Connections:
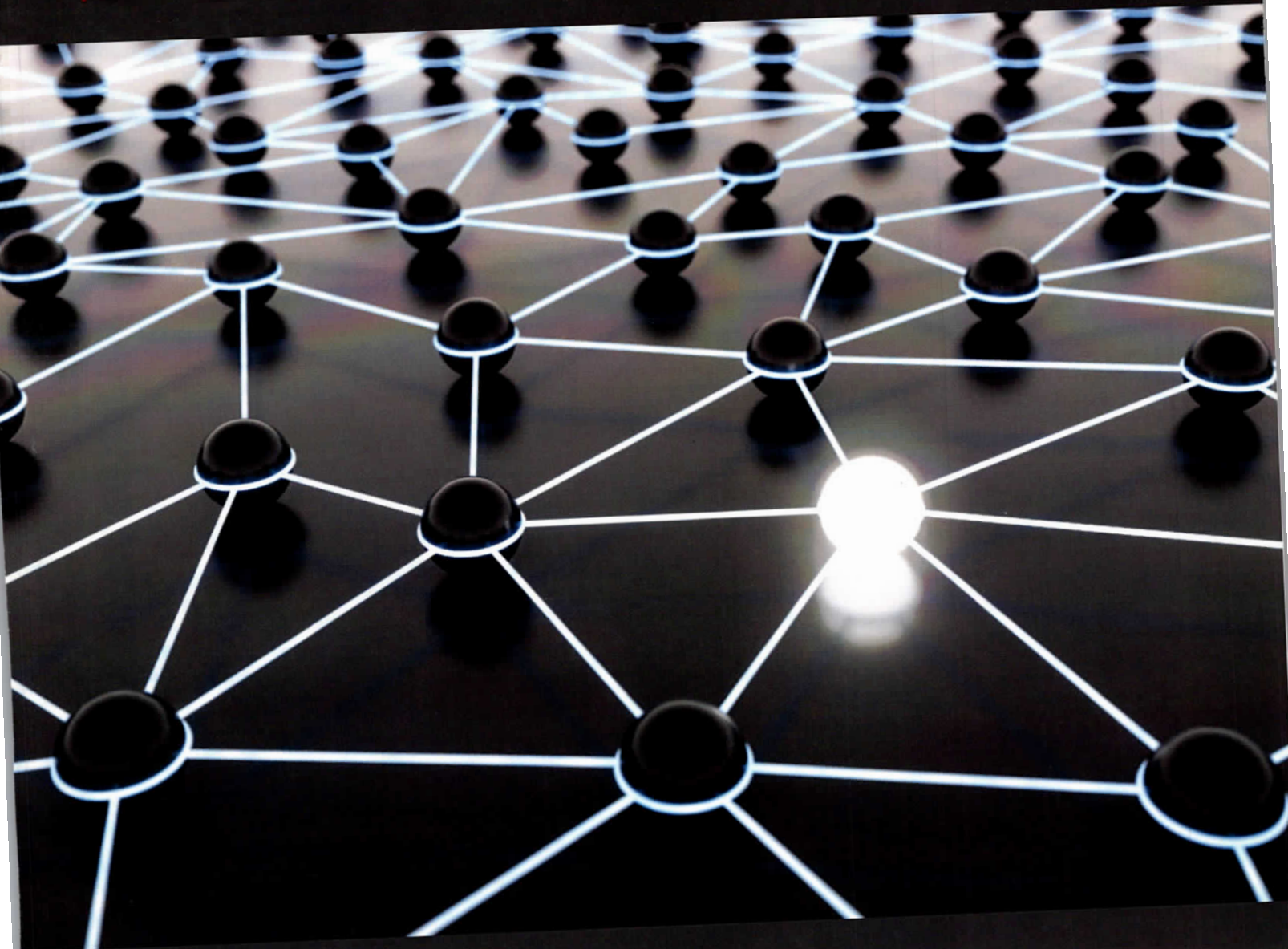
Papers of the Treasure Mountain Research Retreat,
Nov. 4-5, 2009, Charlotte, North Carolina

Edited by David V. Loertscher

Connections

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Note on decorative elements used throughout the book. The Chinese symbol used designates the idea of connections.

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From School Libraries to Learning Commons: Reflecting on a 180° Shift in Thinking and a Personal Learning Journey

David V. Loertscher[1]
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When it came time to revise, *Taxonomies of the School Library Media Program* for the third time, I came to the realization that the half-century old foundational theories of school libraries needed radical re-thinking. Yes, those two great pioneers, Mary Gaver and Frances Henne, of the 1960 standards for school libraries, who I knew personally, had set us on a great path for the last half of the 20th century, but times had changed.

Consider some of the major trends, challenges, and opportunities that have faced us as a profession in the very recent past:

Challenges	Opportunities
Students "Google around" the school library, avoiding us and questioning our very existence.	Use Google itself to get inside the head and imagination of every teacher and student
Over the last half century, school libraries have never entered the mainstream of educational theory and literature.	The rise of 21st century skills and the need for critical thinking and creative thinking provides new opportunities to "move to the center" with our expertise.
The No Child Left Behind program caused many teachers to lock their doors to any outside influences in favor of coverage and direct teaching.	All specialists in the school, including teacher librarians, could team up to break down those locked doors to demonstrate that two heads are better than one while students not only pass the test but develop lasting skills and knowledge.
The stereotype of school libraries as tightly controlled, print-only, and one-dimensional info skills teaching, led to a marginalization and replacement of many professionals with support personnel, particularly at the elementary level.	A new breed of high-tech and web 2.0 savvy professional provides a refreshing opportunity to place school library programs directly into the center of teaching and learning.

Library facilities became mostly storage of "stuff" with a very few spaces for individuals, small groups, or even large groups to explore, test, develop, and collaborate independently of scheduled classes.	New trends in architecture and furnishings provide lots of open space and flexible configurations to offer a sense of client ownership rather than institutional dictates of function.
Classes were withdrawn to computer labs in the school where they were taught computer skills in isolation.	Computer labs join the learning commons calendar and teacher technologists work collaboratively with teacher librarians and other specialists to make technology a seamless tool for teaching and learning
Learners are asked to power down when they come to school and leave their hand held technology and communication tools at home.	Teacher librarians help teachers to design learning experiences that make wise use of the tools kids love and use effectively.
Teachers and students are denied access to social networking sites and firewalls block access to needed resources.	The learning commons ensures safety of students through digital citizenship instruction and careful planning of learning instruction in Web2.0 spaces.
Time and energy is wasted by teachers fighting with compatibility issues and the downtime of local servers	The learning commons provides a 'cloud computing' space where learners can work, share, and present their learning 24/7, free from network issues. Teachers can plan, monitor, coach, and assess learning all in one space.

For these and many other reasons, I began to question just how long we could, as a profession, continue to promote the concept of the school library that has become out of touch with what this decade of students and teachers need. The thinking at the Treasure Mountain Research Retreats 13 and 14 spurred me and others to action. Allyson Zmuda, Ross Todd, Vi Harada, Carol Kuhlthau, and Joyce Valenza were just a few voices saying to all of us that radical change was our only option. We need to reinvent.

