Powering Achievement: School Library Media Programs Make a Difference: The Evidence Mounts

2nd Edition

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San Jose, California
Hi Willow Research & Publishing
2002

ISBN: 0-931510-84-8

Publisher: Hi Willow Research & Publishing
312 South 1000 East
Salt Lake City, UT 84102

Distributed by:
and orders to: LMC Source
PO Box 131266
Spring TX 77393
sales@lmcsource.com (email)
http://lmcsource.com (url)
800-873-3043 toll free telephone

url for balance of content for this publication:
http://www.lmcsource.com
(under freebies, see Powering Achievement 2nd Edition)

Contents

Preface to the 2nd Edition

The second edition follows closely upon the heels of the first because in a single year new and important research studies have appeared strengthening the link between academic achievement and school library media programs. All of the features of the first edition have been maintained but updated with the new evidence. Several new features also appear in this volume. As one of the discussion starters (on page 55), Dr. Lance discusses the role of correlational research as it compares to qualitative and scientific research. Another addition to the first presentation section is: "In a Nutshell" that draws together some findings from the various research studies organized first across the studies, by state, and by topic. A new one-minute presentation has also been added addressing rather pointedly the question: Do unsupervised LMC clerks make a difference in academic achievement? Several other additions including a summary of a new study from Scotland have been included. In the handouts section, brochures from the more recent studies have also been included. As always, the Colorado State Library on its website www.lrs.org, tries to keep up on all the major studies published in this area as does the "Freebies" section under www.lmcsource.com.

Introduction

Since the 1960s, school library media programs in the United States have been developing and changing from a classroom collection or tiny library filled with books to a modern library media center containing print and digital information. The multimedia information-rich environment is now extending far beyond the confines of four LMC walls into classrooms and homes. The LMC is fast becoming a vital 24 hour, 7 days-a-week information partner for teachers and learners.

But library media centers are expensive. They require huge investments to create the information technology networks, fund large quality collections, and particularly to staff with professional, paraprofessional, and technical personnel. Library media specialists fight the battle of the budget regularly. When teacher salaries rise above 90% of the total dollars available for a school district, the competition for scarce resources places tremendous pressures on administrators to find places in the budget to cut. The arts and libraries are often the first to be cut.

At first, library media specialists may seem self-serving when they try to present data showing how much they contribute to education. An audience may feel that jobs are at stake and that it is natural for any person or group to try to preserve the status quo.

However, there is a larger issue. Many local, state and federal government leaders target education as a top priority. These leaders realize that the nation's future depends on the next generation's ability to compete in a new world that places information, critical thinking, and problem solving at a premium.

The larger issue is this: The research is mounting that young people and teachers are at risk if they lack the types of information technology a strong library media program can deliver. Teachers suffer as their content knowledge ages and their teaching strategies become antiquated. Young people are in danger of piling ignorance, misinformation, and technological backwardness deeper and deeper. There is growing evidence that to cut LMC funding and effectiveness is to strike a blow at progress currently measured by academic achievement! To ignore the growth and development of solid library media programs contributes to the gap between the knowledgeable and connected vs. the ignorant and unskilled.

Simply stated, a teacher with a textbook is not enough. The world of information is simply too ubiquitous and too massive to ignore. Every young person and teacher must learn to survive information overload and data smog. And, every learner needs an equal opportunity to succeed. In classes where 60% of the learners cannot read and understand the textbook, the challenge is obvious. Yet many communities expect teachers to magically compensate. It is a problem many love to ignore.

Then there are the quick-fix folks who want to hand the library a one-time budget pot, expecting that a feel-good contribution will salve the wound. These are the folks that somehow ignore the fact that libraries require the same care and feeding as paying the electrical bills, keeping school busses running, or paying teacher salaries. When the money stops, there are consequences. Somehow, though, the "stop" in the library is invisible. Today, we did not purchase the latest data for the library collection, but service went right on. No matter that the learner copied outdated or incorrect information into their reports. No matter if they still think that Bill Clinton is the President of the United States, or that they read "boys can become doctors and girls can become nurses" in an out-of-date book. The world is full of misinformation. What harm is a little more?

Luckily, the amount of evidence that strong library media programs and academic achievement are linked is rising. It is all too uncommon common sense.

The Lance studies and other research in this presentation booklet show that, as a whole, library media specialists and the programs they create do make a difference. This means that there are enough strong programs in a particular state being researched, that their impact begins to show up in a "quality education" analysis. Sadly, there are also enough weak programs that they dilute the effect. And, the weak cloud the potential for everyone.

The purpose of this short volume is to assist the busy library media specialist who desires to make presentations about the effectiveness of library media programs to various audiences and to begin discussions from the research about the direction local programs should take. Considering that there are differing amounts of time to present the research, the authors have created both brief and longer recommended presentations complete with the visuals and handouts to accompany them.

Part one contains six presentations:

- In a nutshell quotable quotes – when you have only time for a sentence or two.

- A one-minute presentation of the Lance and other studies
- A one-minute presentation about the Krashen/McQuillan research about school libraries and reading
- A one-minute presentation asking the question, "Do unsupervised clerks in the LMC make a difference in academic achievement?"
- A five-minute presentation of the Lance studies and other research
- A fifteen-minute presentation of the Lance studies and other research

Each of these presentations has a set of PowerPoint slides appended and also available for downloading on the web at www.lmcsource.com under "Freebies." In addition, right after the first presentation, there is a tri-fold brochure that can be reproduced freely to give to the audiences of any of the presentations. For the readers of the brochure who may have additional questions about the research, the authors have created a supplement to each of the important statements of the brochure on the web at www.lmcsource.com under "freebies."

Part two contains eight discussion starters based on various aspects of the research. The idea is to focus groups of library media specialists, teachers, parent groups, or administrators on issues connected to school libraries. Each of the discussions is based the Lance studies and other research that has brought some significant findings for focusing on academic achievement and library media programs. The authors recommend that these discussion starters be modified for your local groups and the particular concerns they have. PowerPoint slides accompany each of the discussion starters and the brochure from part one can be duplicated freely as a supplement to these discussions with its references to many studies and the supplementary information on the web site.

Part three contains the authors' recommendations for planning to implement the research findings and measuring the impact of local programs on academic achievement. Most people want to know if national research would apply or has already applied to local programs. Do we already make a difference with our library media program, or could we plan an initiative to improve the local program and monitor the results on achievement?

Finally, in the appendix, various previously-published brochures and handouts have been reprinted here for the convenience of the user. All of these brochures and handouts may be freely reproduced.

For the users of this publication, reading the studies from which these presentations were created will help fill in many details. And the reader should know that future developments and other studies now being completed will be announced on the Colorado State Library's research page: www.lrs.org. That source should be accessed before any presentation just to see if any new information has been added.

Acquiring the background studies. Here is a list of the studies that were used to create these presentations and where to obtain them. They should be read carefully to build in-depth knowledge of the research studies. Throughout the publication, shorthand citations have been used for the studies. Consult the list below for the full citations.

All Studies	Links to all studies at: http://lrs.org (Colorado State Library) also at: http://www.lmcsource.com under Freebies
Gaver 1963	Gaver, Mary V. *Effectiveness of Centralized Library Service in Elementary Schools*. 2nd ed. New Brunswick, NJ: Rutgers University Press, 1963 (out of print, find in many academic libraries or school district professional libraries).
Colorado I 1993	Lance, Keith C, Linda Welborn, and Christine Hamilton-Pennell. *The Impact of School Library Media Centers on Academic Achievement*. Castle Rock, CO: Hi Willow Research and Publishing, 1993 (available from LMC Source, PO Box 720400, San Jose CA 95172, and online at http://www.lmcsource.com).
Colorado II 2000	Lance, Keith C., Marcia J. Rodney and Christine Hamilton-Pennell. *How School Librarians Help Kids Achieve Standards: The Second Colorado Study*. San Jose, CA: Hi Willow Research and Publishing, 2000 (available from LMC Source, PO Box 720400, San Jose CA 95172, and online at http://www.lmcsource.com).
Alaska 2000	Lance, Keith C., Christine Hamilton-Pennell, Marcia J. Rodney, with Lois Peterson and Clara Sitter. *Information Empowered: The School Librarian as an Agent of Academic Achievement in Alaska Schools*. Revised ed. Juneau, AK: Alaska State Library, 2000 (available for $10 from The Alaska State Library, PO Box 110571, Juneau, AK 98811). Executive summary and order information at: http://www.library.state.ak.us/dev/infoemp.html
Pennsylvania 2000	Lance, Keith C., Marcia J. Rodney and Christine Hamilton-Pennell. *Measuring up to Standards: The Impact of School Library Programs & Information Literacy in Pennsylvania Schools*. Greensburg, PA: Pennsylvania Citizens for Better Libraries, 2000 (available online at http://lrs.org/html/school_studies.html). Also at: *http*://www.statelibrary.state.pa.us/libraries/lib/libraries/measuringup.pdf
Massachusetts 2000	Baughman, James C. *School Libraries and MCAS Scores*. Preliminary Edition. Boston, MA: Graduate School of Library and Information Science, 2000. See the study at: http://artemis.simmons.edu/~baughman/mcas-school-libraries/

Texas 2001	Smith, Ester. *Texas School Libraries: Standards, Resources, Services, and Students' Performance*. Austin, TX: EGS Research & Consulting, 2001. Available at: http://www.tsl.state.tx.us/1d/pubs/schlibsurvey/index.html
Oregon 2001	Lance, Keith Curry, Marcia J. Rodney and Christine Hamilton-Pennell. *Good Schools Have School Librarians: Oregon School Librarians Collaborate to Improve Academic Achievement*. Salem, OR: Oregon Educational Media Association, 2001. Available in print from: LMC Source (http://www.lmcsource.com) and online at: http://www.oema.net/Oregon_Study/OR_study.htm
Scotland 2001	Williams, Dorothy and Caroline Wavell. *The Impact of the School Library Resource Centre on Learning*. Library and Information Commission Research Report 112: Report on Research Conducted for Resource: The Council for Museums, Archives and Libraries. Aberdeen, Scotland: The Robert Gordon University for The Council for Museums, Archives and Libraries, 2001. Available at: http://www2.rgu.ac.uk/~sim/research/SLRCreport.pdf
Iowa 2002	Rodney, Marcia J., Keith Curry Lance and Christine Hamilton-Pennell. *Make the Connection: Quality school Library Media Programs Impact Academic achievement in Iowa*. A Research Project by Iowa Area Education Agencies, published by the Mississippi Bend Area Education Agency, 2002. Available at: http://www.area9.k12.ia.us/statewidelibrarystudy.html
New Mexico 2002	Lance, Keith Curry, Marcia J. Rodney, and Christine Hamilton-Pennell. *How School Libraries Improve Outcomes for Children: The New Mexico Study*. Sante Fe: NM: New Mexico State Library, 2002.

Other Research Reviews of Interest

Krashen 1993	Krashen, Stephen. *The Power of Reading*. Englewood, CO: Libraries Unlimited, 1993 (available for sale online at http://www.lu.com).
McQuillan 1998	McQuillan, Jeff. *The Literacy Crisis*. Portsmith NH: Heinemann, 1998 (available for sale online at http://www.heinemann.com).

Tips for presenting: For the shorter presentations and discussion starters, we recommend that they be adapted and then memorized. The PowerPoint slides should be clue enough to prompt you. Also, good presentation techniques such as pace of presentation, stressing of important ideas, and ability to speak clearly apply here. Do not hesitate to adapt the slides and the text for local use. But make certain that what you do add or modify is supported by the research.

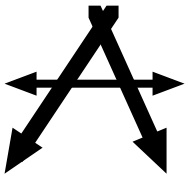
Part One:

Presenting the Research Studies

Part one contains five presentations and some quicky quotes:

- In a Nutshell: Quotable Nuggets Concerning School Library Media Programs and Academic Achievement.
- A one-minute presentation of the Lance studies.
- A one-minute presentation about the Krashen/McQuillan research about school libraries and reading.
- A one-minute presentation answering the question: "Does an Unsupervised Clerk in the LMC Make a Difference in Academic Achievement?
- A five-minute presentation of the Lance studies and other research.
- A fifteen-minute presentation of the Lance studies and other research.

Each of these presentations has a set of PowerPoint slides appended and also available for downloading on the web at the url below. In addition, right after the first presentation, there is a tri-fold brochure that can be reproduced freely to give to the audiences of any of the presentations. For the readers of the brochure who may have additional questions about the research, the authors have created a supplement to each of the important statements of the brochure on the web at www.lmcsource.com under "freebies."



In a Nutshell: Quotable Nuggets Concerning School Library Media Programs and Academic Achievement

All Studies

- In research done in nine states and over 3300 schools done since 1999, the positive impact of the school library media program is consistent. Strong school library media programs make a difference in academic achievement. That is, if you were setting out a balanced meal for a learner, the school library media program would be part of the main course, not the butter on the bread.

- Reading scores tend to rise with levels of:
  - Professional and support staff in LMCs,
  - The size of LMC collections,
  - Spending on LMC collections, and
  - The extent of school-wide networks that extend access to collection resources.
  - That is: More is Better

- Higher levels of librarian staffing are associated with:
  - Longer LMC hours,
  - Higher levels of LMC staff activity,
  - Higher student usage, and consequently
  - Higher test scores.

- The impact of LMC programs on academic achievement CANNOT be explained away by other school or community conditions.
  - School conditions include:
    - Teacher-pupil ratio,
    - Per pupil spending, and
    - Characteristics of teachers.
  - Community conditions include:
    - Poverty,
    - Low adult education, and
    - Race/ethnicity.

By State

According to the Alaska study:

- Test scores tend to be higher for schools where there is a librarian, a full-time librarian rather than a part-time one, and a part-time librarian rather than no librarian at all.
- The more often students receive information literacy instruction in which LMC staff are involved, the higher their test scores.
- Where LMC programs have strong collection development policies that address the issue of reconsiderations, test scores are higher.
- Where LMC programs have formal or informal relationships with public libraries, test scores are higher.

According to the Colorado II study:

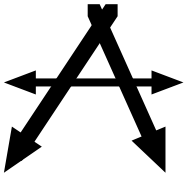
- Schools with well-developed LMC programs average 10-18% higher reading scores.
- When library media specialists assert themselves as school leaders (meeting with the principal, attending faculty meetings, and serving on key committees), they are more likely to experience working conditions that encourage and support collaboration with teachers.
- When LMC staff collaborate with classroom teachers, reading scores increase 8-21%.
- When school have computer networks that extend the LMC program's reach into classrooms and labs, reading scores rise 6-25%.
- Only individual student visits to LMCs were correlated with reading scores.
- When students have access to more up-to-date and accurate information from newer books and more current periodicals, their test scores are higher.

According to the Pennsylvania study:

- Reading scores increase with LMC staffing, information technology, and integration of information literacy with the curriculum.
- Activities that help to integrate information literacy with the curriculum include: teaching cooperatively with teachers as well as teaching alone, providing in-service training to teachers, serving on standards and curriculum committees, and managing information technology.

According to the Oregon, Iowa, and New Mexico studies:

- Both individual and group visits to LMCs were correlated with reading scores. Successful group visits depend on close collaboration between LMC specialist and teacher in planning and delivering instruction together in the LMC.



School Library Media Programs And Academic Achievement A One-Minute Presentation

Materials needed:

- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site with summary printout following this script)
- Reproducible handout (pages 7-8 – please make as many copies as you like)

Strong school library media programs make a difference in academic achievement.

The evidence for this statement comes from numerous research studies dating back to a 1963 study in New Jersey. Since 2000, statewide studies in Alaska, Colorado, Pennsylvania, Massachusetts, Oregon, Texas, Iowa, and New Mexico involving over 3,300 schools have added additional important evidence.

To build maximum impact, a school community should do two things to attain significant results:

First, create a quality information-rich and technology-rich environment easily accessible by students and teachers.

Second, employ professional and support personnel who provide leadership and tireless partnering.

Students and teachers who take advantage of this information-rich and technology-rich environment can expect:

- Capable and avid readers
- Learners who are information literate
- Teachers who are partnering with the library media professional to create high-quality learning experiences

When these things happen, scores can be expected to be 10-20% higher than in schools without this investment.

It's worth it.

(Give the handout to the listener, p. 7-8. It directs them to the Internet site for in-dept explanations.)

School Library Media Programs and Academic Achievement
PowerPoint Slides

Strong School Library Media Programs Make a Difference in Academic Achievement

1

Eight Major Studies
Over 3,300 Schools
Since 2000

- Alaska - 211 schools, grades 4, 8, 11
- Pennsylvania - 435 schools, grades 5, 8, 11
- Colorado - 200 schools, grades 4, 7
- Massachusetts - 519 schools, grades 4, 8, 10
- Oregon - 513 schools, grades 5, 8, 10
- Texas – 600 schools, grades 4, 8, 10
- Iowa – 506 schools, grades 4, 8, 10

2

Two Actions to Take for Maximum Impact:

3

Step One
Create a quality information-rich and technology-rich environment easily accessible by students and teachers.

4

Step Two
Employ professional and support personnel who provide leadership and tireless partnering.

5

Results

- Learners and teachers who take advantage of the strong library media center can expect:
  - Capable and avid readers;
  - Learners who are information literate.
- Teachers who are partnering to create high-quality learning experiences.

6

Impact
Scores can be expected to be 10-20% higher than in schools without this emphasis.

It's worth the investment!

7

What You Can Do

As a Young Person

- Be an avid and capable reader.
- Become a skilled user of technology tools.
- Become information literate:
  - An organized investigator
  - A critical thinker
  - A creative thinker
  - An effective communicator
  - A responsible information user

As a Parent

- Find out whether your school's library program contains the inputs and activities described in the brochure.
- If not, find out why and what can be done about it.
- Be aware of the changing world your child will compete in as an adult and work with parent organizations to improve education.

As a Teacher

- Seek out the school librarian and explore ways to enhance the learning experiences in your classroom.
- Support efforts to enhance the inputs and activities listed in this brochure.

As a School Librarian

- Be a leader in your school.
- Work on each of the activities listed in this brochure every day.

As an Administrator

- Understand the changing role of the 21st century high-tech school library.
- Hire a school librarian with a 21st century vision.
- Work with your librarian to build the inputs and implement the activities listed in this brochure.
- Monitor progress and help solve problems.

As a School Board Member

- Find out the status of the school libraries in your district compared to the issues listed in this brochure.
- Ask administrators to prepare plans to implement improvements for school library programs.
- Monitor improvements.

As a Taxpayer

- Remember that education is expensive, but cheaper than other social and corrective programs.
- Become informed about the quality of school and public libraries in your community.
- Communicate with school boards and legislators about the importance of building expertise in the generation who will be supporting an aging population and educating a new one.

Sources

Each phrase of this brochure is expanded and explained online at: http://www.lmcsource.com/ Click "freebies" and look for "*Powering Achievement, 2nd Edition.*"

- Lance, Keith Curry and Loertscher, David V. *Powering Achievement 2nd Edition*, Hi Willow Research and Publishing, 2003. $27.00.

- Lance, Keith Curry, Marcia J. Rodney, and Christine Hamilton-Pennell. *How School Librarians Help Kids Achieve Standards: The Second Colorado Study*. San Jose, CA: Hi Willow Research & Publishing, 2000. (both of the above

Studies on the Web:

- Research Studies From Texas, Oregon, Colorado, Alaska, Iowa, Massachusetts, New Mexico, Indiana and Pennsylvania are available on the web at http://www.lrs.org

Additional Evidence:

- Krashen, Stephen. *The Power of Reading*. Englewood, CO: Libraries Unlimited, 1993.

- McQuillan, Jeff. *The Literacy Crisis*. Portsmith, NH: Heinemann, 1998.

Helpful Publications:

- Loertscher, David V. *Reinventing Your School's Library in the Age of Technology: A Guide for Principals and Superintendents*, Hi Willow Research and Publishing, 2002. $18.00.

- Loertscher, David V. and Achterman, Douglas. *Increasing Academic Achievement Through the Library Media Center: A Guide for Teachers*. $18.00.

(all publications published by Hi Willow are available from LMC Source, PO Box 131266, Spring, TX 77393 http://www.lmcsource.com)

"The nation's education system is not doing enough to prepare students to take advantage of the explosion in information technology."

- Alan Greenspan, Federal Reserve Chairman, July 11, 2000

Invest in your...

School Library To Build Academic Achievement & Equity

- Colorado
- Alaska
- Texas
- Oregon
- Iowa
- New Mexico
- Massachusetts
- Indiana
- Pennsylvania

Fifty years of research studies, cluminating in nine major studies done since 1999, involving over 3,300 schools at all levels, demonstrate that good school libraries make a difference!

Here's the Evidence

Investments

Academic achievement increases as:

• The number of professional and support personnel in the school library increases.

• Quality information streams from the library into classrooms and homes.

• Sustaining budgets keep the information-rich environment current and of high quality.

• Easy access to the library is the norm.

Activities

Academic achievement is enhanced when school librarians:

• Collaborate with teachers to create quality learning experiences using materials and technology.

• Are leaders in their schools.

• Teach information literacy.

• Promote reading.

Results

Achievement scores are likely to rise:

10-20%

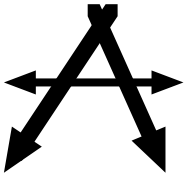
Schools in the research with high-quality libraries scored higher than schools with poor libraries.

The relationship between high quality libraries and achievement cannot be explained away by at-risk factors such as parents' lack or education, poverty, or minority status.

Likewise, these results cannot be explained away by school differences such as teacher-pupil ratio or per-pupil expenditures

Which young person has the best potential to succeed in the 21st century information economy?

The national average to educate a child is $6,563 (1997).
The national average to incarcerate a prisoner is $19,655 (1997).



Building Literacy:
Ideas from the Research
A One-Minute Presentation

Materials needed:
- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site with summary printout following this script)
- Copies of the handout p. 7-8.

Two major studies by Dr. Stephen Krashen[1] (1993) and Dr. Jeff McQuillan[2] (1998) collected the "startling" evidence from 100 years of research that children and teens surrounded by huge quantities of books they want to read, actually read more!

And equally startling: Those who read more, score higher on any academic achievement test they take!

Actually, it is only common sense.

Translated into action, this means that any school can actually stimulate literacy by:

- purchasing a great many exciting books young people want to read,
- making them easily accessible from the library and every classroom,
- pushing these collections into the home.

In other words, think of large school library collections supplying:
- Large rotating classroom collections, and
- Large bedside collections for every teacher and student!

Think Flood!

It's actually cheaper than other reading program alternatives.

Added Bonus: Results are particularly spectacular in poorer neighborhoods where homes contain few or no reading materials.[3]

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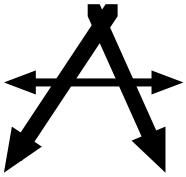
[1] Krashen, see chapter 1.
[2] McQuillan, see chapter 7.
[3] McQuillan, p. 80-83.

