:

1. **Direct Evidence** – measures so close to actual learning that confidence in an impact could be inferred.

2. **Indirect Evidence** – measures of actions that set the sage for, provide an environment for, give support to, enable, help, give encouragement to, mark progress toward, and indicate change over time.

And finally, the program elements that need to be measured:

1. **Collaboration** – our efforts to create exciting learning experiences in the LMC with the teacher.
2. **Reading** – our efforts to increase literacy and increase the love of reading.
3. **Information literacy** – our efforts to teach the research process.
4. **Technology** – our efforts to enhance learning and efficiency through technology.

Triangulation of Evidence-Based Practice

Triangulation of data means to collect data from various points of view or vantage points before making a decision and taking action. To understand what an elephant is, better to get a view from the front, the rear and from the side rather than any single picture. Like the points of a triangle, there ARE different vantage points from which the impact on learning (the center of the triangle) can be viewed or validated. The trend in state and federal governments is to ask educators to collect more quantitative (or scientific) data by using more rigorous research designs. Those designs often require experimental conditions difficult to create in local schools. To compensate, since learning and teaching are not exact sciences, the more types of data we collect, the closer our views of the elephant will move toward validity. At the same time, local communities will need to learn to accept a wide variety of indicators of success rather than exclusively seeking test score evidence.
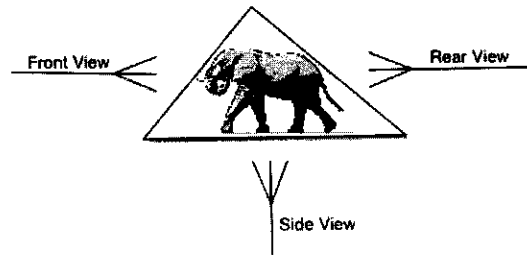
Library media specialists need to collect various evidences as a part of their effort to document what they contribute, what they do, and what they need to do next. Three major types of evidence suggested here, could be collected in any school to provide a more holistic view of the library media programs:

Data from the learner level. Data at the learner level such as achievement test scores are currently at center stage in the United States. Standardized test scores in almost every state have taken on great significance. There are, however, many other measures of how well an individual might be doing: portfolios, attitude, measures of performance, and other techniques used by both adults and learners to judge individual attainment.

Data from the teaching unit level. Data can be collected about the various learning experiences that are designed by adults to interact with LMC materials and technology. That is, we begin examining the impact of our resources on teaching and learning. "Because we have this, we did that." Data collected from the collaborative activities of teachers and LMC staff are quite powerful in describing impact. For example, the Lance studies did note that achievement was affected as the amount of collaboration between teacher and LMS staff increased.[1]

Data from the organization level. Common measures at the organizational perspective are size of facilities, the equipment available, the amount of funding provided, and the size of collections or staff. All these factors might be termed "inputs" or the resources we have to make a difference. They are often reported to accrediting agencies and in local reports to administrators and boards. The Lance studies of LMC impact looked at many inputs as they affect the "output" – reading scores.[2]

The Challenge: To use measures from all levels to triangulate the view of impact.

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[1] See Lance, Keith Curry and David V. Loertscher. *Powering Achievement.* 2nd edition. Hi Willow Research & Publishing, 2003.
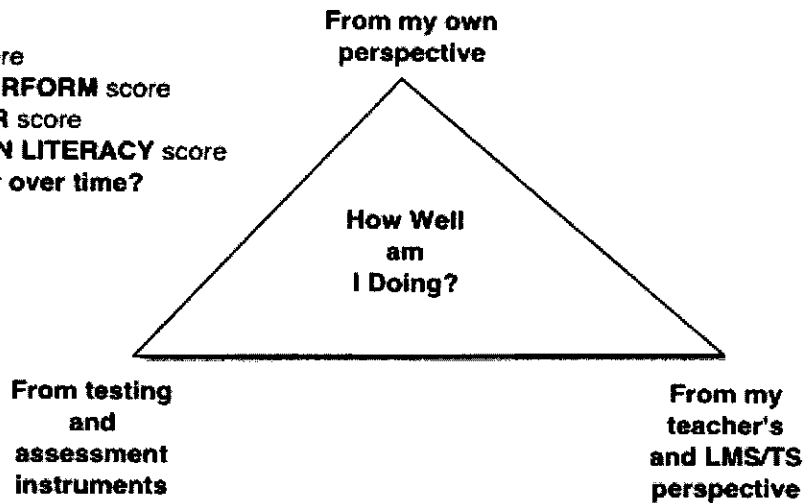[2] *Ibid.*

Learner Level

Evidence-Based Practice

Triangulation of Data

During collaboration activities where teachers, library media specialists and teachers and other specialists combine expertise to enhance a learning experience, all members of the collaborative team should be interested in and help create measures whereby a learner will know how successfully they are growing and developing as learners. The measures here are designed from the learner's point of view.

Evidence:
- What I **KNOW** score
- What I can **DO/PERFORM** score
- My **AVID READER** score
- My **INFORMATION LITERACY** score
- Am I doing better over time?