Having made connections with Carol Koechlin and Sandi Zwaan in Ontario, Canada, the three of us began our frequent three-day exhausting but exhilarating think tanks that have resulted in a number of publications reinventing everything about school libraries.

For a number of years now, this trio of authors has waged war on bird units being conducted in classrooms and libraries across the world. Accused of being

enemies of nature, we have begged forgiveness of our feathered friends for creating this metaphor for substandard learning experiences. Teachers recognize them and all learners seem to have been subjected to them at some time in the past.

Our definition of a bird unit is a learning experience wherein kids or teens choose some sort of topic to research, copy out a bunch of facts from books or from the Internet, paste those facts onto worksheets or into PowerPoint slides, and finally subject their peers to boring oral reports. If those types of assignments were bad in the era of the printed book, they are now dreadful in the era of the Internet. We find evidence that these zero learning experiences have infected the world of Web 2.0 tools where they are as disastrous in the world of high tech as they are in the world of pencil and paper, including those ubiquitous posers or brochures of copied text or illustrations. They involve no analysis and at best "thin-sesis", never synthesis. No wonder critics of technology decry the use of a 747 to deliver a bon bon across town!

The following illustration demonstrates the set of publications that have been designed to transform the library/learning commons into a major force in teaching and learning:
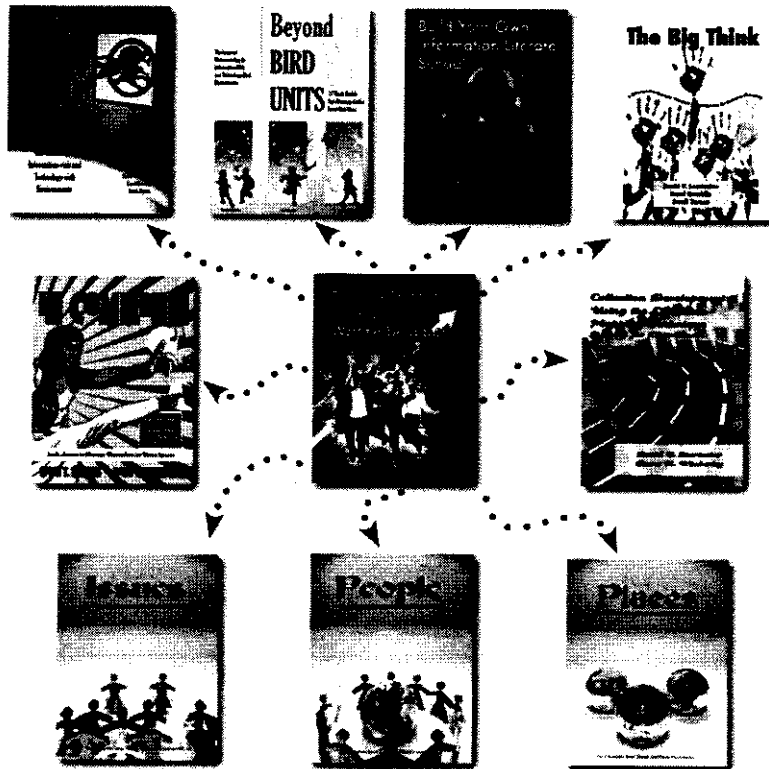
For our arsenal, we first published *Ban Those Bird Units* where 15 think models of instructional design made their debut. These models were designed to be grounded first in major educational theory and research but push thinking far beyond what both teachers and librarians commonly did during library research.

Then came *Beyond Bird Units* that expanded the think models to 18 and provided all new examples of high-level units of instruction. We wanted to put enough examples out there so that readers could begin to see patterns in what high-think and high-tech learning experiences looked and felt like. As we worked with teachers ,we were very pleased that practitioners were following the models fairly closely as they began, but after getting the idea became very creative with the models. Nothing could have pleased us more.

Along the way we dropped the bomb *Build Your Own Information Literate School* that enriched the concept of teaching information literacy embedded in real learning experiences. This book came at a time when many in the field began to advocate for a separate library curriculum in the narrow focus of research skills as a subset of a broader conception of information literacy. The foundational idea of this book was that content knowledge is enhanced when students learn how to learn with "just in time" research skill instruction. We were rejecting the notion that separately taught skills had the desired effect of producing learners ready for college and even everyday life. Instead, when content and process skills were intertwined, both were enhanced further than if separated. We did not realize it at the time, but we were laying the foundation of a major switch in program. If the teacher librarian concentrated first on having a parade of high quality, high-think, high-tech learning experiences coming through the library, good things were more than likely to emerge.

Next came the actual centerpiece of the redesign of school libraries into learning commons as both physical and virtual spaces in the school where clients claim ownership and propel the learning commons into the heart of teaching and learning. As a trio, we systematically took the library media program and did 180 degree thinking – turning each concept from an organizational point of view over into a client-side model. Such thinking challenges everything you have ever known or learned and practiced. Our conversations were intense and productive. We were trying to respond to what we saw educational theory and research crying out for. In addition to the book, we created a companion wiki: http://schoollearningcommons.pbworks.org. We used this site to continue to add major educational works and research to our bibliographies and to invite comment from readers. Both features have been well received by readers. In addition, we began a free learning commons seminar during the fall semester of

2009 involving over a hundred individuals across the U.S. and Canada. We also did a major webinar attended by over 300 people and that webinar is still available for viewing. We have also made frequent presentations at conferences and in school district professional development sessions.

Along the way, we noticed that practitioners were having difficulty understanding and creating the Big Think as a culminating activity to the end of a major learning experience. Thus, we created *The Big Think* book where nine metacognitive strategies were presented as the capstone of a learning experience. This extended the thinking and learning in the think model volumes far beyond what we had witnessed in the educational literature.

Finally, we have created a trio of books that pull together learning experiences on the three most common topics that teachers bring to the learning commons. For convenience, we brought together these previously published units into topical packages and revised them to meet the specifications of our later thinking.

People   Places   Issues

Two other publications came into existence during this period. The first, *In Command* written by David Loertscher and Robin Williams taught and urged teacher librarians to assist the learners of today who are overwhelmed with the juggernaut of the Internet to take control of their own information space and to allow into that space their teachers and teacher librarians who could coach them through various learning experiences. The second book, *Collection Development* written by David Loertscher and Laura Wimberly, was a revitalization of collection mapping that I had written a decade before. What information spaces should we build in this new world of information glut?

To our delight, and parallel to our thinking and efforts, Valerie Diggs, the teacher librarian at Chelmsford, MA High School developed and built the first school learning commons we had seen anywhere. We were fortunate enough to attend the dedication of the new learning commons in Dec. of 2008 where Ross Todd was one of the dedicatory speakers. There are a number of articles that have now appeared defining the concept more clearly. "Flip This Library," an article in *School Library Journal* in Dec. 2008 probably has been the most widely read, but a number of articles in *Teacher Librarian* are now extending these ideas.