Building Literacy:
A One-Minute Presentation
PowerPoint Slides

Building Literacy: **Commonselse Ideas from the Research** Starting idea from 100 years of research: 1	**Building Literacy:** **Commonsense Ideas from the Research** Starting idea form 100 years of research: ▪ When young people have easy access to exciting reading materials, they read more! ▪ More reading equals higher academic achievement! 2
Large School Library **Collections Supply** ▪ Large rotating classroom collections ▪ Large bedside collections for every teacher and student 3	**Think Flood!** It's actually cheaper than other reading program alternatives 4



Does an Unsupervised Clerk in the LMC Make a Difference in Academic Achievement? A One-Minute Presentation

Materials needed:

- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site with summary printout following this script)

In many school districts, the need to economize through budget shortfalls often creates the temptation to staff library media centers with clerical personnel rather than professionals. These unsupervised support staff keep the library open, allow students and teachers to use the collection and technology, and in the elementary schools, might provide a planning break for classroom teachers. But do unsupervised clerks make a difference in academic achievement?

The research from the Lance studies and other research document indicate clearly what actions by the LMC staff do make a difference:

- LMC staff planning & teaching cooperatively with teachers
- LMC staff providing professional development to teachers
- LMC staff meeting with principal, attending faculty meetings, & serving on standards & curriculum committees
- LMC staff managing computer network that provides remote access to LMC resources

When a clerk is unsupervised and is in charge of a library media center, why don't they perform these activities? Simply because NONE of these activities is properly in the job description of the clerk. Rather, their efforts center on the operation of the organization rather than reaching out into a leadership role in the school and its curriculum.

In the various Lance studies, this topic was not addressed in the final reports although present in the data collected. However, in the Alaska study, this comparison was addressed. Consider the difference between students scoring below average in schools having professional library media specialists vs. those where only a clerk is present.

LMC Staffing Level	Students Scoring BELOW Average	
	Elementary	Secondary
With a full time LMC specialist	17%	8%
With and unsupervised clerk – no LMS	41%	49%

The conclusion is that :

- Unsupervised LMC clerks do not engage in activities that make a difference. And,
- As a result, more students score poorly.

Because school libraries require a considerable investment in facilities, budgets for materials, salaries, utilities, computer networks, and the like, staffing the LMC with a clerk promotes a sense of false economy. Saving the cost of a professional negates the LMC's impact.

Does an Unsupervised Clerk in the LMC Make a Difference? PowerPoint Slides

Do Unsupervised LMC Clerks Make a Difference in Academic Achievement?

1

Staff Activities That DO Make a Difference

- LMC staff planning & teaching cooperatively with teachers
- LMC staff providing in-service training to teachers
- LMC staff meeting with principal, attending faculty meetings, & serving on standards & curriculum committees
- LMC staff managing computer network that provides remote access to LMC resources

2

Why Can't an Unsupervised Clerk Cover These Activities?

Because NONE of these activities is properly in the job description of a clerk

3

So What Difference Does It Make?

Consider the Evidence from Alaska

***LMC* Staffing Level**	Percent Students scoring below average	Percent Students scoring below average
	Elementary	Secondary
With full-time LMC specialist	17%	8%
With unsupervised LMC clerk – no LMS	41%	49%

4

Thus, hiring only a clerk, produces a sense of false economy.

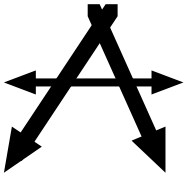
5

Conclusion

Unsupervised LMC clerks do not engage in activities that make a difference.

As a result, students score poorly.

6



School Library Media Programs and Academic Achievement: A Five-Minute Presentation

Materials needed:
- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site with summary printout following this script)
- Reproducible handout (pages 7-8)

Strong school library media programs make a difference in academic achievement.

The evidence for that statement began with a landmark study by Dr. Mary Gaver of Rutgers University in 1963.[4] She found that academic achievement was significantly higher when:

- There was a centralized library in the school building.
- The combined collection was large and easily accessible to every student and teacher.

Between 1963 and 1993, numerous other small studies supported the same findings.

However, in the early 1990s, during periods of financial retrenchment, questions about cost versus benefit arose again in the educational community.

In 1993, Dr. Keith Curry Lance and others published another major landmark study in Colorado[5] that probed whether school library media programs increase academic achievement. That study confirmed that academic achievement was affected in 220 Colorado schools when:

- There was a professional library media specialist on site,
- The library media specialist collaborated with teachers to create exciting learning experiences using the library media resources, and
- The library media collection contained large amounts of quality materials including print and multimedia.

[4] Gaver. See conclusions.
[5] Colorado I.

Since 2000, statewide studies have been completed by three research teams involving over 3,300 schools in eight states.

- Colorado (a second study) – 200 schools, grades 4, 7 (Lance, Rodney, & Hamilton-Pennell, 2000)
- Alaska – 211 schools, grades 4, 8, 11 (Lance, et. al., 2000)
- Pennsylvania – 435 schools, grades 5, 8, 11 (Lance, et. al., 2000)
- Massachusetts – 519 schools, grades 4, 8, 10 (Baughman, 2000)
- Oregon – 513 schools, grades 5, 8, 11 (Lance, et. al., 2001)
- Texas – 600 schools, grades 4, 8, 10 (Smith, 2001)
- Iowa – 506 schools, grades 4, 8, 11 (Rodney, Lance, & Hamilton-Pennell, 2002)
- New Mexico – 380 schools, grades 4, 8, 10 (Lance, et. al, 2002)

Two other important studies connect school library collections and reading achievement, the first by Dr. Stephen Krashen[6] in 1993 and the second by Jeff McQuillan[7] in 1998. These two studies add a new dimension to the power a strong library media program provides to a quality education.

This presentation recommends steps to create a strong library media program that contributes to academic achievement. Each of the recommendations draws upon the research studies cited. A brochure and a web site provide access to many more details from the research.

To build maximum impact, a school community should do two things:

First, they create a quality information-rich and technology-rich environment easily accessible by students and teachers. That is, the school library now extends beyond its walls delivering quality information into the classrooms and into the homes of every learner 24 hours a day, 7 days a week. Learners flourish when quality information is close at hand.

Second, they employ a staff of both professional and support personnel in the library media center who provide leadership and tireless partnering with the teachers to deliver quality learning experiences. Achievement is affected by the two teaching partners using the best of information technology and learning strategies.

The results for learners and teachers who take advantage of this information-rich and technology-rich environment are:

- Capable and avid readers (learners who read a lot and enjoy it)
- Learners who are information literate (these are learners who are taught how to locate information, evaluate it, use it well, and communicate that information effectively through an organized research process)

[6] Krashen.
[7] McQuillan.

- High-quality learning experiences using information and technology far beyond what any textbook could offer.

Research indicates that schools with the most exemplary library media programs are those that are better staffed, stocked, and funded and thos characterized by stronger librarian-teacher collaboration and greater access to technology typically reap rewards ranging from 10 to 20 percent. And, these results[8] cannot be explained away by:

- Teacher/pupil ratio
- Teacher characteristics (education, experience, salaries)
- Student characteristics (poverty, race/ethnicity)
- Per-pupil expenditures
- Community demographics (educational attainment, poverty, ethnicity)

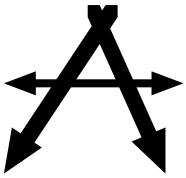
The results are well worth the investment!

School Library Media Programs and Academic Achievement
Five Minute Presentation
PowerPoint Slides

Stong School Library Media Programs Make a Difference in Academic Achievement 1	**Gaver Study, 1963:** Academic achievement is higher when: ▪ There is a centralized library in the school. ▪ The library collection is large and easily accessible. 2	**Lance Study Finding, 1993:** ▪ Academic Achievement was higher in Colorado schools when: ▪ There were more hours of professional library media specialist staffing ▪ The library media specialist spent more time collaborating with teachers to build exciting units of instruction ▪ The library collection was larger 3
Eight Major Studies Over 3,300 Schools Since 2000 ▪ Alaska - 211 schools, grades 4, 8, 11 ▪ Pennsylvania - 435 schools, grades 5, 8, 11 ▪ Colorado - 200 schools, grades 4, 7 ▪ Massachusetts - 519 schools, grades 4, 8, 10 ▪ Oregon - 513 schools, grades 5, 8, 10 ▪ Texas - 600 schools, grades 4, 8, 10 ▪ Iowa - 506 schools, grades 4, 8, 11 ▪ New Mexico - 380 schools, grades 4, 8, 10 4	**Two Other Study Findings:** **Done by Krashen (1993), McQuillan (1998)** ▪ Strong library media programs make a difference in academic achievement. ▪ Impact made by learners who read more from large library media center collections 5	**Step One:** Create a quality information-rich and technology-rich environment easily accessible by students and teachers. 6

[8] Colorado II, p. 79, Pennsylvania, p. 58, Alaska, p. 66.

Step Two:	**Results:**	**Impact:**
Employ professional and support personnel in the library media center who provide leadership and tireless partnering. 7	Learners and teachers who take advantage of the strong library media center can expect: ▪ Capable and avid readers ▪ Learners who are information literate ▪ Teachers who are partnering to create high-quality learning experiences 8	Scores can be expected to be 10-20% higher than in schools without this emphasis. 9
Results are <u>not</u> explained by: ▪ Teacher/pupil ratio ▪ Teacher characteristics (education, experience, salaries) ▪ Student characteristics (poverty, race/ethnicity) ▪ Community demographics (educational attainment, poverty, ethnicity) 10		



School Library Media Programs And Academic Achievement A Fifteen-Minute Presentation

Materials needed:

- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site with summary printout following this script)
- Reproducible handout (pages 7-8)

Slide 1	**Background and Introduction** Strong school library media programs make a difference in academic achievement.
Slide 2	The evidence for that statement began with a landmark study by Dr. Mary Gaver[9] of Rutgers University in 1963. At this time, elementary schools were creating centralized school libraries by merging all the classroom collections and making those resources available to all the children of the school. Gaver found that academic achievement was significantly higher when: ➢ There was a centralized library in the school building. ➢ The combined collection was large and easily accessible to every student and teacher. That is, when teachers and students added a rich information environment in addition to a textbook environment, students read more, used more information sources, and therefore, learned more. Between 1963 and 1993, numerous other smaller studies supported the same findings. However, in the early 1990s, during periods of financial retrenchment, questions about cost versus benefit arose again in the educational community.

[9] Gaver. See conclusions.

Slide 3	In 1993, Dr. Keith Curry Lance[10] and others published another major landmark study in Colorado that probed whether school library media programs were holding their own in the push to increase academic achievement. That study confirmed that academic achievement was affected in 220 Colorado schools when: ➢ There was a professional library media specialist on site ➢ The library media specialist collaborated with teachers to create exciting learning experiences using the library media resources ➢ The library media collection contained large amounts of quality print and multimedia materials Some questioned whether those findings were valid only in Colorado, or if they might extend elsewhere.
Slide 4	Since 2000, statewide studies have been completed by three research teams involving over 3,300 schools in eight states. Four states were studied in 2000: ➢ Colorado (a second study) – 200 schools, grades 4, 7 (Lance, Rodney, & Hamilton-Pennell, 2000) ➢ Alaska – 211 schools, grades 4, 8, 11 (Lance, et. al., 2000) ➢ Pennsylvania – 435 schools, grades 5, 8, 11 (Lance, et. al., 2000) ➢ Massachusetts – 519 schools, grades 4, 8, 10 (Baughman, 2000)
Slide 5	Two major studies were completed in 2001: ➢ Oregon – 513 schools, grades 5, 8, 11 (Lance, et. al., 2001) ➢ Texas – 600 schools, grades 4, 8, 10 (Smith, 2001)
Slide 6	And two states were added in 2002: ➢ Iowa – 506 schools, grades 4, 8, 11 (Rodney, Lance, & Hamilton-Pennell, 2002) ➢ New Mexico – 380 schools, grades 4, 8, 10 (Lance, et. al, 2002) Two other major studies connect school library collections and reading achievement - the first by Dr. Stephen Krashen[11] in 1993 and the second by Jeff McQuillan[12] in 1998. These two studies add an additional dimension to the power a strong library media program has in a quality education. This presentation recommends steps to create a strong library media program that will contribute to academic achievement. Each of the recommendations draws upon the research studies cited. A brochure and a web site provide access to many more details from the research.
Slide	

[10] Colorado I.
[11] Krashen.
[12] McQuillan.

7	**The Vision** School libraries like all other libraries in the age of technology are building quality information-rich environments including books, multimedia resources, databases, electronic periodical collections, and access to quality Internet sites.
Slide 8	These resources are available in the library media center but also are extending into classrooms and beyond into the homes. The electronic part of this information-rich environment is often available 24 hours a day and 7 days a week. They are also available wherever the teacher or the learner might be. Thus, the school library is becoming an indispensable information portal for every student, teacher, and parent of school children.
Slide 9	National guidelines[13] for school library media programs set clear expectations for every school. Strong school library media programs are expected to: ➢ Build capable and avid readers ➢ Teach all learners to become effective users of ideas and information ➢ Partner with teachers to create exciting learning experiences that take advantage of the richness of information technology In other words, the mission of the school library is to prepare learners to participate and compete in the information age, and to build life-long learning habits.
Slide 10	**Invest First in People** A strong library media program is led by ➢ A competent library media professional (The expert human interface) ➢ Paraprofessional staff (organization/service functions) ➢ Technical staff (technology support for the school) In addition, all the research studies[14] provide evidence that the larger the library media staff, the higher students score on academic achievement (as measured by reading scores). That is, as in every other program of education, people make the difference. The research suggests[15] that support personnel, including paraprofessional and technical staff, allow the professional more time to build quality learning experiences and make technology an effective learning tool. This translates directly into higher achievement.

[13] American Association of School Librarians and the Association for Educational Communications and Technology. *Information Power: Building Partnerships for Learning*. Chicago: American Library Association, 1998.
[14] Pennsylvania, p. 57; Colorado I, p. 92; Colorado II, p. 57; Alaska, p. 65.
[15] *Ibid*.

<table>
<tr><td>Slide 11</td><td>Professional library media specialists[16] in any school can provide administrators, teachers, and parents with collaboration logs documenting their activities that research suggests are most effective:
Collaboration with teachers in the building of quality learning experiences
The teaching of information literacy (finding, using, and communicating information effectively)
Promotion of reading</td></tr>
<tr><td>Slide 12</td><td>Consider a few sample findings from the research studies done in the five states of Colorado, Oregon, Texas, Iowa, and New Mexico.</td></tr>
<tr><td>Slide 13</td><td>Comparing the top 25 scoring schools with 25 low scoring schools, note the difference professional staffing makes.

Five of the recent studies—those for Colorado, Oregon, Texas, Iowa, and New Mexico—compare levels of professional library media specialist staffing for the 25 highest and lowest scoring schools. The following table summarizes those results across the five states:

LMC Specialist Staffing in 25 Highest & Lowest Scoring Schools

<table>
<tr><th>5 state averages[17]</th><th>Top Scoring</th><th>Low Scoring</th><th>% Difference in high/low</th></tr>
<tr><td colspan="4">Total library media specialist hours per week per 100 students</td></tr>
<tr><td>Elementary</td><td>8.97</td><td>7.12</td><td>26%</td></tr>
<tr><td>Middle</td><td>9.88</td><td>7.97</td><td>24%</td></tr>
<tr><td>High</td><td>10.22</td><td>7.44</td><td>37%</td></tr>
</table>
</td></tr>
<tr><td>Slide 14</td><td>Conclusion across five states: The level of professional library media specialist staffing contributes to academic achievement.</td></tr>
</table>

[16] *Ibid.*
[17] Colorado II study, pp. 75-76.

Slide 15

Comparing the 25 highest and lowest scoring schools in Pennsylvania, note the difference professional and support staffing makes.

LMC Staffing in 25 Top vs. 25 Low Scoring Schools

Pennsylvania[18]	Top Scoring	Low Scoring	% Difference in high/low
Professional staff hours/week			
5th Grade	34.31	29.36	17 %
8th Grade	38.40	37.63	2 %
11th Grade	45.06	43.25	4 %
Support staff hour/week			
5th Grade	25.92	12.48	108 %
8th Grade	30.30	15.80	92 %
11th Grade	49.57	19.28	157 %

Slide 16

Conclusion for Pennsylvania: Adding support staff is a key difference between strong and weak library media programs. Library media specialists understand these findings very well, since adding support staff allows them the opportunity to work more closely with teachers and students rather than tend to warehousing duties all day.

Slide 17

From all these studies we draw the simple conclusion that the total LMC staff size contributes to academic achievement. It is not surprising that people make the difference.

Slide 18

Second, Invest in Materials, and Technology

Learners provided with a rich information pool and access to technology[19] beyond the textbook outperform students in information-poor environments.

[18] Pennsylvania study, pp. 54-56.
[19] Alaska, p. 66; Colorado II, p. 77; Colorado I, p. 92; Pennsylvania, p. 57.

Slide 19	Krashen and McQuillan[20] collected the "startling" evidence from 100 years of research that when children and teens are surrounded by large quantities of books they want to read, they actually read more! And equally startling: Those who read more score higher on any academic achievement test they take! In other words, they found the obvious. Results are particularly spectacular in poorer neighborhoods where homes contain few or no reading materials. Translated into action, this means that any school can actually stimulate literacy by purchasing great quantities of exciting books young people want to read, and making them easily accessible from the library and through rotating classroom collections. Certainly, every learner will need quantities of books in the classroom and at home by their bedside.
Slide 20	The seven most recent studies[21] conducted by Dr. Keith Curry Lance and Marcia Rodney provide evidence that, beyond the collection to support reading, the extent to which every school library has a rich curriculum-centered information pool also affects how much children and teenagers learn. In addition, it appears that as technology[22] delivers that information via technology to the desktop of the student, achievement is further enhanced.
Slide 21	In today's school libraries, such collections consist of: ➢ Carefully selected Internet web sites relevant to the curriculum, ➢ Electronic periodical collections, ➢ Databases relevant to curricular topics, ➢ Attractive information books on all reading levels, ➢ Multimedia collections including video, audio, pictorial, graphic, and real objects, ➢ Special collections of print/electronic resources that meet all ranges of ability, cultural needs, and languages, and ➢ Collections that are authoritative, accurate, current, and curricular-related. Such collections allow learners to explore ideas and topics covered perhaps only in a paragraph of a textbook. This information can be found no matter the ability of the learner, the interest level, the cultural background, or the language of the learner.

[20] See Krashen and McQuillan.
[21] Alaska, p. 66; Colorado II, p. 77; Colorado I, p. 92; Pennsylvania, p. 57; Oregon, p. 83; Iowa, p. 73; New Mexico, p. 59.
[22] *Ibid.*

Slide 22	Such collections add cost to the education budget since quality collections must be kept current. Again the research shows that schools spending more money for quality information beyond the textbook are actually boosting the bottom line – the amount learned.
Slide 23	**The Results** School communities who care enough to fund strong library media programs reap rewards[23] ranging from 10-20% higher test scores. This translates to 10-15 point gains on reading scores.
Slide 24	These results,[24] as Dr. Lance points out cannot be explained away by: ➢ Teacher/pupil ratio ➢ Teacher characteristics (education, experience, salaries) ➢ Student characteristics (poverty, race/ethnicity) ➢ Per-pupil expenditures ➢ Community demographics (educational attainment, poverty, ethnicity) The message is increasingly clear that school communities who care enough to build strong library media programs also care about enough other vital elements in the education program, all of which combine to build academic excellence.

Fifteen Minute Presentation PowerPoint Slides

Strong School Library Media Programs Make a Difference in Academic Achievement 1	**Gaver Study, 1963:** ▪ Academic achievement is higher when: ▪ There is a centralized library in the school. ▪ The library collection is large and easily accessible. 2	**Lance Study Finding, 1993:** Academic Achievement was higher in Colorado schools when: ▪ There was a professional library media specialist ▪ The library media specialist collaborated with teachers to build exciting units of instruction ▪ The library collection was very large 3
Four Major Studies: 933 Schools, published 2000 ▪ Alaska 211 schools, grades 4, 8, 11 ▪ Pennsylvania 435 schools, grades 5, 8, 11 ▪ Colorado 200 schools, grades 4, 7 ▪ Massachusetts 519 schools, grades 4,8,10 4	▪ **Two Major Studies in 2001** ▪ Oregon 513 schools, grades 5,8, 10 ▪ Texas 600 schools, grades 4, 8, 10 5	▪ **Two Major Studies, 2002** ▪ Iowa 506 schools, grades 4, 8, 11 ▪ New Mexico 380 schools, grades 4, 8, 10 6

[23] Pennsylvania, p. 8; Colorado II, p. 9.
[24] Colorado II, p. 9; Colorado I, p. 92; Pennsylvania, p. 7.

The 21st Century Library Media Center

- Consists of a quality information-rich environment:
- Books
- Multimedia resources
- Databases
- Electronic periodical collections
- Quality Internet sites

7

The New Library Media Center:

- Is available not only in the LMC, but
- In the classroom, and
- On beyond into the Home.
- And, is available 24 hours a day, 7 days a week.
- *And, is available 24 hours a day, 7 days a week.*

8

Library Media Center Programs:

- Build capable and avid readers
- Teach every learner to become effective users of ideas and information
- Partner with teachers to create exciting learning experiences
- Prepare learners to compete in the information age

9

First, Invest in People
Strong Library Media Programs have:

- A competent library media professional (The human interface)
- Paraprofessional staff (Organization/service functions)
- Technical staff (Technology support for the school)

10

Strong Library Media Specialists:

- Collaborate with teachers to build quality learning experiences
- Teach information literacy (finding, using, and communicating information effectively)
- Promote reading

11

Findings from 5 States

- Colorado (2000) 200 schools
- Oregon (2001) 513 schools
- Texas (2001) 600 schools
- Iowa (2002) 506 schools
- New Mexico (2002) 380 schools

12

Comparison of Top & Lowest 25 Scoring Schools in 5 States

Library media specialist hours per week per 100 students

- Elementary: 8.97 vs. 7.12 26% difference
- Middle: 9.88 vs. 7.97 24% difference
- High: 10.22 vs. 7.44 37% difference

13

Conclusion

- The level of professional library media specialist staffing is a key difference between strong and weak library media programs
- … and between higher and lower scoring students on achievement tests.

14

Comparison of 25 Highest & Lowest Scoring PA Schools

Professional staff hours/week

- 5th grade 34.31 vs. 29.36 17% difference
- 8th grade 38.40 vs. 37.63 2% difference
- 11th grade 45.06 vs. 43.25 4% difference

Support staff hours/week

- 5th grade 25.92 vs. 12.48 108% difference
- 8th grade 30.30 vs. 15.80 92% difference
- 11th grade 49.57 vs. 19.28 157% difference

15

Conclusion for Pennsylvania

- Support staff was the key difference between strong and weak library media programs in PA.
- That is, professionals alone cannot make a major difference because of the load of clerical and technical work.

16

Conclusion:

- The total LMC staff size contributes to academic achievement.

17

Second, Invest in
Materials and Technology

- Create a quality information-rich and technology-rich environment easily accessible by students and teachers.

18

Large School Library Collections Supply:

- Large rotating classroom collections
- Large bedside collections for teachers and students

19

Research Findings:

- Rich curriculum-centered collections boost learning.
- Information technology delivering information to the desktop of the learner enhances learning.

20

Today's LMC Collections are accessible through a library web page including:

- Quality Internet sites
- Electronic periodicals
- Databases
- Attractive information books
- Multimedia collections
- Materials meeting special needs
- Materials of high quality

21

Conclusion:

- Quality collections are expensive, but they earn their way by boosting achievement.

22

Results of the total investment:

- Scores can be expected to be 10-20% higher than in schools without this emphasis.