From my own perspective

How Well am I Doing?

From testing and assessment instruments

From my teacher's and LMS/TS perspective

Sources of evidence:

FROM THE LEARNER PERSPECTIVE	TESTING AND ASSESSMENT	TEACHER, LMS, TS PERSPECTIVE
Grade point averages	State tests	Checklists/questionnaires
Self-scored rubrics	Local tests	Conferencing
Journals	Performance tests	Demonstrations / showcase / re-enactment
Checklists/questionnaires		Journals
My own avid reader score		Portfolios
My information literacy score		Project assessments
Self-assessment of progress		Rubrics

Teaching Unit Level
Evidence-Based Practice
Triangulation of Data

Probing the impact of the instructional program, when the LMC and technology are integral, allows three major measurements to take place. These are measurements from collaboration logs, rubrics, and assessments of learning. What learning experiences have been created to help students achieve? Has collaboration between the teacher and the LMC staff affected the teacher's methods? How well have all the systems worked in support of the teacher? Did the impact of the LMC program show up as a factor across learners in a classroom? In learner rubrics? In other assessment measures?

Evidence:
- Spread of collaboration across the faculty
- LMC and technology systems work well.
- Performance on assessment measures
- Performance on rubrics.
- Improvement of learning experiences over time.

Collaboration Logs

Quality of the Learning Experience

Rubrics (Group perspective)

Assessment of Learning (Group perspective)

Sources of evidence:

COLLABORATION MEASURES	RUBRICS (Group perspective)	ASSESSMENT OF LEARNING (Group Perspective)
Collaboration Logs	Quality of learning experience	Content learning
Impact!*	Contribution of technology	Product assessment
Collaborative units linked to LMC web page	Contribution of information literacy	Process assessment
Performance of LMC and technology systems		

*Miller, Nancy. *Impact Documenting the LMC Program for Accountability!*. Salt Lake City, UT: Hi Willow, 2003.
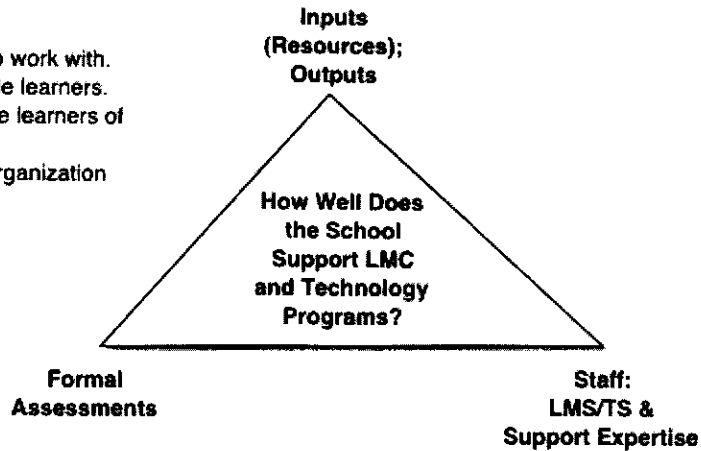
Organization Level
Evidence-Based Practice
Triangulation of Data

Professionals need to keep the school community apprized of the LMC program performance at any given time and across the years. Organizational data including inputs, formal assessments, and staffing have been commonly collected over the years as professionals try to gauge whether there is a powerful learning environment for all learners.

Evidence:
- What learners have to work with.
- Quality people to guide learners.
- Standards that assure learners of a quality education.
- Improvement of the organization over time.

Inputs (Resources); Outputs

How Well Does the School Support LMC and Technology Programs?

Formal Assessments

Staff: LMS/TS & Support Expertise

Sources of data:

INPUTS / OUTPUTS		FORMAL ASSESSMENTS	STAFF: LMS/TS & SUPPORT
Facilities	Use	Performance-based accreditation documents	Size and roles (professional & support)
Staffing	What they do	School improvement efforts	Certification; Endorsements
Collections	Use	District-level initiatives	LMS/TS National Board Certification (NBPTS)
Budgets	Collections; Databases	School library and technology audits	Personal growth plans
Administrative support	Program implementation		School-based performance evaluations
Technology infrastructure	Network use; Reliability		Growth in expertise over time (CE, professional organizations)

Add A Second Dimension: Direct and Indirect Evidence

To the levels of learner, teaching unit, and organization where evidence is being collected, the second dimension is the type of evidence to be collected. The matrix below introduces the idea that both direct and indirect evidence should be collected.

Direct measures of evidence would be those so close to actual learning that confidence in an impact could be inferred. We have no thermometers to stick in a learner's mouth to gauge actual learning, but direct measures might challenge doubters to prove no impact.

Indirect measures provide evidence that actions set the stage for, provide an environment for, give support to, enable, help, give encouragement to, mark progress toward, make change in direct measures over time the probable stimulus.