We have been impressed with the number of school administrators who are looking for a breath of fresh air in the revitalization of seemingly antiquated library programs that are no longer relevant. We have been interested in watching technology directors just in the past several years become more and more interested in teaching and learning rather than concentrating totally on network construction and maintenance. We are impressed with developments in

networks using the 802.11n standard of IEEE that allow wireless access to as many students and teachers as you can cram into a learning commons space. We are troubled with the continued fear campaigns that prevent access to web 2.0 tools and information much needed by students and teachers. We worry about teacher librarians who are not comfortable in the world of web 2.0. But we are encouraged that in the fiscal downturn Google has produced the Google Apps Education system that is a free, and "safe" environment for the use of many web 2.0 applications. We are encouraged that cloud computing is making substantial progress across the continent as opposed to locally home-grown networks that have poor track records of reliability and capacity. We are disappointed at those who cling to evolutionary change, not realizing that there is no time left to take it slowly. We are encouraged by tech-savvy professionals who become learning specialists using web 2.0 tools. These are the folks that will lead this profession into the center of teaching and learning.

Having reviewed the development of the learning commons, let us take a look at the central elements that constitute this major shift.

1. Libraries must move from an organizational emphasis to a client-based model.

2. The learning common has two presences: both virtual and physical. Distance education and online learning are supported by a virtual learning commons.

3. The physical space of the learning commons contains two elements: the open commons and the experimental learning center.
   a. The open commons brags of a parade of exemplary teaching and learning experiences co-taught by classroom teachers and other specialists in the school including the teacher librarian, teacher technologists, reading coaches, counselors, art specialists, and administrators charged with instructional improvement.
   b. The open commons is the cultural center of the school in which students and teachers claim ownership.
   c. The open commons facilitates individuals, small groups, and large groups simultaneously doing, thinking, creating, planning, studying, producing, and improving.
   d. The open commons is a wireless environment that supports any and all devices of choice with reliable access to the Internet.
   e. The open commons is a flexible space where book stacks, banks of stationary computers, stationary tables and chairs do not get in the way. Instead, the configuration of the facility adapts at any given time to the demands of teaching and learning.
   f. The experimental learning center is the focal point of school improvement and is endorsed and supported by administrators.

Professional development, professional learning communities, study groups, experimentations, trials, action research, demonstrations, and large scale assessments are planned, carried out, and implemented.

4. The virtual commons transforms the one-way communication of school library web sites into giant conversations, construction centers, exhibit galleries, and help centers where teachers and students feel a sense of ownership and in a place they all feel they contribute to and build. Examples might include:
   a. Knowledge construction centers that transform rigid assignments into conversations between classroom teachers, students, specialists, administrators, and parents – all acting in the role of coaches as everyone pushes toward excellence.
   b. Virtual book and media clubs where everyone is talking about a wide range of reading, viewing, and listening, the product being a literate and engaged school.
   c. Virtual Geek Squads consisting of students who provide solutions and assistance with various forms of technology.
   d. Reference centers providing all types of helps, tutorials, and suggestions in a collaborative atmosphere that says: you help me, I help you, we all help each other, and we all get better and better.
   e. The virtual cultural center of the school where archives of the best of creations, projects, examples, and models reside and are exhibited to everyone.

5. Organizational support
   a. The learning commons is staffed by accredited full time teacher librarians, other professional specialists in the school, and by technical and paraprofessional support.
   b. Budgets are sufficient to build and maintain a rich information and technological environment.
   c. Responsible access is the principle that governs over fear and denials.

The Challenge.

School libraries have enjoyed sporadic success over the past fifty years. Although many excellent programs have emerged we still cannot say that as a field we have been successful. In spite of all the research that provides evidence that strong library programs make a positive impact on teaching and learning we have made few converts among administrators and system planners. Every teacher librarian still continues to fight for time, budget and staffing. Library programs are nowhere in mainstream educational professional literature and

marginalized in school improvement initiatives. As a team, we have spent the last three years rethinking everything about library media programs as they exist and how they need to change to add value to education in the current information and technological environment. School libraries should be leading the way into the future and the inevitable changes in education needed to address global realities.

We invite you, our fellow professionals to join us in a quest to reinvent; think, write, develop, test, and research bold new ideas that will push this field into the center of teaching and learning.

What have you done already?

How will you participate?

What ideas do you have?

Connections with People and Ideas and the Learning Commons

David V. Loertscher
Professor, San Jose State University

As Carol Koechlin, Sandi Zwaan and I began to buid the idea of a learning commons, we wanted to center our thinking in both the research and the major professional ideas in education and technology. In this chapter, we review supportive idea from the best writers and thinkers we have discovered over the past decade and related their ideas to those we were developing in the construction of the learning commons. Here are the thinkers we recommend to all who are re-examining their foundational ideas of the school library.[2]

The Power of Action Research

Douglas B. Reeves, founder of the Leadership and Learning Center, in his book, *Reframing Teacher Leadership to Improve Your School* (ASCD; 2008), places action research at the center of school improvement. He posits that teachers become leaders when they are testing ideas from research in their classrooms and reporting the results on data walls or science-fair type expositions. The key to school improvement, then, is using evidence that our practices are effective based on increased learning. This follows the ideas of Reeves in his previous book *The Learning Leader* (ASCD, 2006) where he categorized the successful teacher is one who succeeds and knows why.

Learning Commons Connections: In the context of the Learning Commons we recommend that the Experimental Learning Center be the center of such research activity that informs the faculty as a whole. There is an atmosphere of collaboration in the achievement of excellence because everyone expects that this is a place in the school where experimentation is the central focus. It follows that a positive attitude toward continuous school improvement is likely to develop and be sustained across years and across faculty turnover or student demographic evolution. If the action research combines both the classroom teacher and one or more specialists such as the teacher librarian, then the focus of school improvement realizes impact of collaboration among the faculty. Such a focus would go a long way in promoting the idea that everyone has a stake in school improvement rather than just isolated teachers in closed classrooms. For

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[2] This chapter is a reprint of the final section of the book: *The New School Learning Commons Where Learners Win* by David V. Loertscher, Carol Koechlin and Sandi Zwaan. Hi Willow Research & Publishing 2008.

example, the theme of the school year through its action research could be on the impact of actual collaborative teaching and learning resulting in a data wall exhibition for the school board, parent groups, the news media, presentations at professional conventions, and to any other interested audience. What is learned as a group becomes part of the repertoire of teaching strategies for the school.