23

Results are <u>not</u> explained by:

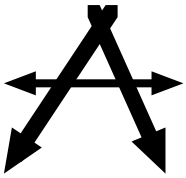
- Teacher/pupil ratio
- Teacher characteristics (education, experience, salaries)
- Student characteristics (poverty, race/ethnicity)
- Community demographics (educational attainment, poverty, ethnicity)

24

Part Two:

Topical Presentations/Discussion Starters Based on the Research of School Library Media Programs

Part two contains nine discussion starters based on various aspects of the research. The idea is to focus groups of library media specialists, teachers, parent groups, or administrators on issues connected to school libraries. Each of the discussions is based the Lance studies and other research that has brought some significant findings for focusing on academic achievement and library media programs. The authors recommend that these discussion starters be modified for your local groups and the particular concerns they have. PowerPoint slides accompany each of the discussion starters and the brochure from part one can be duplicated freely as a supplement to these discussions with its references to many studies and the supplementary information on the web site.



Collaboration and Achievement: A Two-Minute Discussion Starter For School Library Media Specialists And Teachers

Materials needed:
- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site)
- Discussion questions

Library media specialists who collaborate regularly with faculty help build quality learning experiences that contribute to academic achievement.

This statement is supported by research done in Colorado schools and published in 2000[25].

Collaboration for this study was measured by the number of hours a library media specialist worked with faculty:

- Planning units of instruction together
- Identifying materials for teachers
- Teaching information literacy to learners during the unit
- Providing in-service training to teachers
- Providing motivational reading activities
- Managing information technology in such a way as to push digital information beyond the LMC

In such collaborations, library media staff help raise scores by
- Enhancing learning experiences
- Building teacher effectiveness

Possible Directions the Discussion Might Take

- How can library media specialists and teacher maximize collaboration time?

- During what little time there is to collaborate, how do library media specialists and teachers use the time they do have effectively?

[25] Colorado II, p. 78.

- How do library media specialists and teachers build a repertoire of effective learning experiences? (One by one? Planning several experiences in a professional development session?)

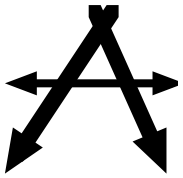
- What strategies of planning will maximize the number of students affected by collaborative planning? (Planning with grade level teams? Small teacher groups? Department level groups?)

- How can an entire faculty become a part of collaborative planning? (Large professional development sessions? Entire school initiatives? Large policy change programs?)

- How are collaborative efforts documented? (Collecting collaboration logs? Documenting collaboratively planned unit assessment results? Comparing achievement scores for teachers who collaborate regularly vs. those who do not?)

Collaboration and Achievement
PowerPoint Slides

Research Finding:	**Collaboration Means:**
Library media specialists collaborating with teachers to build quality learning experiences contribute to academic achievement. 1	▪ Planning units together ▪ Identifying materials for teachers ▪ Teaching information literacy to learners ▪ Providing in-service training for teachers ▪ Providing motivational reading activities ▪ Pushing digital information beyond the LMC 2
In Summary Scores rise when the LMC staff ▪ Enhance a learning experience ▪ Build teacher effectiveness 3	



No More Bird Units:
A Five-Minute Discussion Starter
For School Library Media Specialists
And Teachers

Materials needed:
- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site)
- Discussion questions

If collaboration by the library media specialist with teachers in building learning experiences translates directly into academic achievement,[26] then it stands to reason that high-quality learning experiences ought to be the focus of the collaboration.

Sadly, library media center activities can be as ineffectual as poorly-designed classroom-based experiences.

Consider the bird unit.

- The teacher introduces the topic of "birds" to the class. (could be states, countries, scientists, etc.)
- Students then read a textbook chapter about birds and answer the questions – whatever required by the textbook.
- The teacher brings the class to the library so that each student can research a bird of choice.
- The teacher gives each student a worksheet containing fact questions.
- The librarian introduces the class to a few sources where facts about their birds can be found.
- The students find the answers to their fact questions and copy them on to their worksheets.
- They make a report back to the class about their bird.

Result: Nothing or very little! In fact, a well-designed classroom activity might be more productive.

A second result is that students have learned to cut and clip information from library resources, then regurgitate it back.

[26] Colorado II, p. 78.

Possible Discussion Questions

- Why are bird units (or any other fact-finding/copying exercise) generally a waste of everyone's time and effort?

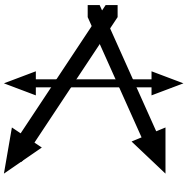
- Why should bird units be banned from the library media program? Or, in the vernacular, how could we give the bird to bird units? (Cover higher-level questions, activities that require thinking to be successful, assessment that stresses thinking rather than fact regurgitation, etc.)

- What experiences in the library would cause students to <u>think</u> about the information they find rather than just cut, clip or copy, and report? (Have a group invent or modify bird units to guarantee higher-level learning) A few ideas might include:
    - Comparing and contrasting extracted data
    - Charting or graphing information
    - Drawing conclusions in groups about extracted data
    - Preparing position arguments using information
    - Re-formulating the original question(s) toward higher level thinking
    - Creating projects that require the integration of information to work
    - Redesigning questions to be more real or motivating to learners

- How could a faculty be weaned away from bird units?

No More Bird Units
PowerPoint Slides

Research Finding: Library media specialists collaborating with teachers to build quality learning experiences contribut to academic achievement. 1	**The "Bird" Unit** ▪ Teacher introduces topic. ▪ Students do textbook work. ▪ Class comes to the library. ▪ Students pick a "bird." ▪ Students are given a worksheet of fact questions. ▪ Librarian introduces information sources ▪ Students copy facts on to worksheets. ▪ Students give reports on their "bird." ▪ Result: Students learn to cut and clip information, then regurgitate it. 2
Why Ban "Bird" Units? 3	**What learning activities in the LMC would be superior to "bird" units?** 4



Information Literacy and Achievement: A Seven-Minute Discussion Starter For School Library Media Specialists And Teachers

Materials needed:

- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site)
- Discussion questions

Learners who are exposed to integrated information literacy instruction as a part of their research projects in the library media centers score higher on academic achievement tests.

Support for this statement comes from major studies done by Dr. Keith Curry Lance in Alaska, Pennsylvania, and Colorado – all published in 2000.

Previously, school library media specialists, concentrating on library skills would have helped students find and locate a few information sources, leaving the rest of the research process to the teacher.

Today, in an information-rich and technology-rich environment, library media specialists are finding that they need to teach many other concepts if students are to be successful investigators and better learners. Sample information literacy topics might include:

- Formulating a good research question
- Locating information
- Finding information in print and electronic environments including the Internet
- Judging the quality of information located
- Handling conflicting information sources
- Organizing the information found
- Reading and thinking about the information
- Synthesizing ideas across information sources
- Building creative presentations of findings
- Evaluating personal success as an organized investigator

When Pennsylvania learners[27] in the 25 top scoring schools compared to the lowest 25 scoring schools note the difference in time spent teaching information literacy:

- At the 5th grade: 43% more time teaching information literacy
- At the 8th grade: 1 % more time teaching information literacy
- At the 11th grade: 11 % more time teaching information literacy

[27] Pennsylvania study, pp. 54-56.

In Colorado (2000)[28] the differences in achievement scores between high and low scoring schools was:

- Elementary 28% more time teaching information literacy
- Secondary 34% more time teaching information literacy

In Oregon:[29]
Elementary 13% more time teaching information literacy
Secondary 31% more time teaching information literacy

In Iowa:[30]
Elementary 43% more time teaching information literacy
Secondary 5% more time teaching information literacy

New Mexico:
Secondary 19% more time teaching information literacy

In Alaska schools,[31] teaching integrated information literacy was significant at the elementary level.

As teachers and library media specialists try to assist learners working in information-rich and technology-rich environments, they are beginning to recognize common problems. How could any of the following problems be solved?

Possible Discussion Questions

Small groups might be assigned different problems and then possible solutions across problems posed. The following list are just a few possible topics.

- Learners wander and wander before settling on a researchable question or reasonable topic.
- Learners are unmotivated at the prospect of any library research.
- Learners either present copied information from print sources or they cut and clip from technological sources doing little thinking.
- Learners use the first few sources they find even though they have many other materials at their elbow.
- Learners want to use Internet sites exclusively.

[28] Colorado II study, pp. 75-76.
[29] Oregon study, pp. 86-88.
[30] Iowa study, pp. 76-78.
[31] Alaska study (revised ed.), pp. 48-49.

- Learners rarely question the quality of the information they find.
- Learners spend almost all their research time finding information and cram the rest of the research process into a few minutes or hours.
- Learners' presentations are technologically attractive, but contain little substance.
- Learners' confidence levels during research are like roller coasters.
- Assessment shows little learning from the library activity, or students rate the experience low or counterproductive.

Information Literacy and Achievement PowerPoint Slides

Research Finding:

Teaching integrated information literacy as a part of research projects affects academic achievement positively.

1

Previous Practice:

- Concentrated on locating information
- Left the balance of the research process to the discretion of the teacher

2

Today's Research Process:

- Formulating questions
- Locating information
- Exploring online resources
- Judging information quality
- Handling conflicting information
- Organizing information
- Reading and thinking
- Synthesizing ideas
- Building creative presentations
- Evaluating personal success

3

Pennsylvania's 25 Top Scoring Schools vs. 25 Low Scoring

- 5th Grade 43% More time teaching
- 8th grade: 1% More time teaching
- 11th grade: 11% More time teaching

4

Differences in Time Teaching Information Literacy
25 Highest & Lowest Scoring Schools by State

State	Elementary	Secondary
Colorado	+28%	+34%
Oregon	+13%	+31%
Iowa	+43%	+5%
New Mexico	-----	+19%

5

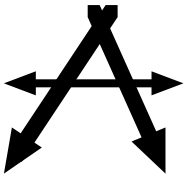
Alaska's Schools

Significantly higher scores at the elementary level when information literacy was taught

6

How can the new problems learners face in an information-rich and technology-rich environmnent be solved?

7



Information Technology and Achievement: A Five-Minute Discussion Starter For School Library Media Specialists

Materials needed:

- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site)
- Discussion questions

Many school library media centers are acquiring the technology to push quality information beyond their walls into the classrooms and into the home. They are becoming 24/7 information providers. In schools with a rich information-technology environment, learners score higher on academic achievement tests.

Support for these statements comes from major studies done by Dr. Keith Curry Lance in Alaska, Pennsylvania, and Colorado – all published in 2000.

In high-scoring schools, there are a growing number of:

- Students who can link to the library media center remotely
- Databases/electronic resources available online from the LMC
- Computers linked to the Internet

When Colorado learners in the 25 most "connected" schools were compared with those in the 25 least "connected" schools achievement scores:

- At the 4th grade: 6% higher[32]
- At the 7th grade: 18% higher[33]

In the five states of Colorado, Texas, Oregon, Iowa, and New Mexico, the number of computers networked to the LMC in the highest vs. lowest scoring schools were:

- Elementary: 13 computers vs. 10 computers
- Middle: 17 computers vs. 12 computers
- High 24 computers vs. 18 computers

Thus higher scoring schools typically have 1/3 more computers in classrooms, labs, and offices that provide networked access to the LMC's information resources.
Similar results in Alaska showed that students with higher tech library media centers scored higher on their achievement tests.[34]

[32] Colorado II study, p. 72.
[33] Colorado II study, p. 73.

Thus, in many schools, as quality information gets closer and closer to the elbow of the learner, academic achievement is affected. Such a finding makes sense since learners are interacting regularly with a pool of high quality information easily available. The concern, of course, is extending such an advantage to every learner.

Possible Discussion Questions

- What are school communities doing to insure that the percentage of "have nots" is decreasing each year in reference to connectivity to technology?
- What must happen in library media center programs as students become more and more connected to their resources online? That is, how is teaching and learning affected by connectivity?
- How can the effects of connectivity and its impact on teaching and learning be documented?
- What changes in "human interface" services need to happen as a higher and higher percentage of learners connect?
- What types of virtual/digital library media collections need to be built as connectivity increases?
- What features of library web pages are drawing learners to quality information sources?
- Are quality information sources delivered digitally actually showing up in learner research/products?
- Are carefully selected digital resources (provided by the LMC) preferred by learners or are learners wasting time surfing/fishing across the entire Internet?

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[34] Alaska, pp. 56-57.

Information Technology and Achievement
PowerPoint Slides

Research Finding:

Information pushed beyond the LMC
into classrooms and
into the home
affects academic achievement.

1

In High Scoring Schools:

- Students can link to the LMC remotely.
- Databases/electronic resources are available online.
- Computers are linked to the Internet.

2

In Colorado Connected Schools:

- 4th grade 6% higher for students in most "connected schools.
- 7th grade 18% higher for students in most "connected" schools

3

School Computers Networked to LMC

Averages for Highest & Lowest Scoring Schools in CO, TX, OR, IA & NM

School Level	Highest	Lowest
Elementary	13	10
Middle	17	12
High	24	18

Higher scoring schools typically have 1/3 more computers in classrooms, labs, and offices that provide networked access to the LMC's information resources.

4

In Alaska Connected Schools:

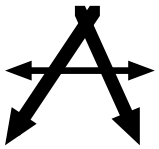
Learners with higher tech library media centers scored higher on achievement tests.

5

Conclusion

- As quality information gets closer and closer to the elbow of the learner, academic achievement is affected.
- The concern is extending this advantage to every learner.

6



Making the Investment: A Five-Minute Discussion Starter For School Library Media Specialists, Teachers, Administrators, Boards, and Parents

Materials needed:

- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site)
- Discussion questions

Research indicates that a certain level of investment in library media programs is needed to achieve improved academic achievement. The question is: "What level of investment is required to make a significant difference?"

For a discussion starter, let us examine the research done by Dr. Keith Curry Lance in Pennsylvania and Colorado covering 600+ schools. Specifically, let us compare the top 25 top scoring schools with the 25 lowest scoring schools in each state in terms of their commitment to library media staff, budgets for materials, and library media collection size.

LMC Staffing in 25 Top vs. 25 Low Scoring Schools

Pennsylvania[35]	Top Scoring	Low Scoring	% Difference in high/low
Professional staff hours/week			
5th Grade	34.31	29.36	17 %
8th Grade	38.40	37.63	2 %
11th Grade	45.06	43.25	4 %
Support staff hour/week			
5th Grade	25.92	12.48	108 %
8th Grade	30.30	15.80	92 %
11th Grade	49.57	19.28	157 %

Conclusion for Pennsylvania: Adding support staff is a key difference between strong and weak library media programs. Library media specialists understand these findings very well, since adding support staff allows them the opportunity to work more closely with teachers and students rather than tend to warehousing duties all day.

[35] Pennsylvania study, pp. 54-56.

Colorado[36]	Top Scoring	Low Scoring	% Difference in high/low
Total library media staff hours/100 students			
4th Grade	14.67	9.38	56 %
7th Grade	13.00	10.72	21 %

Conclusion for Colorado: The total staff size is contributing to academic achievement.

Budget in 25 Top vs. 25 Low Scoring Schools

Budgets were investigated comparing top vs. low scoring schools in Pennsylvania, Colorado, Texas, Iowa, and New Mexico. Here are the results:

Pennsylvania[37]	High Scoring	Low Scoring	% Difference in Spending
Expenditures for library materials			
5th Grade	$ 7,240	$ 4,928	47%
8th Grade	$ 14,506	$ 8,386	73%
11th Grade	$ 23,730	$ 14,197	67%
Colorado[38]			
Expenditures/students for library materials			
4th Grade	$ 21.60	$ 14.00	54%
7th Grade	$ 22.33	$ 13.44	66%
Texas[39]			
Elementary	$36.02	$16.52	118%
Middle	$30.30	$20.60	47%
Iowa[40]			
Elementary	$16.85	$14.67	15%
Middle	$25.55	$21.98	16%
High School	$23.38	$22.20	5%
New Mexico[41]			
High School	$25.49	$22.08	15%

[36] Colorado II study, pp. 75-76.
[37] Pennsylvania study, pp. 54-56.
[38] Colorado II study, pp. 75-76.
[39] Texas study, pp. 172-84.
[40] Iowa study pp. 76-78
[41] New Mexico study, p42

Conclusion: In all states studied, higher achieving schools spend more on materials for their library media programs.

Materials Available to Students in High vs. Low Scoring Schools

Measures were taken in six states comparing the numbers of materials available to students in high vs. low scoring schools. These states included Colorado, Texas, Oregon, Iowa, and New Mexico.

Pennsylvania

5th Grade	10.857 vs. 8,876	showing a 22% difference in materials
8th grade	13,507 vs. 10,744	showing a 26% difference in materials
11th grade	15,474 vs. 14,499	showing a 7% difference in materials

Looking across schools in Colorado, Texas, Oregon, Iowa, and New Mexio, volumes per student averaged as follows between high and low scoring schools:

Elementary schools	29 vs. 24	showing a 21% difference in materials
Middle schools	28 vs. 22	showing a 27% difference in materials
High schools	29 vs. 26	showing an 11% difference in materials

The conclusion was that stronger LMCs have richer print collections and this contributes to academic achievement. Higher scoring schools also have stronger periodical and electronic collections.

Possible Discussion Questions

- Schools who invest more in staff, budgets, and the resulting larger information pools also see results in increasing academic achievement. Why does this happen? (If this is so obvious, why do libraries have to fight so hard for resources?)

- How does the faculty and the library media staff translate "things" into better learning experiences? (Obviously, since the figures are averages, not all schools who have high investments in the library media program automatically score higher.) The opposite is also true – some schools with poorer investments have high scores. How does this happen?

- If this school/district increased support of library programs, how could the impact be documented?

Making the Investment
PowerPoint Slides

Research Finding:

- A certain level of investment in the LMC program is necessary to expect improved achievement.
- What level of investment is required to make a significant difference?

1

Lance Findings in Two States

- Pennsylvania (2000) 435 schools
- Colorado (2000) 200 schools

2

Comparison of 25 Top Scoring vs. 25 Lowest Scoring Schools

Staffing in Pennsylvania

Professional staff hours/week

- 5th grade 34.31 vs. 29.36 17% difference
- 8th grade 38.40 vs. 37.63 2% difference
- 11th grade 45.06 vs. 43.25 4% difference

Support staff hours/week

- 5th grade 25.92 vs. 12.48 108% difference
- 8th grade 30.30 vs. 15.80 92% difference
- 11th grade 49.57 vs. 19.28 157% difference

3

Conclusion in Pennsylvania

- Support staff was the key difference between strong and weak library media programs.
- That is, professionals alone cannot make a major difference because of the load of clerical and technical work.

4

Finding in Colorado

Total library media staff hours/100 students

- 4th grade 14.67 vs. 9.38 56% difference
- 7th grade 13.00 vs. 10.72 21% difference

5

Conclusion for Colorado:

- The total LMC staff size contributes to academic achievement.

6

Budget investment for five states

- Pennsylvania
- Colorado
- Texas
- Iowa
- New Mexico

7

25 Highest Scoring vs. 25 Lowest Scoring Schools

Pennsylvania budget for LMC materials

- 5th grade $7,240 vs. $4,928 47% difference in scores
- 8th grade $14,506 vs. $8,386 73% difference in scores
- 11th grade $23,730 vs. 14,197 67% difference in scores

8

LMC Materials Expenditures per Student *Selected States & Grade Levels*

State/Level	Highest Scoring	Lowest Scoring	Percent Difference
CO Elem	$21.60	$14.00	54%
CO Middle	$22.33	$13.44	66%
TX Elem	$36.02	$16.52	118%
TX Middle	$30.30	$20.60	47%
TX High	$57.47	$23.92	140%
IA Elem	$16.85	$14.67	15%
IA Middle	$25.55	$21.98	16%
IA High	$23.38	$22.20	5%
NM High	$25.49	$22.08	15%

9

Conclusion

In all states studied, higher achieving schools spend more on materials for their library media programs.

10

Materials available in the LMC in six states

- Pennsylvania
- Colorado
- Texas
- Oregon
- Iowa
- New Mexico

11

25 Highest Scoring vs. 25 Lowest Scoring Schools

Pennsylvania print volumes

- 5th grade 10,857 vs. 8,876 22% difference in scores
- 8th grade 13,507 vs. 10,744 26% difference in scores
- 11th grade 15,474 vs. 14,499 7% difference in scores

12

Volumes Per Capita

Highest & Lowest Scoring Schools in CO, TX, OR, IA & NM

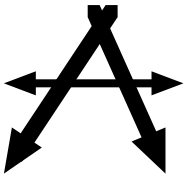
School Level	Highest Scoring	Lowest Scoring	Percent Diff.
Elementary	29	24	21%
Middle	28	22	27%
High	29	26	11%

13

Conclusion

- Stronger LMCs have richer print collections and this contributes to academic achievement.
- They also have stronger periodical and electronic collections

14



Leadership and Achievement: A Ten-Minute Discussion Starter For School Library Media Specialists and Teachers

Materials needed:
- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site)
- Discussion questions

Library media specialists who seek leadership roles and partnerships with administrators create strong library media programs translating into academic achievement. This is an indirect relationship. That is, leadership translates to higher collaboration with teachers in creating quality learning experiences that in turn, has a direct impact on academic achievement.

Support for this statement comes from a major study completed in Colorado[42] and published in 2000 that looked at a "leadership factor" and its relationship to academic achievement. Data were available for library media specialists who:

- Met regularly with administrators
- Served on standards committees
- Served on curriculum committees
- Attended school staff meetings, and
- Held library staff meetings (assuming more than a one-person staff)

Because this factor was so interesting, the analysis was repeated in Texas, Iowa, and New Mexido

Notice the difference[43] between the top 25 top scoring schools vs. the 25 low scoring schools on the leadership factor.

Characteristic	High Scoring	Low Scoring	% Difference in Scores
Colorado			
Meeting with administrators (hours per week)			
4th Grade	0.77	0.37	108%
7th Grade	0.56	0.49	14%
Texas			
Meeting with administrators (hours per week)			

[42] Colorado II, p. 10-11.
[43] Colorado II, p. 25.

Middle School	.80	.58	38%
High School	.99	.62	60%
Iowa			
High School	.98	.78	26%
New Mexico			
High School	1.16	.99	17%

Serving on committees (hours per week) in Pennsylvania, Colorado, Iowa, and New Mexico:

Elementary	0.96	0.64	50%
Middle School	1.03	0.66	56%
High School	1.11	0.64	73%

(High school averages for Pennsylvania and New Mexico only)

Attending faculty meetings (hours per week) in Colorado, Iowa, and New Mexico:

Colorado			
Middle School	0.83	0.60	38%
Iowa			
Elementary school	0.71	0.48	48%
Middle school	0.88	0.82	7%
High school	0.92	0.78	18%
New Mexico			
Middle school	0.83	0.81	2%
High school	0.80	0.59	36%

Attending library staff meetings (hours per week) in Colorado, Iowa, and New Mexico:

Colorado			
Elementary	0.62	0.54	15%
Middle school	0.83	0.60	38%
Iowa			
Middle school	0.80	0.76	5%
High school	1.58	0.76	108%
New Mexico			
Middle school	0.78	0.62	26%
High School	1.28	1.08	19%

The correlation between test scores and time spent by library media specialists on leadership activities was positive and statistically significant ($p < .001$, 1-tailed). Thus, library media specialists are more likely to be leaders[44] in their schools if they:

- Have the ear and support of the principal and other administrators
- Serve with other teachers as members of the school's standards and curriculum committees
- Meet regularly with their own staff to plan and evaluate the effectiveness of LMC program activities in advancing student learning

Again, leadership is an indirect force. Those who lead collaborate with teachers more, and that collaboration directly translates into academic achievement.