	Learner Level	Teaching Unit Level	Organization Level
Direct Measures	Assessments of various types given to learners showing impact on learning	Measurements of impact on teaching quality and classes engaged in LMC learning units	Behaviors of administrators and data that show an impact of the LMC program on the school as a whole
Indirect Measures	Environmental factors that support the individual learner	Support of teachers enabling successful use of the LMC program	Policies and support at the school and district level that enable a quality LMC program

Building an Evidence-Based Practice Plan

Use this form to plan data collection in one of the four program areas of the LMC: Collaboration, Reading, Information Literacy, and Technology. One might try to collect something in each area or zero in on a single area for a period of time. Every box in the template need not have something in it. Neither should all data collected be in a single box. Data from several levels and both dimensions would be ideal.

Goal:

	Learner Level	Teaching Unit Level	Organization Level
Direct Measures*			
Indirect Measures**			

*Direct measures would be those so close to actual learning that confidence in an impact could be inferred. We have no thermometers to stick in a learner's mouth to gauge actual learning, but direct measures might challenge doubters to prove no impact.

** Indirect measures provide evidence that actions set the stage for, provide an environment for, give support to, enable, help, give encouragement to, mark progress toward, make change in direct measures over time the probable stimulus.

Ripple-Effect Measures; or, Pebbles in a Pool

For the past five years, many studies done by Keith Lance and Marcia Rodney have contributed mightily to the evidence that school library media programs make a difference. As a careful reader of research, I have been wondering why school libraries keep showing up as important – the milk on the cereal – not the butter on the bread. I am tempted by the following general explanation: Administrators both district and school who care enough about education to have a strong library media program, also care about a lot of other enriching elements that make the difference between high performance and low performance on achievement tests. As a profession, we have not been able to establish cause and effect relationships, yet every time careful correlational studies are done in different states with differing conditions, we are there.

Likewise, in daily practice, it seems that the best of library media specialists sense what to do each day that contributes to achievement. These professionals sense that busy work like shelving books, straightening books, cleaning computer screens – while necessary – are not features of their program that dominate their time each day. Rather, they have learned certain strategies that trigger higher-level contributions.

I like to think of these as ripple-effect strategies, which if measured and are successful, act like throwing a pebble in a pool. It is something simple, yet it causes a reaction far beyond its size and seeming significance. I sometimes call this the Joyce Valenza technique. Let me explain.

Joyce, a successful library media specialist in Pennsylvania who has been on the cover of *School Library Journal* told an audience a story that went something like this. She was in the teacher's lounge one day when teachers were complaining about the amount of plagiarism that was going on in student reports. Joyce knows the answer to that problem but wants to plan her "pebble" carefully. Here is how she does it. She goes to her favorite history teacher and states the problem and wonders if he would like to experiment on a solution. He would and they do. During a research assignment in the LMC, she teaches his students about plagiarism, helps them avoid it, and the products are excellent. She has her pebble. Now she is ready to toss it. She makes an appointment with the principal and she and the history teacher present their solution – that information literacy teaching "just in time" is a marvelous technique. Thoroughly convinced, the principal declares that the school will hereafter be known as the information literacy school. And that teachers will be evaluated on whether they incorporate information literacy into their classrooms. Joyce now not only has the ripple effect, but a tidal wave! Yesterday, she had one client. Today she has 100! So much for selecting the right pebble at the right time to throw into the right pool.

In the chapters to follow (collaboration, reading, information literacy, and technology) each begins with the author's best recommendations for pebbles – measures most likely to produce not only data, but also a transformation in the library media program. Look at these first and see if they can be adapted to your local situation. If one of the ripple-effect measures won't work well, each chapter contains a variety of other measures that might work better. Ultimately, the library media specialist must choose those measures that will return the type and level of impact representative of the local program.

Listed below are these pebbles to consider. They are covered in depth in their respective chapters.

Summary of Ripple-Effect Measures
for LMC Programs

Collaboration:

1. The time professional library media specialists spend collaborating.
2. The move from "bird units" (low-level learning experiences) to quality learning experiences in the LMC.
3. The dispersion of collaborative experiences across the faculty and across the content areas.
4. Assessment of learning includes both classroom and LMC agendas including measurement of content learning, information literacy, amount read, and impact of technology.

Reading:

1. Access to a plentiful supply of materials learners want to read:
    a. In the Library Media Center
    b. In the Classroom
    c. At home
    d. Over digital networks
    e. As implemented in organizational policy

2. The Amount Read (Individuals, classes, the entire school).
    a. Free voluntary reading
    b. During topical unit studies

3. Whether a learner likes to read.

Information Literacy:

1. Use of a joint rubric (teacher and LMS) for a LMC-based unit. Learners realize that information literacy is an integral part of LMC learning experiences.
2. Learners complete research logs for critical points or extra credit.
3. Learners begin the process of internalizing their own information literacy model.
4. Assessment of information literacy happens as it is taught.

Technology:

1. Information systems emanating from the LMC are available 24/7 and are reliable.
2. LMC information systems are available at the elbow (in the LMC, the classroom, in the home, and on any technological device owned by the learner).
3. Learners prefer LMC information systems over full Internet access.
4. LMC information systems and tools add to learner efficiency.
5. Enhancement of learning through technology is a part of teacher assessment of student learning.