Instructional Strategies

In: Robert J. Marzano, Debra J. Pickering, and Jane E. Pollock. *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement.* ASCD, 2001, the authors of this very popular book list nine strategies supported by research that are worth replicating in the classroom. They are:

Identifying similarities and differences	Cooperative learning	Selecting objectives and providing feedback
Summarizing and note taking	Nonlinguistic representations	Generating and testing hypotheses
Reinforcing effort and providing recognition	Homework and practice	Cues, questions, and advance organizers
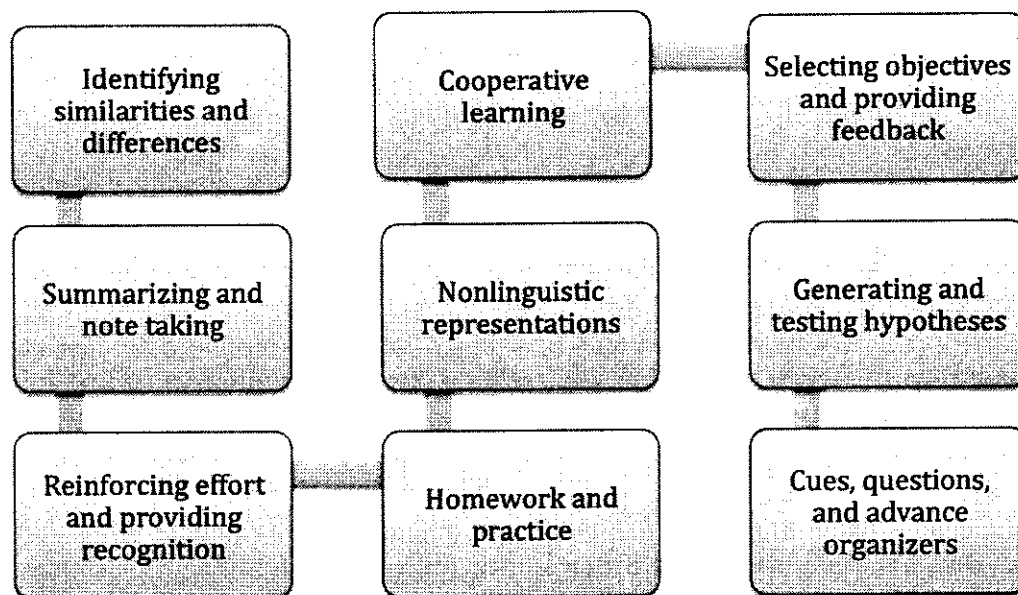
Learning Commons Connections: One of the benefits of the movement to base teaching and learning on more scientific principles has been collections of strategies like those above that are supported by research. These and other strategies form the foundational base of all teachers as they mature in their profession. However, teachers need to tailor, test, and reinvent these strategies as generations of learners and cultural backgrounds shift. Using the Experimental Learning Center to bring such conversations to the forefront as a collaborative rather than competitive focus seems to us to be a major step in the direction of school improvement.

Michael Fullan, Peter Hill, and Carmel Crevola

In their book: *Breakthrough* (Corwin Press, 2006), this trio proposes that to make major changes in education and make them sustainable, three components must form the core of instruction in the school:

Personalization (differentiation)

Precision (using data to provide feedback to both the teacher and the learner)

Professional Learning (teachers get better and better at their craft as a member of the professional learning community).
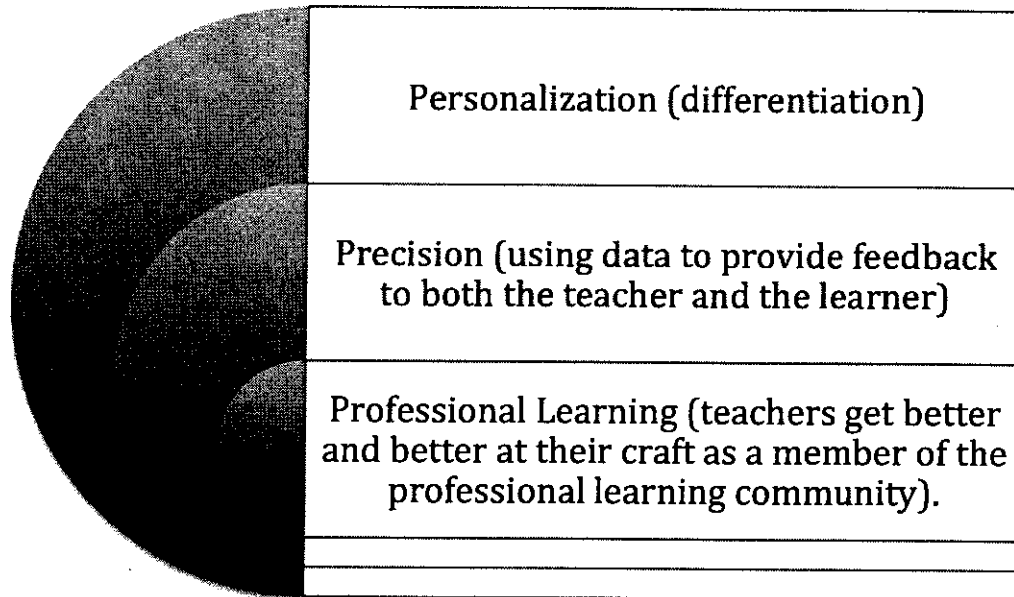
They see a systematic effort that is not just discussed, but practiced and applied to the actual learning activities of the classroom.

Learning Commons Connections: It is not enough to have a professional development session and then assume that something will automatically change actual classroom practice. When the specialists of the school collaborate with the teachers to co-teach units of instruction, everyone in the building knows that new ideas are being tested in the Experimental Learning Community where all can observe and where teaching and learning is examined for excellence and better and better ideas are recommended and tested. It is then that the specialists follow such ideas out into the school as a whole complete with a feedback system for everyone. Each initiative is tracked and displayed in the Learning Commons providing a timeline of progress. Thus, diffusion of the initiative, strategy, policy, or operation is tracked on large graphic organizer charts for all to see and discuss. Sustainable school improvement becomes a part of striving for excellence – both in terms of the percent of students who achieved beyond expectations and teachers who keep improving.

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Bernie Dodge and WebQuests

Bernie Dodge is well known for the inquiry projects that challenge users to complete a quest using Internet resources. Learners are grouped and face some type of problem. Each learner takes a different role as the group tackles the web-related task resulting in an authentic project or presentation. Recently, the thousands of WebQuests available have been compiled into a taxonomy to illustrate the types of tasks that have been developed around this model:

Taxonomy of WebQuest Tasks[3]