Possible Questions for Discussion:

- What other leadership factors of the library media specialist other than those studied in the research might contribute to academic achievement?

- What leadership characteristics by both library media specialists and administrators will forge a powerful learning leadership team in a particular school?

- What communication patterns should Administrators and library media specialist team establish to move forward?

- What data flowing from the library media program to the administrator would trigger a focus on the contribution of the library media program on achievement?

- How can the leadership team in a school stimulate the organization of the school to put even more focus on student learning?

- How can the library media program focus on the whole school community's vision for academic success?

[44] Colorado II, p. 10-11.

Leadership and Achievement PowerPoint Slides

Leadership and Achievement

- Seeking leadership roles, and
- Creating partnerships with administrators
- Translate indirectly into:

ACADEMIC ACHIEVEMENT

1

Finding from Colorado:

Leadership translates into achievement when library media specialists:

- Met regularly with administrators
- Served on standards committees
- Served on curriculum committees
- Attended school and staff meetings
- Held library staff meetings (if appropriate)

2

Leadership in 25 High vs. Low Scoring Colorado LMC Programs

Meeting with Administrators (hours per week)

Grade	High	Low	% Diff. in Scores
4th grade	0.77	0.37	108%
7th grade	0.56	0.49	14%

3

Weekly Hours Spent Meeting with the Principal

Averages for Highest & Lowest Scoring Schools in Selected States & Grade Levels

State/ Level	Highest Scoring	Lowest Scoring	Percent Diff.
CO Elem	.77	.37	108%
CO Middle	.56	.49	14%
TX Middle	.80	.58	38%
TX High	.99	.62	60%
IA High	.98	.78	26%
NM High	1.16	.99	17%

4

Weekly Hours Spent Serving on Committees

Averages for Highest & Lowest Scoring Schools in PA, CO, IA & NM

School Level	Highest Scoring	Lowest Scoring	Percent Diff.
Elementary	.96	.64	50%
Middle	1.03	.66	56%
High *	1.11	.64	73%

*High school averages for PA & NM only

5

Weekly Hours Spent Attending Faculty Meetings

Averages for Highest & Lowest Scoring Schools for Selected States & Grade Levels

School Level	Highest Scoring	Lowest Scoring	Percent Diff.
CO Middle	.83	.60	38%
IA Elem	.71	.48	48%
IA Middle	.88	.82	7%
IA High	.92	.78	18%
NM Middle	.83	.81	2%
NM High	.80	.59	36%

6

Weekly Hours Spent in Library Staff Meetings

Averages for Highest & Lowest Scoring Schools for Selected States & Grade Levels

State/ Level	Highest Scoring	Lowest Scoring	Percent Diff.
CO Elem	.62	.54	15%
CO Middle	.83	.60	38%
IA Middle	.80	.76	5%
IA High	1.58	.76	108%
NM Elem	.57	.51	12%
NM Middle	.78	.62	26%
NM High	1.28	1.08	19%

7

Conclusions:

Library media specialists are more likely to be leaders in their schools if they:

- Have the ear and support of the administration.
- Serve with other teachers as members of important committees.
- Meet regularly with their own staff

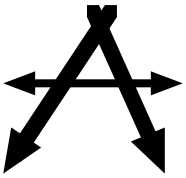
.

8

However,

- Leadership is an indirect contributor to academic achievement, meaning that:
- Those who lead:
  - Collaborate with teachers more, and
  - Collaboration translates into increased achievement.

9



Five Key Things to Do Every Day: A One-Minute Discussion Starter For School Library Media Specialists

Materials needed:

- Suggested script (below)
- PowerPoint Slides (downloadable from the LMC Source web site)
- Discussion activities

The four studies done by Keith Curry Lance (Colorado I; Colorado II; Pennsylvania; and Alaska) plus studies by Stephen Krashen and Jeff McQuillan are providing more and more evidence that key program elements of a library media program are the factors accounting for increasing academic achievement. Thus, you could make your plans every day to make progress some way on each of the following five key factors:

- Collaborate with teachers to build solid learning experiences using the LMC resources.
- Teach information literacy as a part of collaborative experiences.
- Work to motivate students to read more.
- Manage the LMC in such a way to deliver quality information as close to the student as possible.
- Work on your leadership agenda.

The questions become:

- How can you plan a sensible strategy to do the five key elements every day and live to tell about it?
- How can you document easily these program components to explain to others when they discover you are still alive?

Possible Discussion Activities

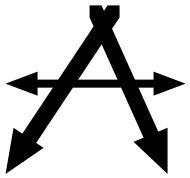
After the one-minute presentation, ask groups of library media specialists to:

- Chart a sample day that might include all five activities.
- Chart a week's plan that would include all five activities.
- Predict what differences there would be in these plans depending on whether the library media specialist had some or a great deal of support personnel.
- Invent easy-to-keep measures (perhaps notes in their plan books) that could be tallied to track activities each week and then appear in a monthly report to administrators.
- How could the tracking of the five key elements:
  - Be compared over time to growth in academic achievement by the students of teachers who actively participated in the Five Star LMC Program?
  - Lead to documentation needed to make application for National Board for Professional Teaching Standards certification in the library media area (began in 2001)?[45]

Five Key Things to Do Every Day
PowerPoint Slides

Five Key Thinks to Do Every Day to Make A Difference!	Question
▪ Collaborate with teachers to build solid learning experiences ▪ Teach integrated information literacy ▪ Motivate learners to read more ▪ Push information beyond the LMC into the classroom and into the home ▪ Work on the leadership agenda	How can the five key LMC program elements be documented?

[45] You may order a copy of the *Library media Standards* from the National Board for Professional Teaching Standards at http://www.nbpts.org



"To Which We Reply:" Discussing the Methodologies of the Lance Studies

Questions arise regularly about all educational research. Complaints abound about its inexact nature by those seeking definitive answers, cause and effect, and instant solutions to complex problems. In a day when test scores are published widely and when extreme pressure is made by various governments to "achieve," some criticisms of the Lance studies as with other educational research need to be aired. For a quality discussion to be held, knowledge of various research methods needs to be present in the group. However, various researchers like certain types of research – quantitative, qualitative, correlational, and other methodologies that gain fashion over time. As Keith Curry Lance presents to various audiences, common questions about methodology arise. Since he cannot be present in many arenas to conduct a question-answer period, the following answers to common questions have been written by him. Discussion leaders will want to take these into consideration as discussion questions are formulated, issues posed, panelists or experts invited and a host of other matters when methodology is the topic at hand.

Correlation vs. Cause and Effect

In statistical research, one of the easiest mistakes to make is equating correlation with cause-and-effect. Just because two variables—say, the level of LMC staffing and test scores—are correlated does not necessarily mean one causes the other. Indeed, there is no statistical test of cause-and-effect, only correlation. Further, it is a matter of logic and judgment which variable is the cause and which the effect. There is also no test to distinguish cause from effect.

Given these facts about the limits of statistical analysis, the best one can expect to do is to establish statistically that two variables are correlated, make reasonable assumptions based on theory and practice about which is the cause and which the effect, and rule out other variables that may explain away the correlation.

Regression

While the concept of correlation—two variables varying together from case to case—is fairly widely understood, regression is not. Regression is an elaboration of correlation analysis that makes it possible to assess the relative strength of multiple potential predictor variables on another variable all at once. In this research, such potential predictors include variables reflecting the LMC program's level of development and a variety of school and community conditions, such as the pupil-teacher ratio, per pupil spending, poverty, and adult educational attainment. Regression weighs the impact of

each potential predictor while taking all of the other potential predictors into account. In a stepwise regression—the type employed in the Lance & Rodney studies—the strongest predictor is identified first, then the second strongest, etc.

Size of Correlation & Regression Coefficients

Generally, when correlation and regression analyses are conducted, the bottom-line question is "What percentage of the variation in one variable is explained by another?" In most fields of study, the expectation is that truly important predictors will explain large percentages of variation—say, upwards of 25 or 30 percent. Usually, variables that explain smaller percentages of variation—say, less than 10 percent—are discounted as not very important. For several reasons, such rigorous criteria have not been employed in this research.

From decades of educational research and statistics, it is widely recognized that socio-economic differences between schools and communities go far in explaining variations in the level of student performance from one school to another, indeed from one student to another. Because the impact of socio-economic factors is so powerful, because the number of potential predictors of academic achievement is so great, and because there are so many predictors for which data are not available (see below), there simply is not a lot of variation in student performance to be explained by anything in particular that a school can do—and for which data are available.

For these reasons, we believe it is noteworthy that data on school library media programs help to explain test score variations from school to school at all. Notably, in the Lance & Rodney regression analyses, some variables widely believed to be powerful predictors of academic achievement do not explain large percentages of variation at all. Such variables include the teacher-pupil ratio, per pupil spending by schools, and levels of adult educational attainment in the community. Indeed, more often than not, these variables are outweighed by library media variables.

Statistical Significance

One of the most misunderstood concepts in statistics is significance. Many believe that measures of statistical significance address the substantive importance of a finding. In fact, all an acceptable level of statistical significance means is that the sample in question—in the case of these studies, a few hundred schools representing all schools in a state—can be assumed to provide a reasonably accurate picture of the universe under study. The researchers have found that when the number of schools representing a particular grade level falls below 100 cases, it is difficult to achieve statistical significance. That does not mean that a correlation for a smaller number of cases is not valid or important; it simply means that, with relatively little data, it is impossible to know with reasonable certainty.

Quantitative vs. Qualitative Research

While quantitative research like the Lance and Rodney studies makes important contributions to understanding of the important role played by school library media programs, it has its limits. For instance, in these studies, data on instructional technology have been limited to numbers of computers in school libraries and elsewhere in schools and the number of typical weekly hours librarians spend helping to manage school computer networks. In order to truly understand the role played by technology in education, qualitative research is needed. Questions it could answer—that quantitative studies could not—include: How do teachers and librarians teach students using computers? How does the widespread availability of computers for instructional purposes alter the school's curriculum? How do computers affect the day-to-day interactions between teachers, librarians, and students?

Missing Data

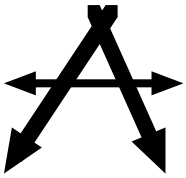
In the Lance & Rodney studies, every effort has been made to include data on all major potential predictors of academic achievement. To be included in this research, however, data had to be available for an entire state on a school-by-school basis. Thus, data summarized only at the state level and data available only for selected students in a school were equally unusable in this context. Data on student participation in extra-curricular activities is an example of the latter. One of the most important contributions other researchers could make to this line of research is to generate or otherwise obtain appropriate datasets for other suspected predictors of student performance.

Discussion Questions

1. What is the difference between correlation and cause-and-effect?

2. How was regression analysis utilized to reduce the likelihood that correlations could be explained as something other than cause-and-effect?

3. How do findings about statistical significance as well as the replication of these studies in multiple states reduce the likelihood that correlations could be explained as something other than cause-and-effect?



Reinventing the Library as a Learning Laboratory: A Workshop Starter for School Library Media Specialists, Teachers, and Administrators

Materials needed:

- Suggested script (below)
- Activity plans

Objective: To have teachers and administrators help the library media specialist do backwards planning to insure increased academic achievement.

Time: A minimum of one hour – two hours are better – three are best.

First activity: Present the one-minute presentation or the 15 minute presentation in this book about the potential of the library media program to enhance academic achievement.

Second activity: Put a library media specialist and one or two teachers and an administrator into small groups. Their task is to redesign a mundane instructional unit. Give them a sample unit on any topic containing the following usually boring elements:

- The teacher introduces the unit (one class period).
- Students read the chapter and answer chapter questions (one class period plus home work).
- Students select a topic of interest from the chapter and spend two class periods in the library constructing a two-page report (students are encouraged to come to the library before or after school if they need more information and are to write their report as homework).
- Students read their reports to the class (two class periods).
- Students take a test over the material covered (half a class period).

Rules for the redesign:

- The redesigned unit must not take any more time than the previous one.
- The library media specialist and the teacher must cooperatively plan, execute and evaluate the unit as a team.
- The new plan must guarantee to the administrator that the students will have learned more in the same amount of time or less.
- The experience in the library cannot be limited to students finding factual answers to a group of questions from library resources.

- The unit must draw upon the resources and facilities of the library media center.
- Student motivation/interest/involvement must be higher during the redesigned unit.
- There must be some form of information literacy integrated into the unit.
- There must be a drawing or chart/flowchart of the redesigned unit on a large piece of poster paper to post for the rest of the workshop participants to see. (The poster-size Post-a-Notes work very well)

Groups will need approximately 20-30 minutes to do the redesign.

Post all units and give a spokesperson no more than 30 seconds to explain their unit to the entire workshop (do not let more than 8-10 present).

Third activity: Present a new problem to the groups to solve: What were the common characteristics across the unit redesigns that would guarantee more learning in the same or less time? Give the groups 10 minutes to make a list as they view the posters.

Fourth activity: The workshop leader should then combine the best ideas into a set of principles with the entire group.

Fifth activity: Have the groups try to solve the following problem:
"Given the current resources (staff, materials, technology, and facilities), how many units a year could realistically be redesigned? And, if that number were to be doubled, what would have to happen to the organization of the school and the library to get the additional impact. Have groups prepare another poster for possible solutions to the problem.

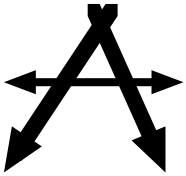
Sixth activity: Have groups wrestle with the assessment of a learning activity to identify progress in learning. "How would you evaluate the effectiveness of these redesigned lessons? Would there be some way of determining which strategies worked best? How would you evaluate the impact of this kind of collaboration on student achievement?"

Seventh activity: Encourage the teams to make a realistic plan/commitment before they leave the workshop.

Part Three

Implementing the Findings

Part three contains the authors' recommendations for planning to implement the research findings and measuring the impact of local programs on academic achievement. Most people want to know if national research would apply or has already applied to local programs. Do we already make a difference with our library media program, or could we plan an initiative to improve the local program and monitor the results on achievement?



Planning to Implement the Research Findings, and Measuring Local Impact

The inference of presenting the various research studies is that local programs make a difference in academic achievement as they do in Colorado, Pennsylvania, and Alaska and in other states as well. This is true, however, only in so far as a local program is like the strong library media programs in the research. Every library media specialist should be accountable by conducting various local studies that probe effectiveness.

Some statistics about library media programs are easy to collect but do not translate well into effectiveness. For example, a count of persons in the LMC each day will not account for uses of online resources 24/7 (24 hours a day, 7 days a week). Circulation figures have a little meaning, but do not measure amount read or information used. Currently, measures of the use of online information and information systems are just beginning to be developed. Watch for these or begin to develop them in your local area.

There are other tools that get closer to measuring impact. [46] Several are mentioned here that can be used.

Collaboration Logs. Collaboration logs are notebooks of "lesson plans" of jointly planned, executed, and evaluated learning experiences between library media specialists and teachers. If both the teacher and the library media specialist agree that a jointly-planned learning experience was "effective," then the record of that experience belongs in the collaboration log notebook. Unlike the football team, only winning games (effective units) would be counted. The first page of the notebook contains a summary chart of such experiences across the year and becomes a sort of "report card" for the LMC program. Collaboration logs are explained in several publications[47] and were used extensively in the major Library Power Project of the1990s.[48] The Lance research strongly suggests that there is a direct correlation between the amount of collaboration going on and academic achievement. Collaboration logs allow the library media specialist to demonstrate easily how much, with whom, and which parts of the curriculum are being affected the most by collaborative activities.

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[46] See the evaluation chapter in: Loertscher, David V. *Taxonomies of the School Library Media Program.* 2nd edition. San Jose CA: Hi Willow Research and Publishing, 2000.

[47] Loertscher, David V. *Reinvent Your School's Library in the Age of Technology*. Hi Willow Research & Publishing, 1999, p. 14-15. Also by the same author: *Taxonomies of the School Library Media Program.* 2nd ed. Hi Willow Research & Publishing, 2000, p. 81-84.

[48] See Webb, Norman Lott. "Collaboration." In: Zweizig, Douglas L. and Dianne McAfee Hopkins. *Lessons from Library Power*. Englewood, CO: Libraries Unlimited, 1999. p. 53-78.

Another variation on collaboration logs can happen easily when the library media specialist uses the LMC web page to post units of instructions that are currently being done in the LMC. Students in the various classes would log onto the LMC home page and in a section find their learning unit displayed. Clicking there would take them into their assignments, a webquest, or other directions. If the library media specialist adds the most current unit "at the top" of all the learning experiences listed, then older ones are pushed down the list. This list becomes the collaboration log of the units that were done in the library and can be printed out and analyzed by the library media specialist and administrators interested in tracking collaborative planning in the building.

Collection Maps. Collection maps are charts, diagrams, pictures, or maps of various segments of the library media collection that support the curriculum. This technique has appeared in the professional literature[49] for a number of years and was used extensively in the Library Power Project.[50] In the age of digital collections that are "invisible," collection mapping takes on an added dimension of reporting to stakeholders the quality of the collection and its strengths compared to the curricular demands placed on it. It is a tool for stakeholders to help push the direction collection development should take to support every teacher and learner. The Lance research indicates that there is a strong correlation between the availability of quality information at the student's elbow and academic achievement. Collection mapping is a technique to build the kind of information delivery system that will give every learner an equal opportunity to excel.

A Formal Locally-Based Research Project. Some schools and school districts need to carry out a longer-term assessment project of library media program effectiveness. Such research needs careful planning and should be long-term in nature rather than one-shot events. The description below is a brief outline of one possible study that could be tailored to local situations and available data.

Step One: Do a Baseline Study

First, analyze where your library media program is now on any or a combination of factors that the Lance studies probed. Then create a chart that can be shown to administrators, teachers, students, or parents.

Program Element	Brief Description	Graph of Changes over Last Five Years

Add a Graph of reading scores or other available assessment data from achievement tests for the past five years.

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[49] See Loertscher, David V. *Taxonomies of the School Library Media Program.* 2nd ed. Hi Willow Research & Publishing, 2000, p. 207-15. Also by the same author *Collection Mapping in the School Library Media Center*. Hi Willow Research & Publishing, 1993.

[50] See Zweizig, Douglas L. and Dianne McAfee Hopkins. *Lessons from Library Power*. Englewood, CO: Libraries Unlimited, 1999. p. 19-52.

Report other baseline research from collaboration logs, collection maps or other program elements.

Step Two: Plan Improvement, New Programs, New Interventions

For each program element above, describe briefly how that element will be changed or improved. Include action plans, responsibility, budget, timelines, etc. Outline and obtain organizational support. The broader the support by faculty, administrators, and parents, the more likely the intervention will be successful. Some initiatives will take increased funding. Others will require a shift in attitude or practice. Some will require extensive reorganization of how the library media center operates in the school. Still others will involve extensive cooperation and support from the learners in the school. For example, learners should be involved in the planning to raise their own reading scores by maximizing the amount they read. Learners who are motivated to raise their own achievement using the tools provided are very likely to succeed. Rather than creating some sort of competition, the emphasis should be on a collaborative project designed to help every learner achieve.

For each element, select an evaluation measure or assessment to measure the impact of the change or improvement. These can be locally-created measures or standardized measures already being given in the school. Because there is so much time devoted to assessment in the schools, careful coordination and use of one measure for several purposes is advisable.

Changes in programs often take a long time to translate into increased scores. For example, an enhanced reading program will take at least six months to a school year to start showing results. Improving information literacy skills in a single class will require at least three "research experiences" complete with teacher and library media specialist instruction and guidance before students can be expected to adopt and implement an information literacy model. The impact of improved collections takes time to acquire, disseminate, and convince the appropriate teachers and learners to use before an impact on learning will result. You may set expectations for results high, but make sure that the improved program has the time needed to work.

Step Three: Chart Results for a Non-Librarian Audience

Prepare simple charts/graphs/pictorial records showing results in a simple enough way to be understood by an audience who may not be library media specialists.

Program Element	What We Did	Outcome at Mile Post 1	Outcome at Mile Post 2	Outcome at Mile Post 3

Or:

Program Element	What We Did	Reading Scores Mile Post 1	Reading Scores Mile Post 2	Reading Scores Mile Post 3

Or:

Program Element	What We Did	Other Assessments Mile Post 1	Other Assessments Mile Post 2	Other Assessments Mile Post 3

Baseline data might be used as the Mile Post 1 result. A trend chart over time is often an effective chart to show. For example, chart progress across time showing the creation of digital networks and the growth of quality information available in the LMC, classroom, and the home compared to achievement scores across the same time period.

A second technique that is effective is to chart the progress of at-risk learners. Learners who already read well and are information literate are not likely to show progress on any measure we use simply because they are already topping out on the assessments. They may benefit greatly by our improved programs, but the measurements may not show that improvement.

More dramatic results might be demonstrated by students who are likely to show large improvement on assessments. For example, track results of a reading initiative in classrooms where there are a high percentage of students who are learning English. Look for results with students who have consistently scored low on achievement tests but who have enthusiastically participated in your program initiatives. Show examples of improvement by individuals, small groups within a class, an entire classroom, or the school as a whole. Focus on <u>every</u> individual, not just the whole. Emphasize the number of teachers making more effective use of information, technology, and collaborative learning experiences.

A few comments on Accelerated Reader and other electronic motivational programs. Electronic motivational programs are immensely popular in schools throughout the nation and these systems provide evaluative techniques and statistical analysis built into their programs. There are, however, dangers to these types of programs as well as pluses.

Principle one: If a young person is not doing well in the program, design something else. Better to have a reader than a learner who can read but hates it.

Principle two: There are a number of abuses of these types of programs that will become apparent as they are implemented or that other schools have experienced. Cut the abuses to as close to zero as possible.

Principle three: Every book in the library should be a potential read in the electronic program. If tests have not been created for a particular book, then have learners help create those tests. They can have their "computer" points plus points for items not in the system.

Principle four: Readers may not score higher on reading tests if they read only fiction. Try increasing the amount of non-fiction read so that students experience more expository text. This means that large quantities of interesting non-fiction should be available.

Principle five: Learners are not likely to score higher on reading tests if they read only material at or below their level. While learners should be encouraged to read widely, they should also consciously select materials that will challenge them, knowing that these materials will help them build skill. Again, large collections of interesting non-fiction as a part of the program will naturally attract interest rather than forcing a reader into some mold.

Principle six: Competitions are rarely successful in reading simply because we want <u>every</u> learner, not just the already-motivated, to build a life-long reading habit. Create collaborative goals and personal goals that build the idea that everyone wins as a reader.

Principle seven: The readers needing the most attention in programs such as these are those learning English and readers in the bottom quartile of scores. These are the readers to track carefully since they will make the most dramatic gains. There will be a certain percentage of these readers who will thrive in electronic programs and another percentage who will not. Individualizing a program for the most at-risk is still the best approach.

Appendices

In the appendices, various previously-published brochures and handouts have been reprinted here for the convenience of the user. All of these brochures and handouts may be freely reproduced.

Appendix A

Three Other Studies of Interest

Three other recent studies are linked to the effectiveness of strong library media programs: one from Indiana, another from Massachusetts and a third from Scotland. The Massachusetts and Indiana studies are of particular interest because they include mathematics as one of the topics studied. Historically, the teaching of mathematics and the use of libraries were not thought be associated. Math teachers and librarians were not the closest of collaborative partners. However, looking at both the following excerpts from the research, it would appear that there is a way that mathematics in strong schools is taught and the strength of the library media program.

In the Indiana study, strong mathematics programs are far beyond the old "plug and chug" mathematics mentality (learning the rules of math without learning its meaning). Strong math programs emphasize mathematics as a way of thinking. Couple this with strong library media programs that integrate information literacy into units of instruction and encourage wide reading, and suddenly a new possibility becomes more obvious. Wide reading and "thinking about information" rather than just cut, clip, copy, and regurgitate fall in the same strong school environment supportive of higher achievement.

The Indiana Study

The following Executive Summary is reprinted here from: *A Study of the Differences Between Higher- Lower-Performing Indiana Schools in Reading and Mathematics.* Prepared for The Indiana Department of Education by NCREL (North Central Regional Educational Laboratory, February, 2000. 37 p. Available on the web at: http://www.doe.state.in.us/reed/newsr/00May/reports0504200/ncrel.pdf

The authors' comments in the margins emphasize certain of the findings.

Executive Summary

Authors' Comments

In July 1999, Superintendent of Public Instruction Dr. Suellen Reed invited the North Central Regional Education Laboratory (NCREL) to submit a proposal to study the differences between higher- and lower-performing Indiana schools in grades K-3 in reading and mathematics. Dr. Reed stressed that she was most interested in gaining insight about why two schools, serving similar groups of students in similar geographic regions, often reflect markedly different performance levels.

Our study included a total of 20 rural, urban, and suburban elementary schools from across the state. The schools were matched along demographic and geographic variables. One school in each pair was higher performing than the other. NCREL conducted the study using observation, survey data, and interviews with teachers, the curriculum coordinator, and the principal at each school.

Results

Three of the four original research questions focused on the differences between schools that performed higher than would be expected and those that did not in regard to three issues: state test scores, school-based characteristics, and instructional practices. These questions were answered in unison.

What emerged was a set of findings that links well with the research on effective reading and mathematics instruction. Namely, the research suggests that higher-performing schools tend to implement a coherent instructional framework and then continuously improve on it. Higher-

Notice how these schools follow the advice of Krashen and McQuillan saying that

performing schools, for example, may use a wide array of literature, including trade books, newspapers, and basal readers to support their reading/language arts program. They teach skills well, but do so in a context of higher purpose. All pieces work together to create a coherent plan for teaching reading and for moving all students to proficiency by the end of the third grade.

learners should have a mountain of materials for free voluntary reading.

Higher-performing schools also tend to hold high expectations for all students, engage in continuous student assessment, and use those assessments to guide daily instructional practice. Simply put, student program is consistently monitored and used to inform good teaching. When students show gaps in understanding, effective teachers use that information to quickly identify the problem and redirect to quickly identify the problem and redirect their instructional practice. Teaching practice is adjusted to ensure that all students move forward in their learning.

Finally, and most likely through exemplary and sustained professional development experiences, teachers at higher-achieving schools tend to act as coaches and guides for student discovery. Students are expected and encouraged to contribute to the learning process. Instead of one-way communication from the teacher to the student, knowledge at higher-performing schools tends to be shared and generated among the teacher and his or her students, and between the students themselves. Students become active coparticipants in their own learning. They discuss their thinking and strategies for solving problems. As a result, students in higher-performing schools tend to gain deeper conceptual understanding of reading and math content. This understanding often translates into higher performance on both basic skills and the problem-based tests.

Notice the identical goals of teaching information literacy in the library and those applauded here in the teaching of math.

Policy Implications

The fourth research question dealt with policy that might be formulated as a result of this inquiry. The implications of this study for policy must be interpreted carefully, however. The following points are examples of options policymakers might consider appropriate for action to the extent that they relate to improving student achievement in reading and mathematics in Indiana. It is important to note that these policy options are a result of the observed differences between higher- and lower-performing schools in Indiana, and while they closely mirror national research on the same issues, they may be more-or different ways-to improve student achievement in reading and mathematics.

1. Increase student access to instructional and print materials in lower-performing schools, including regular and flexible access to a working library.

Sage advice.

2. Based on the findings in this study, lower-performing schools would appear to benefit from additional analyses of their instructional materials by a reading specialist to avoid over-reliance on the one approach to reading in the early grades.
3. Develop a state database of alternative student reading assessment and intervention materials that all schools could easily access to provide teachers with a useful benchmark on each student's progress through Grade 3.
4. De-emphasize the push to cover mathematics content over meaning especially in lower-performing schools.

Notice the emphasis in teaching thinking and meaning

5. Provide sustained opportunities for teachers in lower-performing schools to team-teach mathematics with mentor teachers in higher-performing schools to improve classroom implementation of new mathematics curriculum.
6. As teachers are increasingly asked to teach in ways very different from the training they received, ongoing opportunities for professional development in both reading and math instruction continue to be of critical importance.

Conclusion

The compulsion to respond to a perceived crisis leads some policymakers – as well as school and district leadership – to suggest the adoption of what they believe to be teacher-proof" commercial materials for reading or math instruction. This response fails to give appropriate weight to the teacher, along with many other elements of the school context (e.g., high-quality instruction, strong links with parents, systematic evaluation of progress), in explaining the lack of achievement in mathematics and reading in lower-performing schools. No school, no classroom, no child is exactly like any other. Good teaching of reading and mathematics cannot simply be a matter of using the "right" method, because any method may be more or less effective depending on its fit with the school, the classroom, the teacher, and the needs of individual children.

The Massachusetts Study

The second study was conducted in Massachusetts with the purpose of looking specifically at school libraries and math scores.

The study citation is: Baughman, James C. *School Libraries and MCAS Scores: A Paper Presented at a Symposium Sponsored by the Graduate School of Library and Information Science, Simmons College, Boston, Massachusetts, October 26, 2000.* Preliminary Edition. Available on the web at: http://artemis.simmons.edu/~baughman/mcas-school-libraries/

Executive Summary **School Libraries and MCAS Scores**	**Authors' Comments**
School libraries and student achievement are strongly related. The results of the Simmons Study of school libraries, based on a statewide survey, confirm the value of school libraries. The findings from the Simmons Study can be summarized as follows:	
➢ At each grade level, school with library programs have higher MCAS (Massachusetts Comprehensive Assessment System) scores.	
➢ At each grade level, students score higher on MCAS tests when there is a higher per pupil book count.	Replicates the Lance studies.
➢ At each grade level, schools with increased student use have higher MCAS scores.	
➢ At each grade level, school libraries with more open hours score higher on the MCAS tests.	
➢ At the elementary and middle/junior high school levels, students score higher on the MCAS tests when there is a library instruction program.	Again, the correlation between information literacy and good math thinking.
➢ At the elementary and middle/junior high school levels, average MCAS scores are higher in schools with larger per pupil expenditures for school library materials.	
➢ At the elementary and high school levels, students who are served by a full-time school librarian have higher MCAS scores than those in schools without a full-time librarian.	Corroborates the Lance studies.
➢ At the elementary and high school levels, library staff assistance (nonprofessional help) makes a positive difference in average MCAS scores.	
➢ At the elementary level, students score higher on the MCAS tests when the library is aligned with the state curriculum frameworks. (This fact is especially true in schools that have a high percentage of free school lunches.)	Good math thinking shows up both in Indiana and Massachusetts.
➢ At the high school level, schools with automated collections have higher average MCAS scores.	

The Scotland Study

Researchers Dorothy Williams and Caroline Wavell, researchers at The Robert Gordon University in Aberdeen Scotland did a two-year study in Scotland probing the impact of school libraries and achievement which they reported late 2001. Their study was conducted in two phases.

Phase One: Perceptions of Impact

Librarians, students, teachers, and senior management staff were asked to rate the most important impacts that the library program **MIGHT** deliver. The collective e perceptions of impact were expressed as:

- The acquisition of information and wider general knowledge;
- Skills development in the areas of finding and using information, ICT skills and reading skills and their cross-curricular use and potential for equal opportunities;
- Higher achievement in school work;
- Developing a study and reading habit encourage independent working;
- Motivation to learn and enjoyment of learning;
- The ability to use these skills confidently and independently and the ability to transfer these skills across the curriculum and beyond school;
- The development of interpersonal and social skills, including working collaboratively.

Phase Two: Case Studies Analyzing Evidence of ACTUAL Impact

Specific learning activities in six schools were studied in depth to probe what the researchers termed "indicators of impact." The indicators included:

- Evidence of motivation (attitude, desire, and willingness of students to perform a task)
- Evidence of progression (success of students doing assigned tasks)
- Evidence of independence (students making progress as independent learners during a research project)
- Evidence of interaction (students working in a collaborative atmosphere)

To measure the above indicators, the researchers used the following data collection techniques:

- Observation of pupils at work in the library.
- Discussion and questioning of pupils during and after doing research.
- Examination of pupil's work in progress and written work.
- Discussion with members of the teaching staff.
- Examination of reading records.

Findings:

Evidence of motivation was seen across all the case units by pupil enjoyment and participation and absorption in the tasks set whether that was a project, looking for reading materials or in the commitment of the pupil librarians. The indicators were identified as:

- Verbal and written expression of enthusiasm by pupils;
- Pupil willingness to participate in the activity set;
- Pupil application and absorption in the task;
- Willingness of pupils to continue their work either by returning to the SLRC [library] or at home;
- A change in attitude towards work over a period of time.

Evidence of progression was most easily identified as awareness of or ability to use a specific skill associated with the finding of information and sometimes the use and presentation of information. It was also possible to identify examples of the application of skills in new contexts. The indicators were identified as:

- Awareness of or the ability to use specific skills associated with finding, using and presenting information;
- The use of new knowledge in work or discussion of new knowledge;
- Personal achievement or quality of work;
- The ability to apply skills or knowledge in a new situation.

Evidence of independence was identified in individual pupils who appeared to have mastered a skill and were seen to have the confidence and competence to proceed and progress unaided, either in the class session or in their own time. The pupil librarians were able to use their initiative by instigating their own activities and tasks. The indicators were identified as:

- The ability and confidence to continue and progress with a task unaided;
- Awareness of the need for help and the confidence to seek it;
- Awareness of the need for organization and time management in work;
- Use of initiative;
- Increased self-esteem.

Evidence of interaction was particularly relevant in the junior curriculum related activities and with the pupil librarians, where discussion and interaction were encouraged. Interaction was seen as a learning experience in itself, as a means of enhancing the learning in other themes and as a means of establishing the learning that individuals were engaged in. The indicators were identified as:

- Discussion with others about the task;
- Peer cooperation;
- Ability to mix with other groups;
- Use of appropriate behavior.

Appendix B

School Libraries and Reading in Secondary Schools – Still a Good Idea to Raise Academic Achievement

By David V. Loertscher, Victoria B. Winkler, and Janet Lynne Tassell[51]

Introduction

For many reasons, teachers in the secondary schools of this country face the challenge of many students who are not reading at grade level. The impact, of course, is evident in every single department of the school, and it depresses the achievement scores of every student who does not read at grade level or above. In a recent visit to a conference in Indiana, Phyllis Land Usher, the Asst. Superintendent in the Indiana State Department of Education introduced me to Victoria Winkler, a school librarian. As Victoria and I talked, she began to explain the reading program in her high school that had made a major difference in achievement. Since such programs are in short supply and since librarians and teachers are often at a loss to combat the pernicious disease of illiteracy, I asked Victoria to write a one-page description of her program. Many school librarians have turned their attention, as they should, to the teaching of information literacy and away from the reading program. However, the challenge of the 21st century and its information technology still seems to require excellent readers to participate in an information-rich and a technology-rich environment. Where many librarians formerly spent the majority of their time promoting reading, they now find themselves providing less time. But that does not solve the reading crisis in many schools. Victoria's experience as a school librarian is an exemplar of taking a leadership role rather than trying to conduct the entire literacy campaign alone. Where a school librarian may have had an 80/20 split of time with 80% of time spent on reading, that balance shifts to 20/80 with the 80% spent in a leadership role.

The following is Victoria's brief letter to me describing what has happened in her high school. I have added footnote commentary at critical points to amplify certain aspects of the program. The reader is encouraged to do several readings of the letter to absorb its fascinating content and gain the full impact of its concepts.

[editor: If the following letter could be reprinted in a box with the footnotes on the side rather than at the bottom of the page, it would be wonderful. The layout is critical for full impact.]

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[51] Victoria Winkler is library media specialist at Heritage Hills Jr.-Sr. High School and Janet Tassell is Director of Learning and Assessment in North Spencer School Corporation, Santa Claus, Indiana.

The Letter

Editorial Comments

Heritage Hills Jr.-Sr. High School in Lincoln City, Indiana has a student enrollment of approximately 1100 students, with 375 of those being seventh and eight graders. The school is located in a rural area in southwestern Indiana, principally serving people from farming and industrial backgrounds. In the early 1990s, we became aware of too low reading scores and too few students reading for pleasure. How do you get students to read for pleasure? How do you make students hungry for good reading? Independent reading for the school community became a top priority.

We read Krashen's *the Power of Reading* aloud to each other at a faculty meeting.

Absolutely amazing! How does a faculty take the time and have the sustained interest to do this in any school? Yet, what a wonderful beginning.

We visited other schools with exemplary reading initiatives.

Finding and visiting exemplary programs is a critical but time-consuming and expensive commitment. Obviously, this faculty and administration were committed.

We hired a reading consultant who taught us the value of reading aloud to the students.

Hiring consultants is another major expenditure. Hiring quality consultants is a challenge.

We began selling paperback novels in our bookstore.

They sell books because there is no local bookstore that every students can visit easily.

The focus of our annual summer institute for administrators, faculty and staff is reading and its impact on student learning.

Notice that this effort is just not a "single workshop and forget it" event, but interest and study is sustained over time.

Because of our new awareness of the value of sustained silent reading (SSR) for students, we initiated a fifteen-minute session at the beginning of the day once every two weeks. This has evolved to thirty minutes of SSR daily for middle school students and twenty minutes of SSR daily for high school students. Our sustained silent reading time called READ-IN is always held at the beginning of the school day.

Note that SSR began slowly but had a mid-course correction. SSR is only effective when it is a regular occurrence in the school and has the potential to establish a long-term reading habit.

When we started READ-IN, teachers complained of students not having access to pleasure reading materials in the classrooms. Today we have 400-500 books in every classroom in the school. These libraries consist of popular young adult paperback novels, nonfiction books on everything from cars to cooking to sports, magazines, and newspapers.

Classroom collections are a necessary feature of a good reading program, but the historic problem with these collections is that they are usually too small and they are only interesting to students for the first month of school and then ignored after that. I would recommend that these classroom collections rotate out of the library and that the students in the classroom care for these collections to make sure that they not only rotate but have fresh and exciting titles students want to read.

Teachers have been trained to be reading role models by our reading consultant. Also, we try to keep teachers abreast of the latest young adult literature that is going to hook the students. Teachers make semiannual trips to a large bookstore to select books for their classroom libraries.

When teachers are readers and talk to their students about it and students see them reading, the tone is set for the entire school.

All seventh graders also make a trip with their teachers to the bookstore to select a book for their homeroom library. For almost 80% of the seventh graders, this is the first time they have ever been to a bookstore.

Students need to have regular visits to both public libraries and bookstores. We have here a rural school that does not have a local bookstore, but even in many urban settings, students cannot visit public libraries or bookstores because these resources are located across gang territory lines. Notice that the school is paying the bill for the books students select.

We also have a teacher book club where each member has a month to read the same book. This group, called R.E.A.D. (Readers Eating and Discussing), meets for their book discussions. Talk in the teachers' lounge is now frequently about books and ideas instead of work conditions and job stress.

This is an amazing testimony that the reading program has made a difference in the culture of the faculty – a critical element in any school whose administration and faculty "get it together."

Some of the R.E.A.D. selections are purposely the same as Young Hoosier and Eliot Rosewater state award books that the students are reading. This leads to more discussions of book literature among faculty, staff, and students.

Note that the librarian links the school to state reading initiatives and no doubt a number of national initiatives that fit the school's agenda.

Teachers read aloud across the curriculum.

This is high school! So many secondary teachers feel that reading aloud is an elementary activity. Not so!

Both students and faculty engage in book swaps.

Another good idea, book swap, is a strategy in which students and teachers exchange books every few minutes to read where the other person left off. The benefit is that students are exposed to many different genre.

Students swarm the library before the school day begins looking for more of what they found in their classroom libraries. Students gather at the stacks recommending books to each other.

Remember that lots of research studies show that recommendations from a friend are the number one reason children and teens select their next book to read.

Author visits, read and feeds, book fairs, and love of reading advertising throughout the building further support our reading initiative show us that everyone of us is reading more because we enjoy it.

Notice that there are numerous ideas and activities going on throughout the school year – the faculty and librarian are not content with a one-shot reading motivational event.

Our reading climate is improving as shown in our research.

[end of letter]

Building a Reading Community

The school librarian, the administration, and the faculty in this school have come together in a school-wide effort to build basic literacy. This sets into motion a powerful force to accomplish a very difficult and challenging task. Most notably, they have based their collaborative effort on a solid research base and they have pulled in the resources, the ideas, and pushed their own creativity to achieve a better result. It is also notable that while their initial alarm is low test-taking scores, they do not adopt a teach-to-the test strategy that might offer short-term gains. Instead, they opt for a longer-term effort that not only will sustain growth for the school, but also provide students with a magnificent life-long learning tool.

For a century, school librarians have been the all-too-silent partners of teachers and administrators in the battle for basic literacy. In the past decade, books have often taken a back seat to the exciting developments in technology with much spending being diverted toward machines. While we would not advocate less spending in technology, we would advocate more spending to keep the print collections of the school fresh, attractive, and current to give the nation's children books they "want to read." There are too many distractions for young people, too few students who speak English well, and too few schools who really care about literacy enough to mount a corrective effort. Victoria's letter demonstrates that basic literacy does not need a rocket scientist to develop, but it does require collaboration, commitment, change, money, and long-term focus and leadership. Quick fixes in education are no better than trying to patch up antiquated air traffic control systems or local voting procedures. There is a point when one more patch on the ragged jeans just won't work.

And Now the Research

Janet Lynne Tassell, Director of Learning and Assessment for North Spencer County School Corporation, files the following research report of the Heritage Hills Jr.-Sr. High School reading program:

When looking at the past Indiana Statewide Testing for Educational Progress (ISTEP+) results for our students, we found promising results that evidenced improvement in reading. Because of the many changes in the statewide test over the past few years, it is difficult to draw many of our desired conclusions. Thus, we decided, rather than comparing one group of students to another, we would follow whole groups of students as they progressed throughout their years of testing, allowing us to measure their growth at different points in their schooling. This provides a better indication of growth.

In looking at the graduating class of 2002, we found that the norm-referenced portion of the standardized test showed positive growth in the reading comprehension area. We were very interested in movement of students from the bottom quartiles to the upper quartiles in reading comprehension skills. From the eighth to the tenth grade we had an increase of students into the upper quartiles from the bottom quartiles. Furthermore, in

"Language Expression" we found an increase in the upper quartiles and a large decrease in the lowest quartile as seen in the following:

Quartiles	8th Grade	10th Grade
1	42	55
2	42	48
3	32	34
4	37	12

The norm-referenced test results also showed that our students are maintaining reading comprehension levels close to grade level. The reading levels should be at or above: sixth -- 6.1, eighth grade -- 8.1, and tenth grade -- 10.1. At the 50th percentile, students should be reading at these reading levels. As seen in the following table, our data is especially impressive with our 50th percentile and bottom 25th percentile students:

Percentile	6th Grade	8th Grade	10th Grade
75th	12.4	12.7	12.9
50th	9.3	9.5	12.8
25th	6.6	7.8	10.1

From this analysis we have found growth in the area of English/language arts over the 1994-1999 testing results. However, our frustrations abound in our limitations of how we can compare data due to the inconsistencies of the test composition and report designs. Therefore, we were careful to utilize the limited but consistent data that could be gleaned over this time period.

In a survey conducted here in the spring of 2000, students and staff overwhelmingly indicated that the expanding classroom libraries are fundamental in increasing students' love and motivation of reading. Results from a fall 2000 parent survey show that 82% see their child reading for pleasure at home. Sixty-eight percent of the parents have noticed an increase in the time their child has spent reading in the last two to three years. Some of their comments include: "[My daughter] always talks about reading in the Read-In. When she gets home from school, she cannot wait to continue reading where she left off … I have noticed her enjoyment for reading has increased tremendously. Thank you so much for this program."

Comments on the Research

Not all schools or school districts are fortunate to have a person such as Janet Tassell who can track and do locally-based research, but research is a critical component of any major school-wide project. School librarians are wise to make connections between their programs and the research efforts of the school districts where they reside. In today's world it does not seem to be enough just to be a doer; one must be a documentor. The frustration of changing assessments does not seem to be going away. We all would wish that tests could measure both content knowledge as well as process skills (information literacy/knowing how to learn). The current political climate keeps jerking us all around

and some school communities just can't seem to move forward. It is refreshing to see one district with its head on straight.

Appendix C

Fast Facts

The following Fast Facts brief entitled “Proof of the Power” was published November 19, 1999 and summarizes the Colorado II, Alaska, and Pennsylvania studies. This document is available online at http://www.lrs.org and is reprinted here for the convenience of the reader.

FAST FACTS
Recent Statistics from the Library Research Service

ED3/110.10/No. 164 November 19, 1999

Proof of the Power

A First Look at the Results of the Colorado Study ... and More!

The Latest Statewide Studies

During 1998 and 1999, three statewide studies of the impact of school library media centers on academic achievement have been conducted. The forthcoming reports on these studies are:

- **Information Empowered: The School Librarian as an Agent of Academic Achievement in Alaska**,
- **Measuring Up to Standards: The Role of Library Information Programs & Information Literacy in Pennsylvania Schools**, and
- **How School Librarians Help Kids Achieve Standards** (a.k.a. *the second Colorado study* or *Colorado II*).

The Information Power Model & Previous Research Findings

The Information Power model developed by the American Association of School Librarians (AASL) focuses on three major themes for library media (LM) programs—collaboration, leadership, and technology—and three major roles for library media specialists (LMSs)—learning and teaching, information access and delivery, and program administration.

The findings of previous research on this topic can be summarized by LMS role:

Learning & Teaching

Previous research demonstrates that academic achievement of K-12 students is higher where the LMS:

- is part of a planning/teaching team,
- teaches information literacy independently, and
- works one-to-one with students in a flexibly scheduled program.

Information Access & Delivery

Previous research also associates higher academic achievement with:

- a quality collection of books and other materials selected to support the school's curriculum and used by both teachers and students,
- state-of-the-art technology that is integrated into the learning/teaching and information-seeking processes, and
- cooperation between library media centers (LMCs) and other libraries, especially public libraries.

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Program Administration

Previous research has also established that higher academic achievement is associated with:

- LM programs that are staffed to play an integral role in the school (minimally, at least one LMS with at least one aide),
- principal support of the LM program and collaboration between classroom teachers and the LMS,
- information technology that extends the reach of the LM program into the school's classrooms and labs, and
- a well-organized, formally requested budget adequate to support these conditions.