Retelling Tasks	Persuasion Tasks	Self-Knowledge Tasks
Compilation Tasks	Consensus Building Tasks	Analytical Tasks
Mystery Tasks	Creative Product Tasks	Judgment Tasks
Jounalistic Tasks	Design Tasks	Scientific Tasks
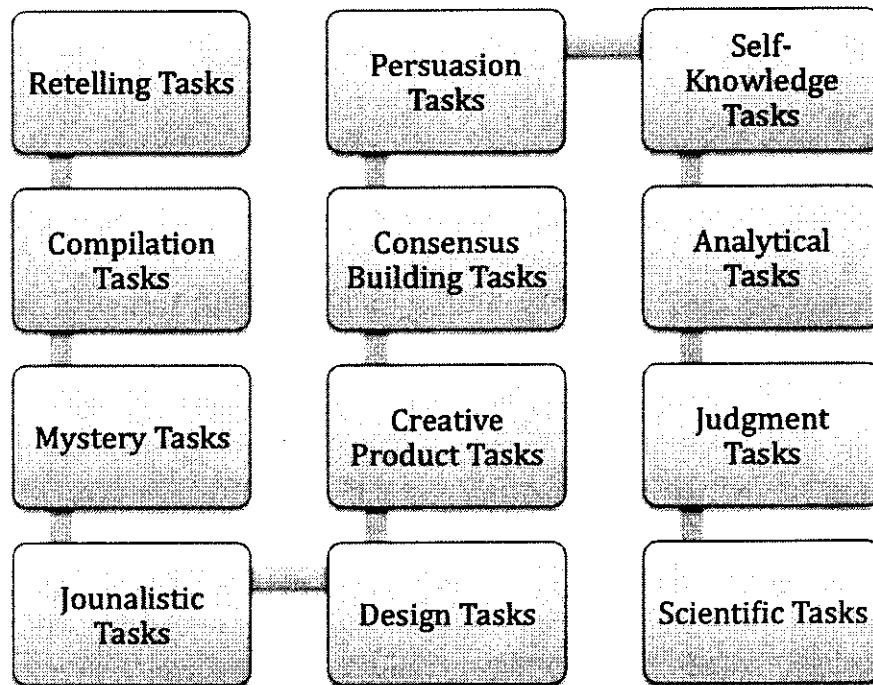
Learning Commons Connections: The various tasks of WebQuests compare in many ways to the think models created by Loertscher, Koechlin and Zwaan and presented in the Knowledge Building chapter of this book. Some of the best characteristics about WebQuests are their focus on engaging tasks, learner collaboration, and collaborative product building. At the conclusion of such learning activities, it is wise to build a culminating "big think" activity where the various teams of learners develop big ideas across the topics studied and also reflect on the journey they had in getting to their destination.

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[3] For an explanation of each of the tasks, consult Bernie Dodge's website at: http://webquest.sdsu.edu/taskonomy.html

12

Backwards Design and the Six Facets of Learning:
Grant Wiggins and Jay McTighe

Wiggins and McTighe[4] have made an incredible contribution to teaching and learning through their development and popularization of using backwards design to help learners know, do, and deeply understand.

Steps in Backwards Design:

Identify Desired Results	→	Determine Acceptable Evidence	→	Plan Learning Experiences and Instruction
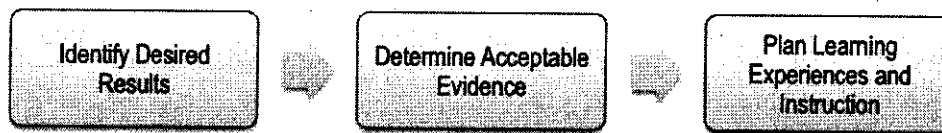
The Six Facets of Understanding

Explain	• Provide thorough and justifiable accounts of phenomena, facts, and data.
Interpret	• Tell meaningful stories, offer apt translations, provide a revealing historical or personal dimension to ideas and events; make subjects personal or accessible through images, anecdotes, analogies, and models.
Apply	• Effectively use and adapt what they know in diverse contexts.
Have Perspective	• See and hear points of view through critical eyes and ears; see the big picture.
Empathize	• Find value in what others might find odd, alien, or implausible; perceive sensitively on the basis of prior indirect experience.
Have Self Knowledge	• Perceive the personal style, prejudices, projections, and habits of mind that both shape and impede our own understanding; they are aware of what they do not understand and why understanding is so hard.

Learning Commons Connections: These elements are the foundational ideas of teaching and learning in the Learning Commons and a part of the major ideas being developed and tested in the Experimental Learning Center.

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[4] Wiggins, Grant and Jay McTighe. *Understanding by Design.* Expanded 2nd ed. Prentice Hall, 2005.

Alan November

In his most reacent book: *Web Literacy for Educators* (Corwin Press, 2008).[5] November is concerned about the quality of information that ends up in student projects. He provides number suggestions to helping learners ascertain who is saying what to them for what reasons, for what gain, and when it was said. Teachers are encouraged to teach a variety of evaluative strategies such as investigating who created the website or looking at the extension such as .org, .edu, .com, or .gov. November rejects the notion that we should forbid the use of the Internet just because there is poor information, propaganda, even misleading information. Rather, we teach the learner to:

Harvest the Best

Leave the Rest
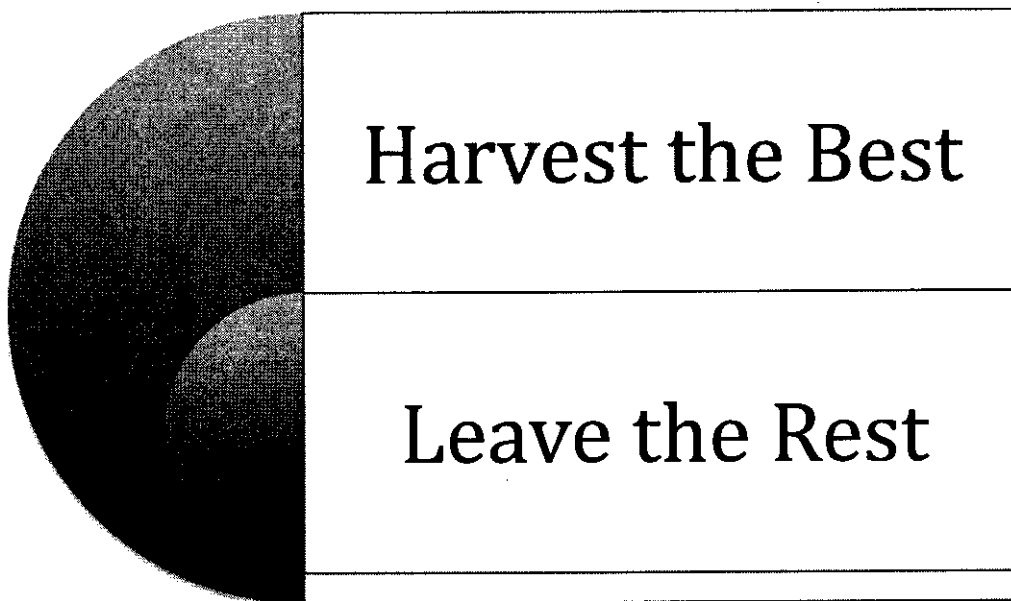
Learning Commons Connections: Since the rise of the Google search engine, the virus of cut and paste mentality has struck across the world. Teacher librarians, as one of the specialists in the schools have been waging a battle to help learners judge information quality before they embrace it as exactly what they need. In the Open Commons and the Experimental Learning Center, quality information is a foundational expectation whether the ideas come from the Internet, a book, a database, a newspaper, or an interview. Discernment of quality is a constant and not likely to be less important any time soon.