Each of the three study reports will include a detailed analysis of the previous literature as well as an exhaustive bibliography.

Motivations for Further Research

With the above-mentioned facts well established by previous research, one might rightly ask why further research was necessary.

A prime motivation for the new studies was to confirm the findings of the original Colorado study, The Impact of School Library Media Centers on Academic Achievement. Both practitioners and policymakers want to know that those findings

- can be replicated using standards-based tests,
- hold up over time, and
- apply to other states.

In addition, all three of the new studies seek to expand on the original Colorado study by demonstrating the value of

- specific activities that define the LMS role,
- principal and teacher support,
- flexible scheduling, and
- technology as part of LM programs.

Samples

Between them the three new studies involve over 800 schools in three states, and the participating schools serve both elementary and secondary grades—both middle and high school levels.

The Alaska study includes 211 of the state's 461 schools—46 percent of the schools serving the three tested grades: 4, 8, and 11.

The Pennsylvania study includes 435 of the state's 1,691 schools serving three tested grades: 5, 8, and 11. The 435 participating schools constitute an 87 percent response rate from a 500-case sample.

There are 200 schools in the new Colorado study. These participants constitute a 67 percent response rate from a 300-case sample of the state's 1,178 schools serving two tested grades: 4 and 7. (Statewide standards-based testing at the high school level has not yet begun.)

School Library Surveys

Alaska's school libraries were surveyed in Fall 1998. Counterpart surveys in Colorado and Pennsylvania were conducted in Spring 1999. While there were some minor differences among these surveys, all three were based on Colorado's 1998 questionnaire, and all three addressed five common sets of issues:

- staffing levels,
- time spent on a variety of staff activities,
- collection holdings by format,
- usage levels, and
- available technology and its functionality.

Available Data

In addition to original data collection via the above-mentioned surveys, all three studies also relied heavily on available data, including:

- state reading test scores (various grades indicated above),
- community characteristics, such as its
  - level of adult educational attainment,
  - socio-economic differences (e.g., income levels, poverty status), and
  - racial/ethnic demography.
- school characteristics, such as
  - teacher-pupil ratio,
  - teacher characteristics (e.g., percent with master's degrees, average years of experience, average salary), and
  - student characteristics (e.g., racial/ethnic demography, those eligible for the National School Lunch Program-—an indicator of socio-economic status)

Successful Types of Library Media Predictors

Four major types of library media program data were found to be predictors of academic achievement in at least two, if not all three, states:

- level of LM program development (e.g., staffing level, collection size, program expenditures),
- staff activities related to the Information Power themes of leadership, collaboration, and technology,
- levels of LM program usage, and
- technology (e.g., school-wide networks providing access to licensed databases as well as the Internet/World Wide Web).

Alaska Findings

The Alaska study yielded five major predictors of academic achievement:

- level of librarian staffing,
- time spent by librarians
  - delivering information literacy instruction to students
  - planning cooperatively with teachers, and
  - providing in-service training to teachers.
- a collection development policy that addresses the issue of challenges or requests for reconsideration of materials,
- the potential for Internet connectivity (i.e., computers with modem capability and telecommunications lines), and
- a relationship with the local public library.

Notably, this study could only demonstrate the efficacy of librarians, because there were too few cases of schools with both a librarian and an aide.

See Figure 1 for a graphic representation of the relationships among these variables and academic achievement in Alaska.

Pennsylvania Findings

The Pennsylvania study also yielded five major predictors of academic achievement:

- the presence of both librarians and support staff,
- the level of library expenditures (excluding staff salaries),
- the presence of rich collections of print and electronic information resources (i.e., books, periodical subscriptions, CD-ROM reference titles),
- the extent to which technology is utilized to extend the library information center's reach into the school's classrooms and labs (e.g., Access Pennsylvania, licensed databases, Internet/World Wide Web), and, pivotally,

- the extent to which information literacy is integrated in the school's approach to standards and curriculum (e.g., time spent by library information specialists meeting with principals; teaching cooperatively and independently; attending faculty, curriculum committee, and standards committee meetings; managing information technology).

See Figure 2 for a graphic representation of the relationships among these variables and academic achievement in Pennsylvania.

Colorado Findings

Five sets of predictors of academic achievement were yielded by the second Colorado study:

- library media program development,
- leadership,
- collaboration,
- technology, and
- flexible scheduling.

Library Media Program Development

As in the original Colorado study, a single factor encompasses all of the data about the library media program's level of development. Several characteristics of LM programs are strongly interrelated with each other, and, together, they constitute a positive, statistically significant predictor of academic achievement. A program's standing on this development factor is driven by

- the number of LMS and total staff per 100 students,
- the number of volumes per student as well as the number of print subscriptions and CD-ROM reference titles per 100 students, and
- LM expenditures per student.

Leadership

One of the major themes of Information Power is leadership. Library media specialists who exhibit leadership are more likely to have a positive effect on academic achievement. In Colorado, indicators of such leadership include time spent by the LMS:

- meeting with the principal,
- participating in faculty meetings and serving on standards and curriculum committees, and
- holding meetings of building and district level LM staff and participating in meetings of other LM professionals beyond the district (e.g., regional, state, and national conferences).

Collaboration

In Information Power, collaboration is billed above leadership, but the findings of this study indicate that leadership's impact on academic achievement is to be the prime mover behind collaboration with teachers. Where the LMS exhibits leadership, she or he is also more likely to:

- plan cooperatively with teachers,
- teach cooperatively with teachers as well as independently,
- provide in-service training to teachers, and
- manage the computer network that links the LMC, classrooms, and labs.

Technology

One of the strategic mistakes of the original Colorado study was to collect data on numbers of computers in or under the jurisdiction of the LMC alone. Of course, many computers used in instruction are located in classrooms and labs, and this time they were not left out. The only stipulation on which computers to count beyond those in the LMC was that they had to be networked to LM resources, such as the library catalog, licensed databases, and the Internet/World Wide Web. Statistical indicators of the importance of this kind of technology and the LM program's role in it include:

- the number of computers per 100 students,
- the number of computers providing access to licensed databases per 100 students, and
- the number of Internet-accessible computers per 100 students.

Flexible Scheduling

Previous research indicates that students perform at higher levels when their access to the LMC is not limited to regularly scheduled class visits. Students should be free to visit the LMC as their learning needs dictate. Ideally, some of these visits would still be in whole class groups, but others would be as part of smaller groups and individually. In reality, a fairly common practice is to schedule classes for regular LMC visits to provide planning and meeting time for teachers. All too often, during these periods, the LMC staff are little more than babysitters. An interesting, unexpected finding of this study is that individual student visits to the LMC correlate with test scores, but group visits—at least, group visits of the sort most common now—do not.

See Figures 3 and 4 for graphic representations of the relationships between and among these predictors and academic achievement in Colorado. There are two figures in order to indicate differences in these relationships for grades 4 and 7.

FAST FACTS No. 164 – November 19, 1999

Proof of the Power: A First Look at the Results of the Colorado Study … and More!

Key Common Findings

While findings from the three states studied most recently vary somewhat, they share some key common findings:

- School library media specialists can and do exert a positive and significant effect on academic achievement.
- Principal support of the LM program and teacher collaboration with the LMS are critical to making the LM program an integral part of teaching and learning.
- For the LMS to be a pivotal player, support staff are essential. A professional LMS cannot do her or his job if tethered to the LMC.
- The LMS has a teaching role—both as a co-teacher of information literacy to students and as an in-service trainer of teachers.
- LM programs that contribute most strongly to academic achievement are those with the technology necessary to extend access to information resources beyond the LMC to classrooms and labs throughout the school.

Distinguishing Results

While the three studies share common findings, each also offers some distinguishing results.

- The Alaska study was the first to suggest the important role of the LMS as an information literacy teacher of students as well as an in-service training provider for teachers.
- The Pennsylvania study demonstrates that the synergy of LM staff, collections, and technology is most powerful where there is an integrated, collaborative approach to teaching information literacy.
- The Colorado study reveals that the relationship between leadership and collaboration is critical. Classroom teachers are more willing to collaborate with the LMS if she or he has taken the initiative to become an assertive, involved leader in the school. In addition, this study provides additional evidence linking flexibly scheduled LM programs with higher levels of academic achievement.

Controlling for School & Community Differences

As in the original Colorado study, each of these studies confirms that the relationships described above are not explained away by other school differences, such as:

- teacher-pupil ratio,
- teacher or student characteristics, and
- per pupil expenditures.

Likewise, these relationships cannot be explained away by community differences, such as

- adult educational attainment,
- socio-economic differences (e.g., income levels, poverty status), and
- racial/ethnic demography.

Recommended Actions

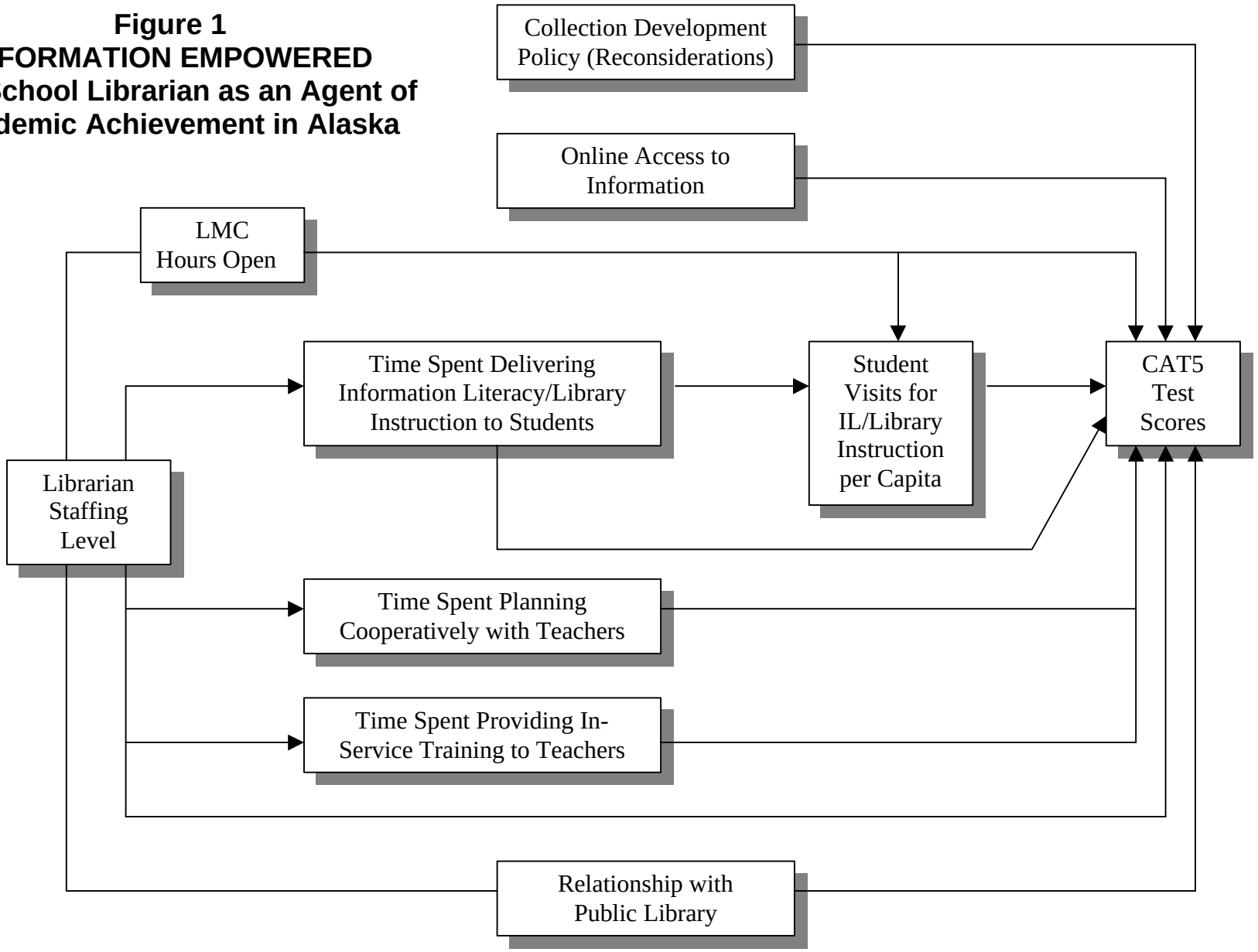
The combined weight of these three studies recommends several fairly obvious actions:

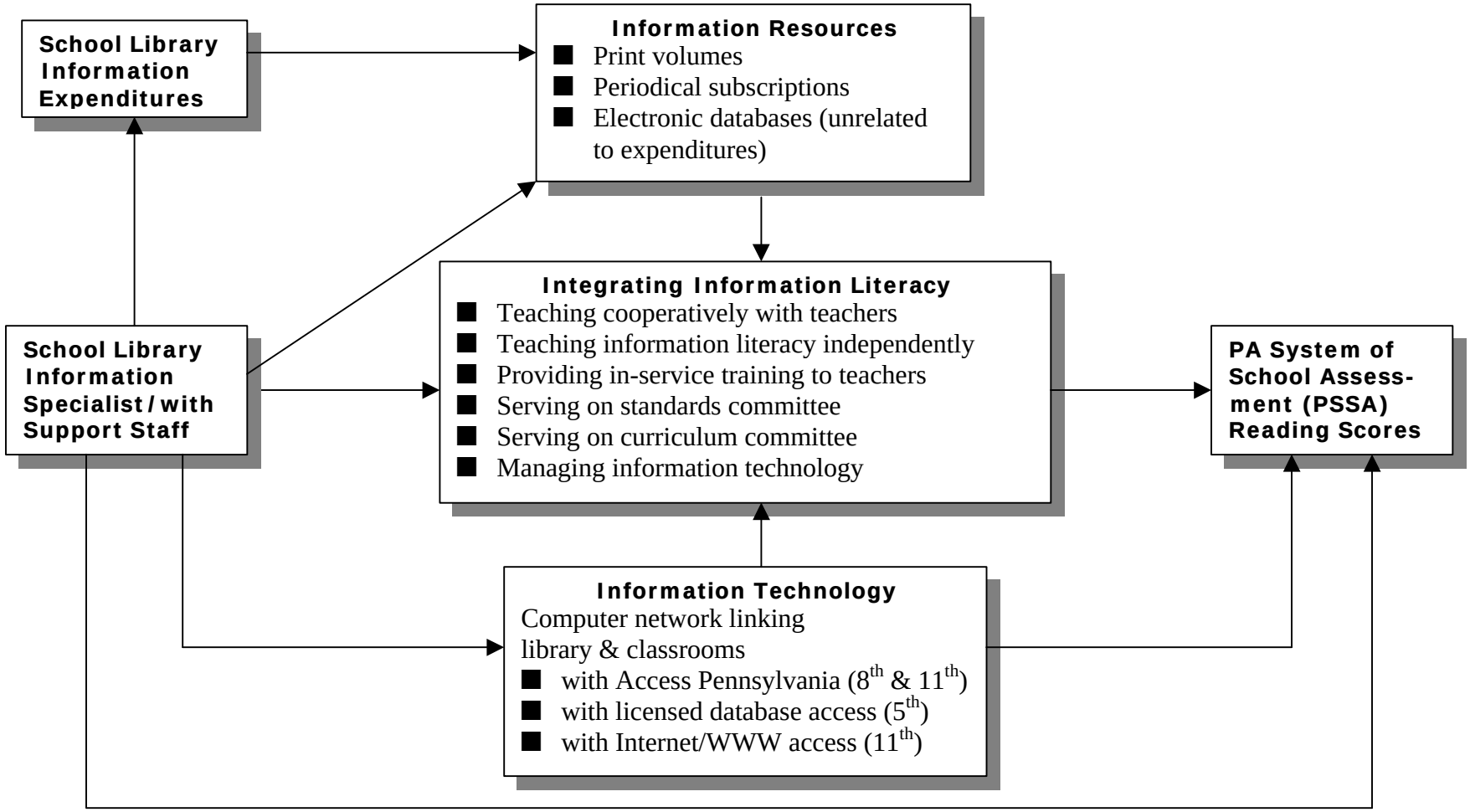
- Library media programs should be funded to have adequate professional and support staff, information resources, and information technology. Such conditions are necessary if not sufficient alone to generate higher levels of academic achievement.
- Library media specialists must assert themselves as leaders in their schools. Principals can do much to make this possible, including adopting policies and practices and communicating expectations that encourage LMSs to act as professional educators and classroom teachers to accept them as colleagues.
- The library media program cannot be limited to the library media center as a place. Just as LMSs must involve themselves in the design and delivery of instruction, technology must be used to make information resources available to teachers and students wherever they may be in the school.
- While Internet access is important, the LMS has an important role to play in ensuring that teachers and students have access to high-quality licensed databases from which current, authoritative information may be obtained.
- Wherever possible, schools should adopt policies of flexible scheduled access to the LMC. Available evidence indicates that LMCs that are reasonably accessible to students contribute more to academic achievement.

For More Information

For information about how to obtain copies of the reports for each of these studies, watch the Library Research Service web site, www.lrs.org, or contact the individual state library agencies. Also on the LRS web site, a PowerPoint presentation corresponding to this document is available. These slides were used in a session at the November 1999 joint conference of the American Association of School Librarians and the International Association for School Librarianship.

Figure 1
INFORMATION EMPOWERED
The School Librarian as an Agent of Academic Achievement in Alaska





Controlling for School Differences

- School expenditures per pupil
- Teacher characteristics (education, experience, salaries)
- Teacher/pupil ratio
- Student characteristics (race/ethnicity, poverty)

Controlling for Community Differences

- Adult educational attainment
- Race/ethnicity
- Families in poverty

Figure 2

MEASURING UP TO STANDARDS

The Role of Library Information Programs & Information Literacy in Pennsylvania Schools

Figure 3

How School Librarians Help Kids Achieve Standards

The 2nd Colorado Study

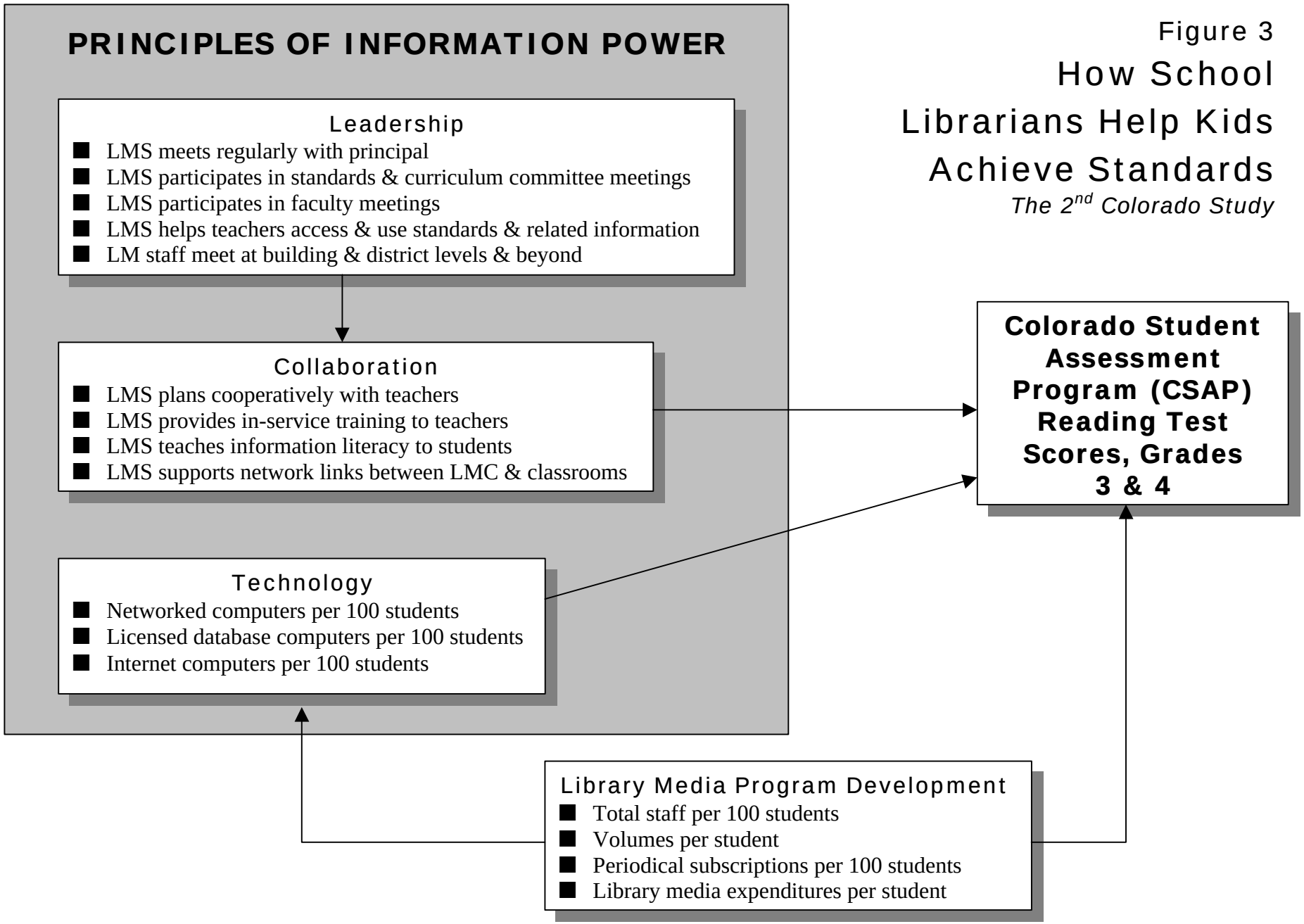
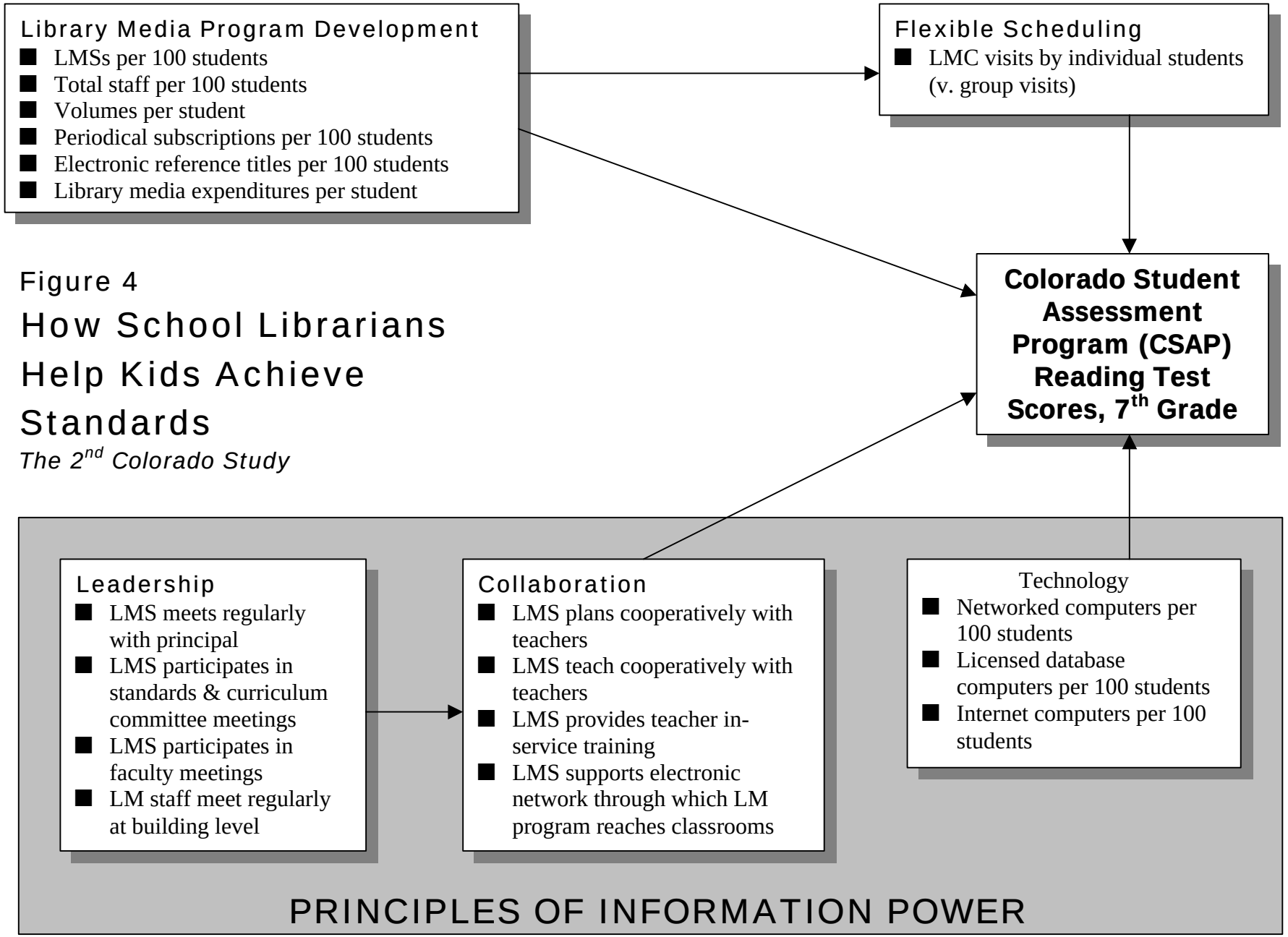


Figure 4

How School Librarians Help Kids Achieve Standards

The 2nd Colorado Study



Appendix D

The Alaska Study
Executive Summary and Handout

The following Alaska Summary brief entitled “Information Empowered” was published in 1999. It is followed by a handout summarizing the Alaska study Both these documents are available online at http://www.lrs.org and are reprinted here for the convenience of the reader.

INFORMATION EMPOWERED

The School Librarian as an Agent of Academic Achievement in Alaska Schools

Keith Curry Lance
Christine Hamilton-Pennell
Marcia J. Rodney
with
Lois Petersen
Clara Sitter

Alaska State Library
Juneau
1999

Executive Summary

This study is an assessment of the impact of Alaska school librarians on academic achievement in the state's public schools. It examines the direct relationship between such staffing and student performance, and identifies selected activities of library media staff that affect test scores. Other conditions of library media center operation—hours open, available technology, relationship with the public library, and selected policies—are also considered as potential predictors of academic achievement.

New Information Power Principles & Previous Research

This study's findings expand upon those of **The Impact of School Library Media Centers on Academic Achievement** (also known as "the Colorado study"), verify almost half a century of previous research on that topic, and demonstrate empirical support for the principles of **Information Power: Building Partnerships for Learning** (1998).

Methodologies

During the 1997-98 school year, library media centers in 211 Alaska public schools were surveyed about their staffing levels, hours of operation, staff activities, usage, technology, policies, and cooperation with public libraries. To the survey results, other data were added. For grades four, eight, and eleven, each school reported the percentage of students scoring below proficient, proficient, and above proficient on Version 5 of the California Achievement Tests (CAT5) of reading, language arts, and mathematics.

Using three analytical techniques—crosstabulation, comparison of means, and correlation—each library media program characteristic was assessed as a potential predictor of academic achievement. Relationships among potential library media predictors that might create indirect effects on academic achievement were also examined. After the direct and indirect effects of librarians on academic achievement were assessed, their effects relative to other school and community factors were analyzed via multiple regression.

Findings

School librarians are the "information empowered," because they play three critical roles in the learning community. They are teachers, information specialists, and administrators. In each of these roles, they empower students and teachers to meet high standards of academic achievement.

Following is a summary of positive, statistically significant relationships confirmed by this study:

Library Media Specialist Staffing

- Test scores tend to be higher where there is
  - a librarian,
  - a full-time librarian rather than a part-time one,
  - a part-time librarian rather than no librarian at all.

Library Media Center Hours Open

- Higher levels of librarian staffing lead to
  - longer LMC hours of operation,
  - higher levels of library media staff activity,
  - higher student usage, and consequently
  - higher test scores.

Staff Activities

- The higher the level of librarian staffing, the greater the percentage of library media staff hours dedicated to
  - delivering library/information literacy instruction to students,
  - planning instructional units cooperatively with teachers, and
  - providing in-service training to teachers and other staff.

- Regardless of level of librarian staffing, the more library media staff time devoted to these activities, the higher the test scores.

Library Media Program Usage

- The more often students receive library/information literacy instruction in which library media staff are involved, the higher the test scores.

Partnerships, Technology & Policies

Test scores also tend to be higher where

- there is a cooperative relationship between the LMC and the public library.
- the library media program provides online access to information—particularly the facilities required to reach the Internet and the World Wide Web—and
- the LMC has a collection development policy that addresses reconsideration of materials.

Controlling for Community and School Conditions

In addition, this study weighed the relative effects on academic achievement of library media specialist staffing, other school characteristics (i.e., per pupil spending, teacher-pupil ratio), and community conditions (i.e., adult educational attainment, Alaska Native population, poverty). While community conditions proved to have the strongest impact, the librarian-pupil ratio outweighed both per pupil expenditures and teacher-pupil ratio at the elementary level and the teacher-pupil ratio at the secondary level. Throughout the study, school size was controlled for by using ratios, such as the librarian-pupil ratio (i.e., typical weekly hours of librarian staffing per 100 students).

The small size of the data set and correlation between explanatory variables prevent our being able to assess the effect of library media services relative to other explanatory variables, while also controlling for community conditions. However, given these limitations, the data generally support the hypothesis that library services are beneficial for students in all communities.

In tackling these issues, this study broke new ground by taking recommended next steps beyond previous research. Its assessments of the efficacy of specific staff activities and online access to information are two examples of this accomplishment. This study also verifies that relationships to academic achievement found previously for school libraries in other states and communities are not anomalous, but apply equally to Alaska's school libraries. Like earlier studies, this one demonstrates that its key finding—the positive relationship between school librarians and test scores—cannot be explained away entirely by differences in school size, funding, and teacher staffing levels.

Test scores tend to be higher for all types of schools where

- there is a school librarian
- library staff spend more time
  - delivering library/information literacy instruction to students
  - collaborating with teachers on instructional units
  - training teachers in information access
- students visit the school library more frequently

Full-time librarians are more likely to engage in key instructional activities than either part-time librarians or non-librarian staff.

Test scores tend to be higher for all types of schools where the library

- is open longer hours
- has a cooperative relationship with the public library
- provides online access to information via the Internet and the World Wide Web
- has a policy regarding selection and reconsideration of books and other materials

All of these relationships are both positive and statistically significant.

These relationships cannot be explained away entirely by differences in

- school size
- school funding
- teacher staffing levels

While community conditions such as the education level of adults (especially parents), absence of cultural and language barriers, and economic prosperity are important, these are variables over which schools have no control.

The work of a school librarian has also been shown to be an important factor in high student achievement levels, and this variable we CAN control.

How a School Librarian Can Make a Difference

- keeping the library open longer
- providing more in-service to teachers
- collaborating with teachers
- delivering more library/information literacy instruction to students
- promoting more frequent student visits to the LMC
- building a stronger relationship with the public library

RESULTS: Higher Test Scores

About the Study

This study was conducted by the Library Research Service (Denver, Colorado) under contract to the Alaska State Library and with the cooperation and collaboration of staff of the

- Alaska State Library,
- Alaska Department of Education and Early Development, and
- Institute for Social and Economic Research, University of Alaska, Anchorage.

The sample for the study included 211 public elementary and secondary schools in Alaska that included grades four, eight, and eleven—those to which the California Achievement Tests, Version 5, were administered during the 1997/98 school year.

All sample schools participated in the 1998 Survey of School Library Media Centers in Alaska.

Want higher test scores?

A school librarian can make the difference!

Results from

INFORMATION EMPOWERED

The School Librarian as an Agent of Academic Achievement in Alaska

Appendix E

The Colorado II Study
Executive Summary and Handout

The following Colorado II Summary brief entitled “How School Librarians Help Kids Achieve Standards” was published in 2000. It is followed by a handout summarizing the Colorado study Both these documents are available online at http://www.lrs.org and are reprinted here for the convenience of the reader.

How School Librarians Help Kids Achieve Standards

The Second Colorado Study

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Hi Willow Research & Publishing

April 2000

Executive Summary

Colorado Student Assessment Program (CSAP) reading scores increase with increases in the following characteristics of library media (LM) programs: LM program development, information technology, teacher/library media specialist (LMS) collaboration, and individual visits to the library media center (LMC). In addition, as participation increases in leadership roles, so does collaboration between teachers and LMSs. The relationship between these factors and test scores is not explained away by other school or community conditions. (See Figures 1 and 2, pp. 10-11.)

Library Media Program Development

CSAP reading test scores increase with increases in:

- LMS hours per 100 students (7th grade),
- total staff hours per 100 students,
- print volumes per student,
- periodical subscriptions per 100 students,
- electronic reference titles per 100 students (7th grade), and
- library media expenditures per student.

Information Technology

Where networked computers link library media centers with classrooms, labs, and other instructional sites, students earn higher CSAP reading test scores. These higher scores are particularly linked to the numbers of computers enabling teachers and students to utilize:

- LMC resources, either within the LMC or networked to the LMC,
- licensed databases, and
- Internet/World Wide Web.

Collaboration

A central finding of this study is the importance of a collaborative approach to information literacy. Test scores rise in both elementary and middle schools as library media specialists and teachers work together. In addition, scores also increase with the amount of time library media specialists spend

as in-service trainers of other teachers, acquainting them with the rapidly changing world of information.

Test scores increase as library media specialists spend more time:
- planning cooperatively with teachers (7th grade),
- identifying materials for teachers,
- teaching information literacy skills to students,
- providing in-service training to teachers, and
- managing a computer network through which the library media program reaches beyond its own walls to classrooms, labs, and offices (7th grade).

Flexible Scheduling

Students have greater freedom in middle school, and are often able to choose whether or not they visit their school's LMC and use the resources there or take them home. Choosing to visit the LMC as an individual, separate from a class visit, is also a strong indicator of higher test scores. Middle schools with high test scores tend to have LMCs that report a high number of individual visits to the LMC on a per student basis.

Indirect Effects

While not having a direct effect on test scores, leadership involvement on the part of the library media specialist (LMS) has a strong impact on whether or not the LMS is working closely with teachers and students. At both elementary and middle school levels, the more the LMS is involved in school and library media professional activities, the higher the level of collaboration. Collaboration, in turn, does have a direct impact on test scores.

Higher levels of collaboration result from:
- meeting regularly with school administration,
- serving on standards and curriculum committees,
- working with faculty at school-wide staff meetings, and
- meeting with library media staff at the building level.

At the elementary level, library media program development (levels of staffing, collections and expenditures) and technology are strong predictors of each other as well as of test scores. The seventh grade level sees a strong relationship between library media program development and flexible scheduling.

School & Community Differences

These predictors of academic achievement cannot be explained away by:

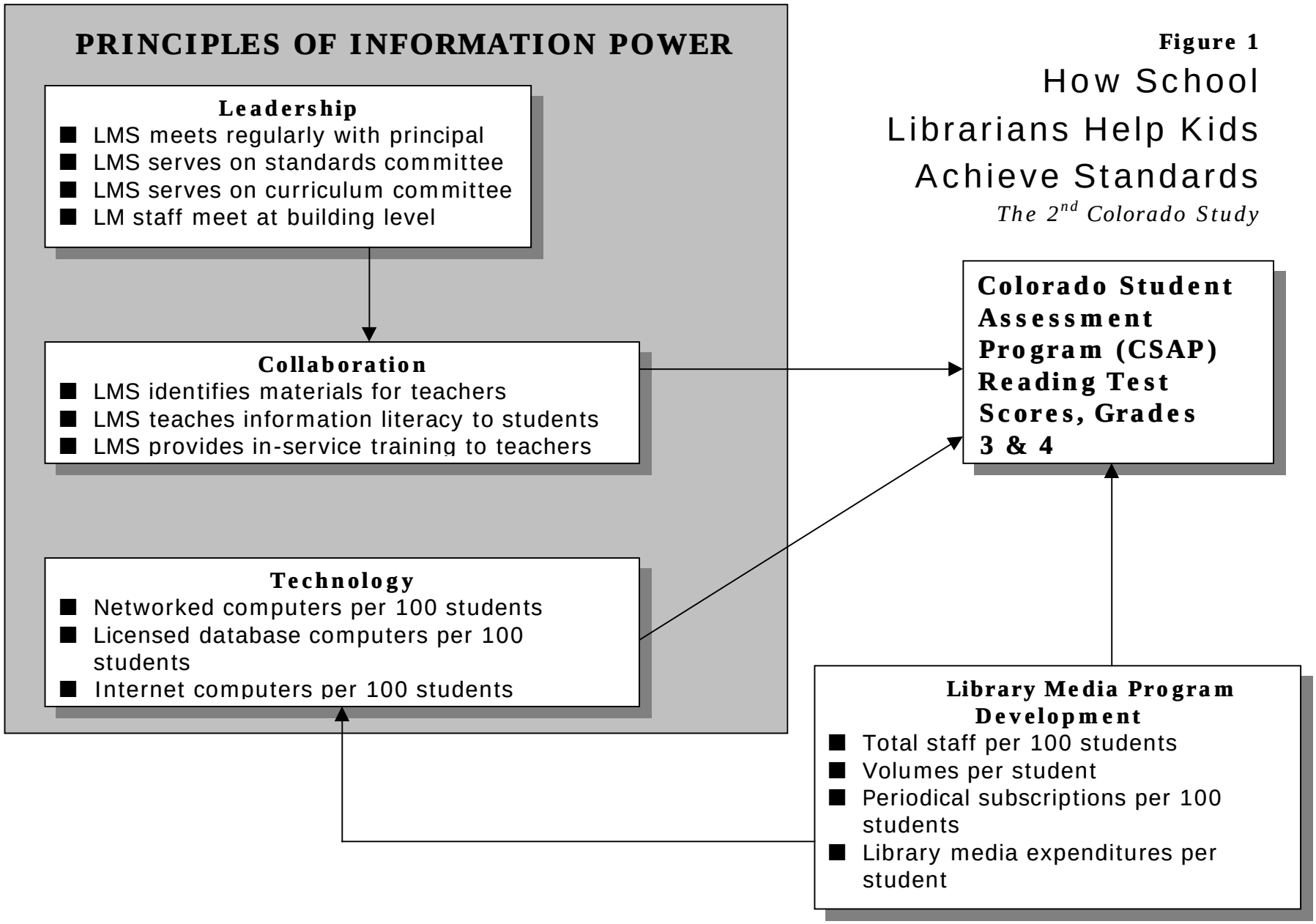
- school differences, including:
  - school district expenditures per pupil,
  - teacher/pupil ratio,
  - the average years of experience of classroom teachers, and
  - their average salaries; or
- community differences, including:
  - adult educational attainment,
  - children in poverty, and
  - racial/ethnic demographics.

How much will a school's test scores improve with specific improvements in its library media program? The answer depends on the library media (LM) program's current status, what it improves, and how much it is improved. When LM predictors are maximized (e.g., staffing, expenditures, and information resources and technology), CSAP reading scores tend to run 18 percent higher in fourth grade and 10 to 15 percent higher in seventh.

Figure 1

How School Librarians Help Kids Achieve Standards

The 2nd Colorado Study



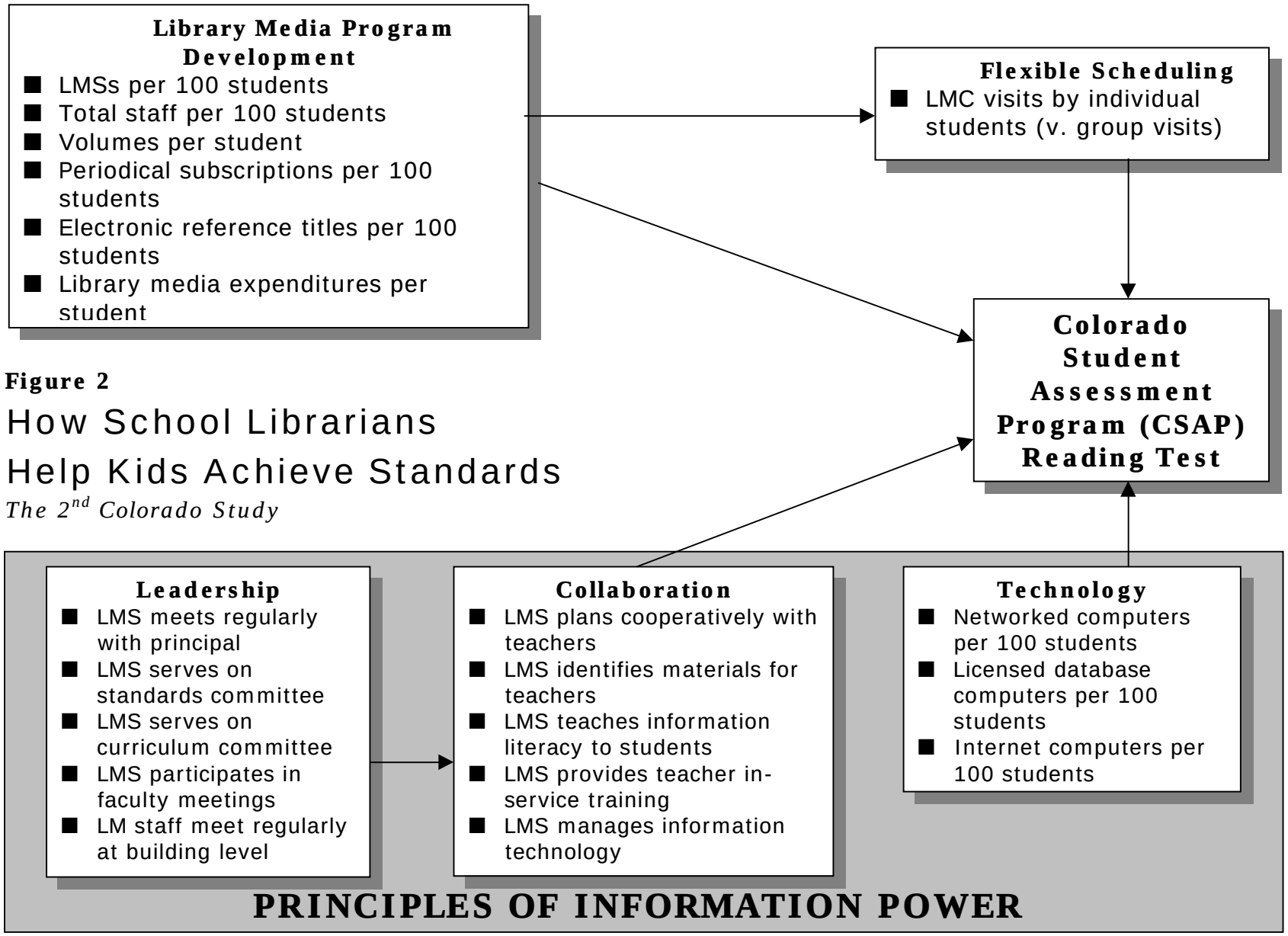
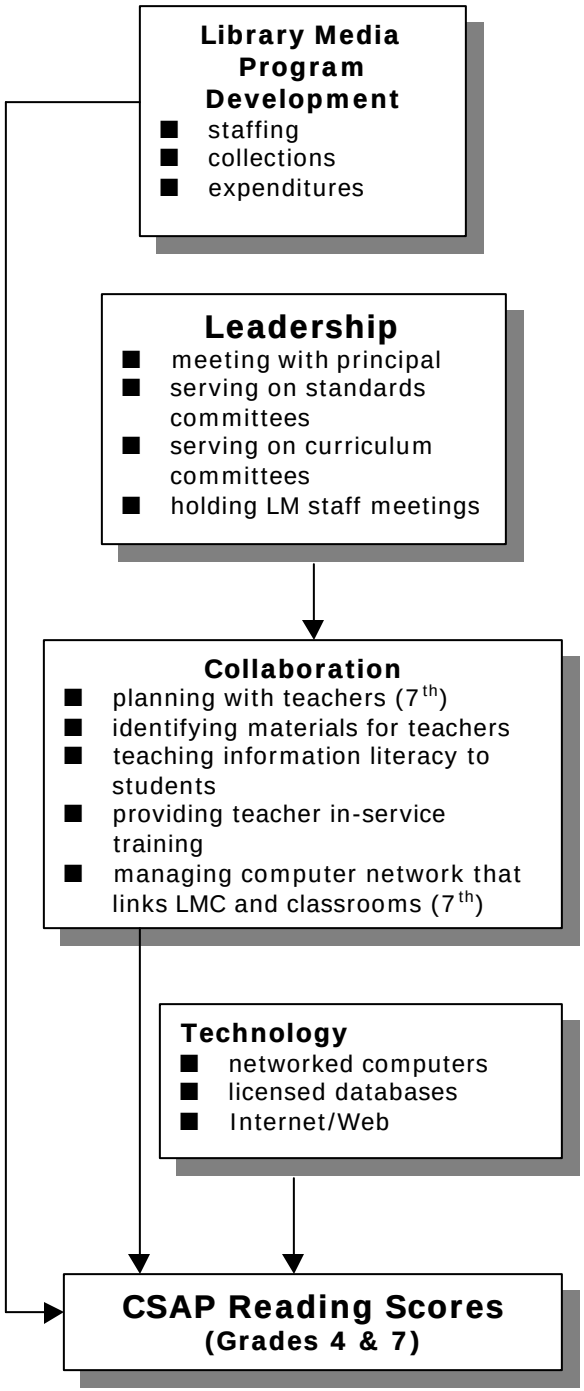


Figure 2

How School Librarians Help Kids Achieve Standards

The 2nd Colorado Study



Other School Library Impact Studies

For more information about recent research on the impact of school library media programs on academic achievement, visit the Library Research Service web site, http://www.lrs.org. Links are provided to:

- **The Impact of School Library Media Centers on Academic Achievement** (the original 1993 Colorado study),
- **Information Empowered**: *The School Librarian as an Agent of Academic Achievement in Alaska* (1999), and
- **Measuring Up to Standards**: *The Role of Library Information Programs & Information Literacy in Pennsylvania Schools*

Contact Information

Direct questions and comments about the Colorado study and requests for a speaker on this topic to:

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Colorado State Board of Education
Seated January 12, 1999

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How School Librarians Help Kids Achieve

Standards

The Second Colorado Study

Keith Curry Lance
Library Research Service
Colorado State Library
Colorado Department of Education

Marcia J. Rodney
Library & Information Services Department
University of Denver

Christine Hamilton-Pennell
Library & Information Services Department
University of Denver &
Mosaic Knowledge Works

Colorado Student Assessment Program (CSAP) reading scores increase with improvements in library media programs. (Average percentage increases from lowest to highest rated LM programs: 4th/7th grade)

Schools with well-developed library media programs average 10-15%/18% higher reading scores. Well-developed programs are indicated by staffing level, collection size and age, and expenditures.