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[5] See also Alan November's web page at: http://novemberlearning.com/

Critical Thinking

The Center for Critical Thinking[6] in Sonoma, California is one of a network of centers for critical thinking and publishes a variety of miniature guides to various aspects of critical thinking for use by learners and teachers. One of their excellent models appears as:

The Standards

- Clarity
- Precision
- Accuracy
- Significance
- Relevance
- Completeness
- Logicalness
- Fairness
- Breadth
- Depth

Must be Applied to:

The Elements

- Purposes
- Inferences
- Questions
- Concepts
- Points of view
- Implications
- Information
- Assumptions

As We Learn to Develop

Intellectual Trains

- Intellectual Humility
- Intellectual Perseverance
- Intellectual Autonomy
- Confidence in Reason
- Intellectual Integity
- Intellectual Empanthy
- Intellectual Courage
- Fair-mindedness

Learning Commons Connections: Critical thinking is a basic element built into learning activities that happen both in the Open Commons and the Experimental Learning Center. These skills are part of the information literacy skills taught by teacher librarians, part of any excursion on the Internet, part of the normal strategy of the classroom teacher. Like other literacies, critical thinking is best integrated into a topical exploration rather than taught as a topic in and of itself. When specialists and classroom teachers build learning activities, critical thinking should be on their checklist for integration planning.

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[6] The Critical Thinking Community page at: http://www.criticalthinking.org/index.cfm

Stephen Krashen

Stephen Krashen backs up the idea with 100 years of research that kids who read widely score high; but, they also develop a number of characteristics that push them toward excellence.

The Reading Hypothesis[7]
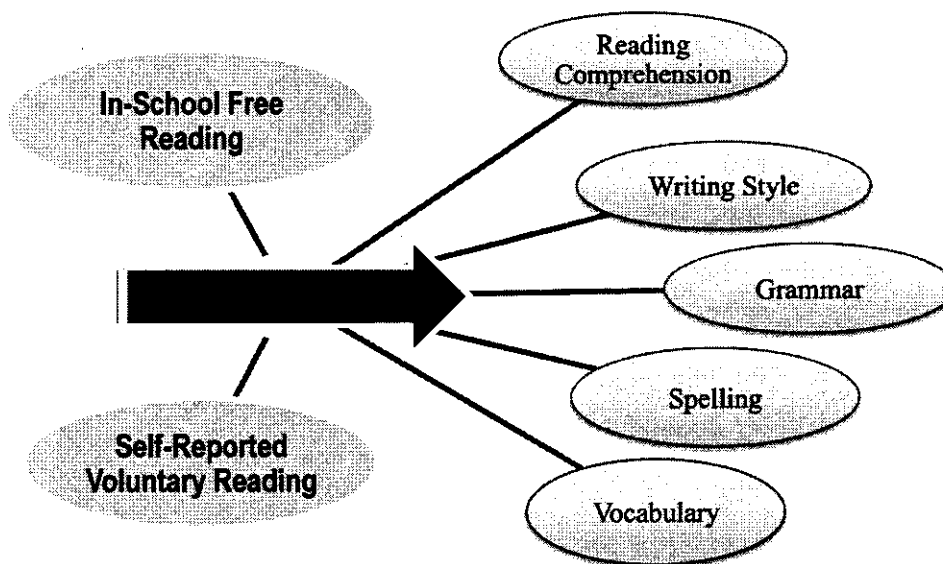
Learning Commons Connections: There is no stronger idea and support for the reinvention of the library into a Learning Commons than Krashen's hypothesis. It is here that learners and teachers have a plethora of materials they **want to read** and access to these materials is far beyond the norm of the past. Now with so much reading being done on the Internet and the very best fiction and nonfiction books available in the Learning Commons, there is really no excuse not to embrace the Krashen idea. Reading is not just skills. It is a life-long embracement. Teacher librarians should survey the learners to find out whether they like to read. With any percentage under 100% yes, then a revolution in the reading program needs to be considered.

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[7] Krashen, Stephen. *The Power of Reading.* 2nd ed. Libraries Unlimited, 2006, p. 17.

David Warlick

David Warlick has a very popular blog: 2 cents Worth at: http://davidwarlick.com/2cents/ His musings on technology, the people and conferences he attends help the reader keep up with the current happenings in the field. In one of his columns, he describes his own personal learning network – a neighborhood of sorts that connects him to the world.

David Warlick's Personal Learning Network[8]
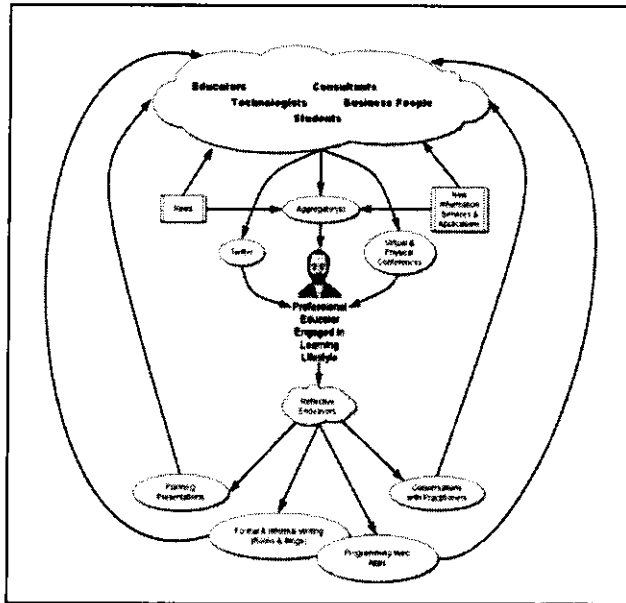
I see my PLN as having three basic components.

1. **The Network** — People who have things to say that help me do my job, and dynamic information sources that provide me with the raw materials I need.
2. **The Tools** — Essentially, the avenues of communication through which I connect with people and information sources — conduits that often add value to the information.
3. **My Own Personal Echo Chamber** — This is my own world view from which I teach, where ideas from my PLN bounce around off the walls of my mind and off of other ideas, either losing momentum and fading away, or generating energy and growing.

Learning Commons Connections: We advocate that all young people learn how to command their own information space and learn to govern themselves within this space. Whether through iGoogle pages or some other technology, the idea of being at the mercy of the juggernaut of the Internet is unacceptable. For each of our roles as student, family member, worker, creator, thinker, we must establish various neighborhoods that help us flourish in that role. The nice thing is that we can have as few or many as we please.

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[8] http://davidwarlick.com/wiki/pmwiki.php/Main/TheArtAmpTechniqueOfCultivating YourPersonalLearningNetwork

Will Richardson

Will Richardson, a visionary, is about the power of transformative technology and also practical as he teaches us what the real world requires of a new generation of learners. One example from his insightful blog[9] is the following advice:

A number of new Internet technologies are changing the way we find, manage and distribute information. From Weblogs, to Wikis, to RSS, to online bookmarking services, the possibilities for collaboration and sharing are almost limitless, as are the ways students and teachers can benefit in the classroom. Get an overview of the tools being used to foster this new literacy and a framework for integrating them into teaching practices.

Independent Learners

Self-directing

Self-selecting

Self- editing

Self-organizing

Self- reflecting

Self-publishing

Self-connecting

"The current educational system creates and nurtures *dependent* learners. Our students depend on us to:

- create the environment in which learning takes place
- tell them what they should know, when and why
- provide the context for knowing
- provide appropriate materials for learning
- assess what they know
- select appropriate ways to share what they have learned with others

The new world of learning requires us to teach students to be *independent* learners, ones that are not dependent on teachers but are listed on the left."

Learning Commons Connections: Young people will not automatically assume the command of their own learning unless we as adults coach them to do so. Learners often feel that school is a place where adults are dictating what, how, and when to do tasks. As they begin to participate in taking command of their own learning, they become more engaged and independent. They seek more and more relevance to both now and the future.

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[9] "An Introduction to New Internet Literacies for Educators: Blogs, Wikis, RSS, Online Bookmarking." From Will Richardson's wiki at: http://weblogged.wikispaces.com/New+Internet+Literacies

The Whole Child Initiative (ASCD)

The official statement from ASCD for their Whole Child Initiative is as follows:

Current educational practice and policy focus overwhelmingly on academic achievement. This achievement, however, is but one element of student learning and development and only a part of any complete system of educational accountability.

Together, these elements support the development of a child who is healthy, knowledgeable, motivated, and engaged. To develop the whole child requires that:

Communities provide
- Family support and involvement.
- Government, civic, and business support and resources.
- Volunteers and advocates.
- Support for their districts' coordinated school health councils or other collaborative structures.

Schools provide
- Challenging and engaging curriculum.
- Adequate professional development with collaborative planning time embedded within the school day.
- A safe, healthy, orderly, and trusting environment.
- High-quality teachers and administrators.
- A climate that supports strong relationships between adults and students.
- Support for coordinated school health councils or other collaborative structures that are active in the school.

Teachers provide
- Evidence-based assessment and instructional practices.
- Rich content and an engaging learning climate.
- Student and family connectedness.
- Effective classroom management.
- Modeling of healthy behaviors.

Learning Commons Connections: The Learning Commons is the perfect place to initiate, monitor, test, and make decisions about such initiatives as the Whole Child concerns of ASCD. Too often, such initiatives are dictated by well meaning administrators but never gain the strength needed to permeate the school. The Commons provides a checkpoint for all such shifts in program.

Professional Learning Communities

Rebecca DuFour, Richard DuFour and Robert Eaker in their plan book:

Ensuring That Students Learn

A Culture of Collaboration

A Focus on Results

Professional Learning Communities at Work Plan Book (Solution Tree, 2006) provides three major big ideas about professional learning communities:

They see the following main shifts in doing business:

- A shift in fundamental purpose
- A shift in the use of assessments
- A shift in response when students don't learn
- A shift in the work of teachers
- A shift in focus
- A shift in school culture
- A shift in professional development

Learning Commons Connections: The Learning Commons provides a central non-threatening place in which to center the work of professional learning communities. It becomes the place for serious discussion and experimentation across the faculty so that a sense of excellence permeates the entire school. It is the place we can share, test, succeed or fail together, pick up the pieces, and move forward without stigma. This is essential if any school is to make progress as a learning community. Such communities, however, can lock out the learners. We advocate that to turn client side, representatives from the various segments of the learning community be involved, from gifted, to mainstream, to struggling.

Habits of Mind[10]

A Habit of Mind is knowing how to behave intelligently when you DON'T know the answer. A Habit of Mind means having a disposition toward behaving intelligently when confronted with problems, the answers to which are not immediately known: dichotomies, dilemmas, enigmas and uncertainties.

The 16 Habits of Mind identified by Arthur Costa and Bena Kallick include:

Persisting	Responding with wonderment and awe	Thinking about thinking (metacognition)	Remaining open to continuous learning
Thinking and communicating with clarity and precision	Thinking flexibly	Taking responsible risks	Applying past knowledge to new situations
Managing impulsivity	Creating, imagining, innovating	Striving for accuracy	Thinking interdependently
Gathering data through all senses	Listening with understanding and empathy	Finding humor	Questioning and posing problems

Learning Commons

Connections: Habits of mind is the concept that learners should be engaged in their own learning and take control and responsibility for their own progress. The pessimist says it is not the human nature of most kids and teens. We propose that the learning experiences in both the Open Commons and the Experimental Learning Center embrace habits of mind as one of the characteristics. As we all observe in this fishbowl experience, we ask, what are the strategies that engage students and encourage self-direction and independence? It is this kind of sharing and discussion across the faculty that will enable change.

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[10] http://www.habits-of-mind.net/

Stephen Heppell on Technology[11]

To listen to Stephen Heppell present is a real treat because of his vision and experimentation of how technology can actually change learning. On his blog, we found the following defense of technology as the enabler of learning:

> *Computers are everyday tools for us all, seen or unseen, but their value in learning is as tools for creativity and learning rather than as machines to develop the curriculum. These tools, in our children's hands, are forever pushing the envelope of expertise that previous technologies excluded them from: they compose and perform music before acquiring any ability to play an instrument, they shoot, edit and stream digital video before any support from media courses, they produce architectural fly-throughs of incredible buildings without any drafting or 2D skills, they make stop frame animations with their plasticine models, they edit and finesse their poetry, they explore surfaces on their visual calculators, swap ideas with scientists on-line about volcanic activity, follow webcam images of Ospreys hatching, track weather by live satellite images, control the robots they have built and generally push rapidly at the boundaries of what might be possible, indeed what was formerly possible, at any age. Little of this was easily achieved in the school classroom ten years ago although the many projects emanating from Ultralab over that decade offered clear enough indicators of what might be possible. The challenge here is to criterion referencing. So often the cry of the teacher that work is better than my degree exhibition piece, reflects a substantial step change in both the age at which a creative act can be enjoyed and the quality of the tools supporting that creativity.*

Learning Commons Connections: In the early stages of technology integration in school, the learners realized quickly how to add glitz to a presentation that would appear as impressive but not necessarily substantive. Rubrics created for all products and presentations should be weighted toward excellence in content and deep understanding rather than the clever or polished use of the technology itself. Slick and polished-looking presentations need to also convey compelling messages that elevate the understanding of the audience.
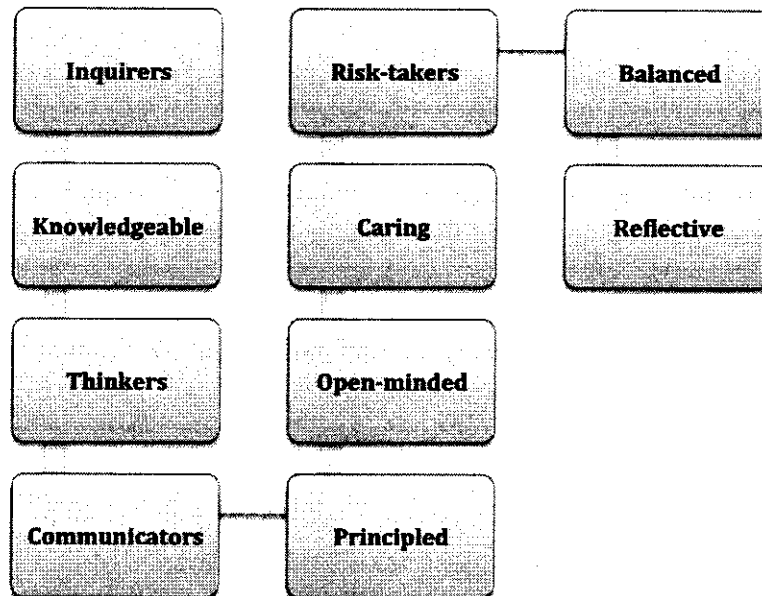
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[11] http://www.heppell.net/weblog/stephen/