When library media staff collaborate with classroom teachers, reading scores average increases of 8%/18-21%. Key collaboration activities of library media staff are planning with teachers, teaching information literacy, and providing in-service training to teachers.

The librarian presents lessons specifically geared to the Colorado State Standards. Through collaborative planning with teachers, each unit includes an assessment tool, such as a rubric made in consultation with each classroom or grade level.

Madeline Wood, Library Media Specialist
Samuels Elementary, Denver

When schools have computer networks that extend the library media program's reach into classrooms and labs, reading scores rise 6-13%/18-25%. Such networks provide access to licensed databases and the World Wide Web.

When access to library media centers is scheduled flexibly, reading scores improve 13-22%. Flexible scheduling allows students to visit the LMC individually.

Collaboration activities are more likely to occur where the library media specialist is a school leader. She or he meets regularly with the principal, serves on standards and curriculum committees, and holds library media staff meetings.

Every grade level teacher meets and plans with our library media specialist to create and develop units that will improve student learning.

Gaynell C. Lawrence, Principal
Schmitt Elementary, Denver

These predictors of academic achievement cannot be explained away by school differences, such as per pupil spending, teacher-pupil ratio, and other teacher characteristics (experience, salaries). Likewise, these predictors are not explained away by community differences, such as high adult educational attainment and low numbers of poor and minority children.

The Library Media Center has become the center of the school. It is central to what goes on in the classroom. It's a busy place. Students come before and after school to use resources. Throughout the day, teachers come with entire classes, send small groups to work with the library media specialist, or send individuals to find information they need. Teachers come alone during planning time or before or after school to meet with the library media specialist, find resources, use the Internet, etc.

Phyllis Meyer
Teacher—Technology Resources
Baker Middle School
Denver

Appendix F

The Pennsylvania Study
Executive Summary and Handout

The following Pennsylvania Summary brief entitled “Measuring Up to Standards” was published in 2000. It is followed by a handout summarizing the Pennsylvania study Both these documents are available online at http://www.lrs.org and are reprinted here for the convenience of the reader.

Measuring Up to Standards

The Impact of School Library Programs & Information Literacy in Pennsylvania Schools

Keith Curry Lance
Marcia J. Rodney
Christine Hamilton-Pennell

Pennsylvania Citizens for Better Libraries
604 Hunt Club Drive
Greensburg, PA 15601

February 2000

This research was supported with a Library Services and Technology Act (LSTA) grant administered by the Office of Commonwealth Libraries, Pennsylvania Department of Education

Executive Summary

Pennsylvania school library programs can make a difference supporting the efforts of schools to measure up to standards. Pennsylvania System of School Assessment (PSSA) reading scores increase with increases in the following characteristics of school library programs: staffing, information technology, and integration of information literacy into the curriculum. In addition, as library staffing, information resources and information technology rise, so too does the involvement of school librarians in teaching students and teachers how to find and assess information. The relationship between staffing and test scores is not explained away by other school or community conditions. (See Figure 1, p. 9.)

Staffing

PSSA reading test scores increase with increases in:

- school librarian staff hours; and
- support staff hours.

Information Technology

Where networked computers link school libraries with classrooms, labs and other instructional sites, students earn higher PSSA reading test scores. These higher scores are particularly linked to the numbers of computers enabling teachers and students to utilize:

- the ACCESS PENNSYLVANIA database;
- licensed databases; and
- Internet/World Wide Web.

Integrating Information Literacy

Information literate students know how to use information and ideas effectively. The “keystone” finding of this study is the importance of an integrated approach to information literacy teaching. For school library programs to be successful agents of academic achievement, information literacy must be an integral part of the school’s approach to both standards and curriculum.

Test scores increase as school librarians spend more time:

- teaching cooperatively with teachers;
- teaching information literacy skills independently;
- providing in-service training to teachers;
- serving on standards committee;
- serving on curriculum committee; and
- managing information technology.

Indirect Effects

In addition to its direct effect on academic achievement, higher levels of school library program staffing—especially certified school librarians — predict:

- higher expenditures;
- larger and more varied collections of information resources;
- increased access to information technology for teachers and students; and
- more integrated approaches to information literacy, standards and curriculum.

The more print and electronic information resources available through the school library, the greater amount of time spent by the school librarian on information literacy—that is, teaching students and teachers how to access and use such resources.

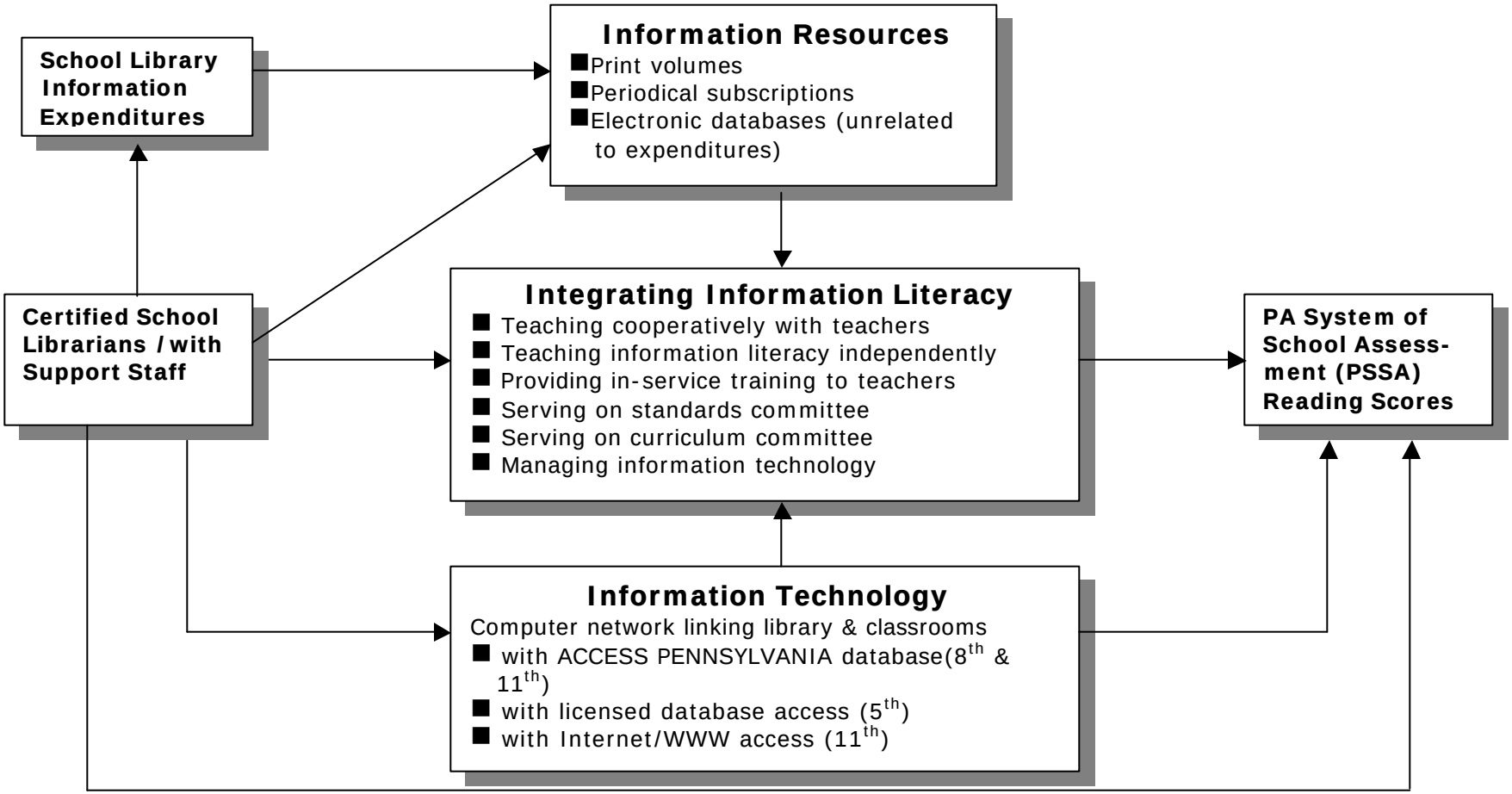
School & Community Differences

These predictors of academic achievement cannot be explained away by:

- school differences, including:
  - school expenditures per pupil;
  - teacher characteristics (education, experience, salaries);
  - teacher/pupil ratio; and
  - student characteristics (poverty, race/ethnicity), or
- community differences, such as:
  - adult educational attainment;
  - families in poverty; and
  - racial/ethnic demographics.

How Much Can Scores Rise With Good School Library Programs?

How much will a school's test scores improve with specific improvements in its school library program? The answer depends on the program's current status, what it improves, and how much it is improved. When all library predictors are maximized (e.g., staffing, library expenditures, information resources and technology, and information literacy activities of library staff), PSSA reading scores tend to run 10 to 15 points higher.



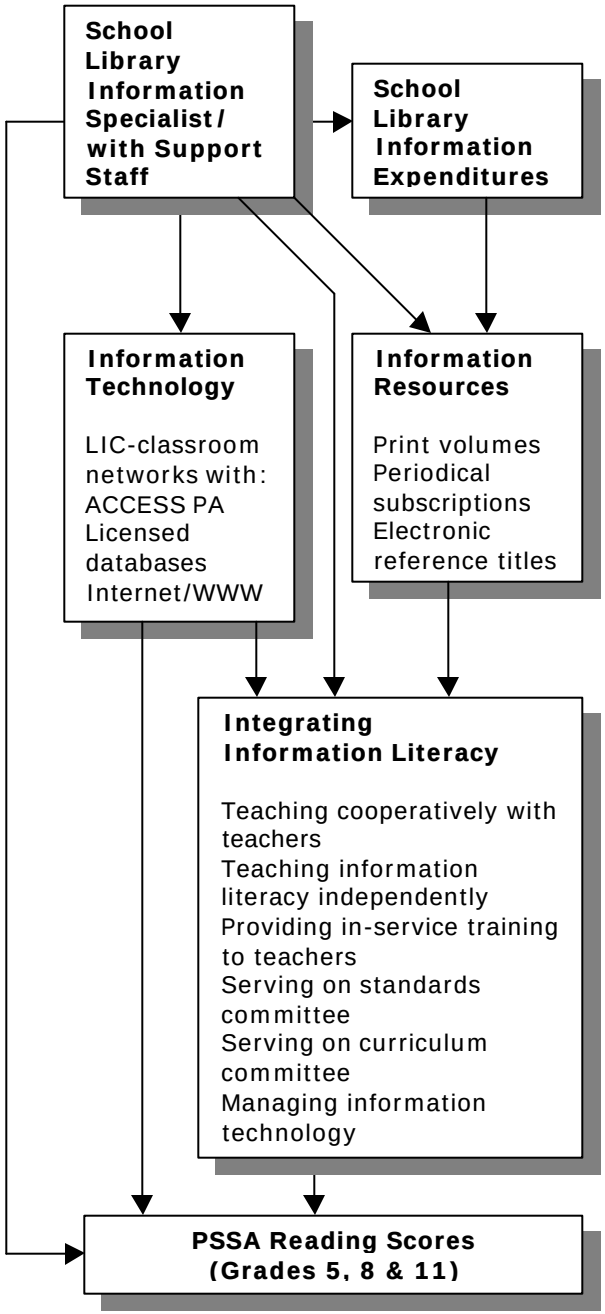
Controlling for School Differences

- School expenditures per pupil
- Teacher characteristics (education, experience, salaries)
- Teacher/pupil ratio
- Student characteristics (race/ethnicity, poverty)

Controlling for Community Differences

- Adult educational attainment
- Race/ethnicity
- Families in poverty

Figure 1
MEASURING UP TO STANDARDS
The Impact of Library Information Programs & Information Literacy in Pennsylvania Schools



Other School Library Impact Studies

For more information about recent research on the impact of school library information programs on academic achievement, visit the Library Research Service web site, http://www.lrs.org. Links are provided to:

- **The Impact of School Library Media Centers on Academic Achievement** (the original 1993 Colorado study),
- **Information Empowered**: *The School Librarian as an Agent of Academic Achievement in Alaska* (1999), and
- **How School Librarians Help Kids Achieve Standards** (2000).

Contact Information

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Measuring Up to Standards

The Role of Library Information Programs & Information Literacy in Pennsylvania Schools

Keith Curry Lance
Marcia J. Rodney
Christine Hamilton-Pennell

Pennsylvania Citizens for Better Libraries

Pennsylvania System of School Assessment (PSSA) reading scores increase with increases in:

Staffing

- School librarian staff hours
- support staff hours

Information Technology

Networked computers linking library & classrooms

- with ACCESS PENNSYLVANIA Database
- with licensed databases
- with Internet/World Wide Web

Integration of Information Literacy with the Curriculum

Time spent by school librarians...

- Teaching cooperatively with teachers
- Teaching information literacy independently
- Providing in-service training to teachers
- Serving on standards committee
- Serving on curriculum committee
- Managing information technology

With increases in staffing—especially LIS staffing—there are corresponding increases in

- Expenditures
- Information Resources
- Information Technology
- Integration of Information Literacy with Curriculum

In addition, increased integration of information literacy is associated with

- higher levels of staffing,
- larger collections of information resources, and
- information technology that takes the LI program closer to teachers and students

Our library has become a “kid magnet" where students are engaged in active, authentic learning. *Patricia Kolencik, North Clarion High School*

Teachers say to students when faced with a need for information: "have you asked the librarian, have you been to the library,?" Teachers and librarians work together. *Lois McNicol, Garnet Valley High School*

These predictors of academic achievement cannot be explained away by

School Differences

- School expenditures per pupil
- Teacher characteristics (education, experience, salaries)
- Teacher/pupil ratio
- Student characteristics (poverty, race/ethnicity)

Community Differences

- Adult educational attainment
- Families in poverty
- Racial/ethnic demographics

When we open before school, students are poring over leisure reading. They've even asked if I would set up a cappucino bar. *Paul Scaer, JR Masterman School*

A computer center …a library … teaching -- the result is a student body with good skills. *Annabel Grote, Upper Moreland High School*

Appendix G

The Oregon Study Handout

The following Oregon handout entitled: “Good Schools Have School Librarians” was published in 2001. This document is available on the web at http://www.oema.net/Oregon_Study/OR_study.htm and is reprinted here for the convenience of the reader.

Oregon schools with the best reading scores tend to have stronger library media programs than schools with the lowest scores.

At most grade levels, when the confounding effects of poverty are taken into account, library media programs exert a measurable impact on test scores while other school variables, such as per pupil expenditures and teacher-pupil ratio, do not.

Other School Library Impact Studies

For more information about recent research on the impact of school library media programs on academic achievement, visit the Library Research Service web site, http://www.lrs.org. Links are provided to:

- **The Impact of School Library Media Centers on Academic Achievement** (the original 1993 Colorado study),
- **How School Librarians Help Kids Achieve Standards**: *The Second Colorado Study* (2000),
- **Information Empowered**: *The School Librarian as an Agent of Academic Achievement in Alaska* (2nd edition, 2000), and
- **Measuring Up to Standards**: *The Role of Library Information Programs & Information Literacy in Pennsylvania Schools* (2000)

Contact Information

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E-mail: keithlance@earthlink.net

GOOD

Schools Have School

LIBRARIANS

Oregon School Librarians Collaborate to Improve Academic Achievement

Keith Curry **LANCE**
Marcia J. **RODNEY**
Christine **HAMILTON-PENNELL**

Published with funds granted by the Oregon State Library under the Library Services Technology Act State Administered Program, P. L. 104-208

Oregon Educational Media Association
2001

Teach the Teacher

As a mentor I have been working with three elementary schools in our district. I have made presentations about the OSLIS Website to the teachers in each o the schools. Wow! It was like givin candy to a baby! Teachers who are often the first to go home stayed way beyond my allotted time exploring all the options. They thanked us for such a wonderful site.

Then I was invited to two of the schools to participate in their grou planning for their collaboration projects. Again I was delighted with everyone's excitement. All three schools will be completing their projects this year.

Char Wisely, Media Specialist
Abraham Lincoln Elementary
Medford

School library media programs in Oregon schools exert a positive and statistically significant impact on academic achievement.

Successful LM programs have

- professional and support staff,
- library media specialists who are involved in teaching and learning as well as information access and delivery,
- diverse collections in multiple formats,
- high levels of individual and group visits to the LMC,
- information technology that extends throughout the school, and
- expenditures that support these efforts.

The impact of LM programs on Oregon reading scores at elementary and secondary levels cannot be explained away by other school and community conditions.

Inspiration Point

When librarians are available full-time, students learn that the librarian is the person who can help them with all sorts of things as they work to meet their learning goals. Students are inspired by the types of presentations a teacher-librarian can provide and are often inspired to try new methods themselves. It's most rewarding when a student asks, "Can you show me how to do what you just did?"
Garnetta Wilker, Librarian, Lake Oswego Junior High School

"*Wow- there are some great new books here. I can't wait to read them. Can I check one out now?"*
Student, Lake Oswego Junior High School

"This is our library. It's the place where you can find everything you need."
Student giving a tour to new seventh grade students, Lake Oswego Junior High School

Appendix H

The Iowa Study Handout

The following Iowa handout entitled: “Make the Connection” with its accompanying brief preliminary report was published in 2002. This document is available on the web at http://www.area9.k12.ia.us/statewidelibrarystudy.html and is reprinted here for the convenience of the reader.

Iowa schools with a higher percentage of the best reading scores tend to have stronger library media programs than schools with the lowest percentage of good scores.

.....

At Iowa elementary schools, when the confounding effects of poverty are taken into account, library media programs exert a measurable impact on test scores while other school variables, such as per pupil expenditures and teacher-pupil ratio, do not.

.....

At Iowa middle schools, no matter what overall per pupil spending is, library media services have a positive impact on test scores, while teacher-pupil ratio and teacher experience do not.

.....

At Iowa high schools, the more time library media specialists spend motivating students to read, the higher their test scores are.

Other School Library Impact Studies

For more information about recent research on the impact of school library media programs on academic achievement, visit the Library Research Service web site, http://www.lrs.org. Links are provided to:

- **The Impact of School Library Media Centers on Academic Achievement** (the original 1993 Colorado study),
- **How School Librarians Help Kids Achieve Standards**: *The Second Colorado Study* (2000),
- **Information Empowered**: *The School Librarian as an Agent of Academic Achievement in Alaska* (2nd edition, 2000), and
- **Measuring Up to Standards**: *The Role of Library Information Programs & Information Literacy in Pennsylvania Schools* (2000)
- **Good Schools have School Librarians***: Oregon School Librarians Collaborate to Improve Academic Achievement* (2001)

Contact Information

Direct questions and comments about this research to:

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Make the Connection

Quality School Library Media Programs Impact Academic Achievement in Iowa

Marcia J. **RODNEY**
Keith Curry **LANCE**
Christine **HAMILTON-PENNELL**

2002

RACE YOU TO THE BOOKS!

Sustained Silent Reading was instituted at the high school two years ago. I applied for a grant to purchase hundreds of high interest paperbacks, nearly two per student, to be placed in the classrooms for easy access. The books are in attractive baskets and may be exchanged for different titles whenever the students wish.

Students select which books go in their room's baskets. Students were so excited the first time they saw 500+ new paperbacks that they argued over which room got to go next. When I wanted to buy the second batch of books, I asked the kids what books they wanted. I should have tape recorded them -- they were adamant about what they wanted or did not want. In other words, they cared.

Teachers MUST read along with kids, of course. The football coach told me this was the first time he completed a book since he was in college. He read Harry Potter first, and thought his reading skills had really improved significantly. He told me, "Next time Aurilee calls me to read the scripture in church, I'm going to tell her 'sure'."

Virginia Miehe, Library Media Specialist
West Liberty High School
West Liberty, Iowa

School library media programs in Iowa schools exert a positive and statistically significant impact on academic achievement.

Successful library media programs at elementary, middle, and high schools have one important element in common:

the certified Library Media Specialist

When you find a Library Media Specialist, you're also more likely to find

- ☞ collaborative teaching
- ☞ effective reading motivation
- ☞ students who've been taught how to find and evaluate information
- ☞ more books, magazines, tapes, and electronic reference works for students to explore
- ☞ more students using the library's print and online resources, both in the library and by networking to it

DIGGING INTO THE PAST BRINGS UP RICHES

I collaborated with the 5th-6th grade social studies teacher to create our "Decades" research project. Students were introduced to the past hundred years with a two-day PowerPoint presentation, browsing stations with books organized by decades, and historic photographs on the Library of Congress American Memory Project Web site.

Students then chose topics of interest, and took research notes with guidance from both the teacher and me. Next, I taught students how to transform their research into PowerPoint presentations. Students presented their projects to the class, and also listened to elderly guest speakers who gave first-hand accounts of living through the earlier part of the century. Finally, I presented booktalks to students on historical fiction from the past hundred years, so that students could continue to extend their interests through recreational reading. Parents have been impressed by students' PowerPoint projects.

Anne Marie Kraus
Library Media Specialist
Roosevelt Elementary School
Iowa City, Iowa

Make the Connection

Quality School Library Media Programs
Impact Academic Achievement in Iowa
Preliminary Results

Preliminary results are in on the Iowa study of the impact of school libraries on academic achievement.

Elementary Level

Fourth grade reading scores tend to rise with:

- weekly hours of professional librarian staffing (both total and per 100 students);
- library staff time spent planning and teaching with teachers and managing networked computers;
- the number of library books per student, the number of magazine and newspaper subscriptions (both total and per student), and the number of videos per student; and
- the number of books and other items used in the library per 100 students.

Middle School Level

Eighth grade reading scores tend to increase with:

- the school library's weekly hours of operation,
- weekly hours of professional librarian staffing per 100 students,
- the number of individual library visits for information literacy instruction per student,
- the number of group visits per 100 students, and
- the number of books and other items used in the library per 100 students.

High School Level

Eleventh grade reading scores tend to improve with:

- weekly hours of professional librarian staffing per 100 students, and
- weekly staff hours spent offering reading incentive activities for students (total and as a percent of total staff hours).

Relative Impact of School Library Development, Other School & Community Characteristics

At the elementary school level, where the variation in library conditions was sufficient to analyze, it was determined that the level of development of the school library (i.e., its staffing and collections) explains almost 2.5 percent of the variation in reading scores. Two other sets of factors were taken into account when assessing the impact of the school library: key characteristics of the community and the school.

Not surprisingly, the variables that outweighed the school library's impact were poverty and race/ethnicity. A third socio-economic variable, adult educational attainment, was narrowly outranked by the school library in its impact on test scores. Combined, these community variables explained almost a third of test score variation. Interestingly, when these community factors and the school library were taken into account, characteristics of the school (i.e., the education level of the school's teachers, the teacher-pupil ratio, overall per pupil spending on education) explained no additional variation.

Additional Information

Stay tuned for the final report which will also identify characteristics of school libraries run by professional librarians. Professional librarian staffing correlated with test scores at all school levels.

This study replicates research conducted in Alaska, Colorado, Massachusetts, Oregon, Pennsylvania, and Texas.