International Baccalaureate Schools[12]

Mission:

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end the IB works with schools, governments and international organizations to develop challenging programs of international education and rigorous assessment. These programs encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

KB Learners Strive to Be:

Inquirers	Risk-takers	Balanced
Knowledgeable	Caring	Reflective
Thinkers	Open-minded	
Communicators	Principled	

Learning Commons Connections: As we interview the creators of the IB concept, they express to us the centrality of the library as a foundational element to make their ideas work. In practice, our interviews with teacher librarians indicate that many of them are left out of the IB planning and implementation in a school. In the revised concept of the Learning Commons, this and other such global initiatives benefit from the connection to information-rich and technology-rich resources as well as the opportunities for experimentation with this great concept.

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[12] http://www.ibo.org/

Brain Based Learning

Scientific advancements continue to unlock the mysteries of the brain. We know so much more about how the brain works, how we learn and even why some conditions for learning are better than others. To help us visualize how the brain deals with information, we have combined an Information Processing Model by Patricia Wolfe from her book *Brain Matters: Translating Research into Classroom Practice*[13] together with a model by Eric Jensen on this topic from *Teaching with the Brain in Mind.*[14]

Information Processing Model

- Stimulus - sight,sound,smell,taste, touch
- Includes both conscious and nonconscious stimuli
- literally millions of bits per second

- Usually lasts 5-20 seconds
- Only small amounts of what we take in is stored in this temporary storage buffer

- To retain declarative knowledge we must process it actively
- Elaboration and organization e.g. discussion, art,mapping,thinking, or debates

- Includes explicit memories that have been processed and the implicit learning
- Includes skills and conditioned responses

Learning Commons Connections: If we know how the brain learns best why aren't we doing more to design learning to take best advantage of this information? This valuable learning science can realize its potential to enhance learning in the new spaces and places of the Learning Commons. Here learning strategies and environments can be designed and trialed to create brain compatible experiences. Techniques and technology tools to help learners actively process information must be essential components of every information task to ensure that learners attain deep understanding and long lasting knowing.
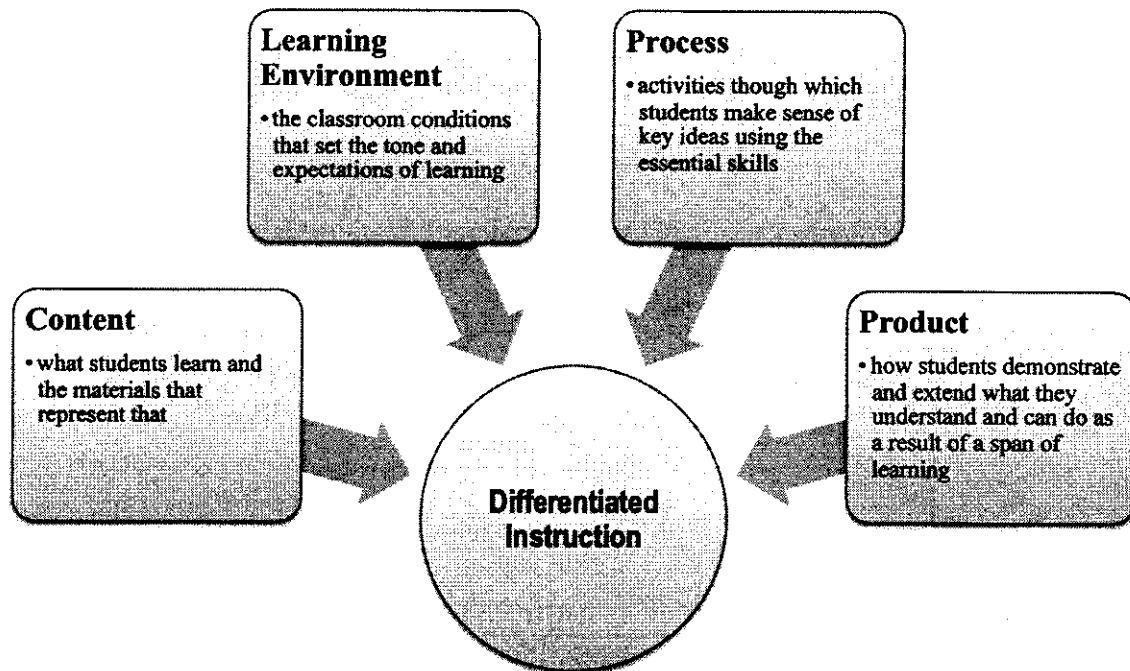
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[13] Wolfe, Patricia. *Brain Matters: Translating Research into Classroom Practice*. Alexandria, VA: Association for Curriculum Supervision and Development. 2001.
[14] Jensen, Eric. *Teaching with the Brain in Mind*. Alexandria, VA: Association for Curriculum Supervision and Development. 1998.

Differentiated Instruction

Carol Ann Tomlinson, a leader in this field, tells us that differentiation is acknowledging that kids learn in different ways, and responding by doing something about that through curriculum and instruction[15]. She explains that differentiating instruction is not an instructional strategy nor is it a teaching model. It is in fact a way of thinking, an approach, to teaching and learning that advocates beginning where students are at and designing experiences that will better help them to achieve.

In their book *Integrating Differentiated Instruction and Understanding by Design*, Tomlinson and McTighe suggest that teachers first need to establish standards for student achievement and then design many paths of instruction to enable all learners to be successful.[16] To reach desired learning standards, Tomlinson and McTighe encourage teachers to differentiate for students through the following design elements:

Learning Environment
• the classroom conditions that set the tone and expectations of learning

Process
• activities though which students make sense of key ideas using the essential skills

Content
• what students learn and the materials that represent that

Product
• how students demonstrate and extend what they understand and can do as a result of a span of learning

Differentiated Instruction

Learning Commons Connections: Driven by client-side needs and opportunities, the Learning Commons is the ultra responsive learning space. The teacher-librarian and technology specialist help classroom teachers to design differentiated learning with rich resources and technologies and strategies. Working through the Learning Commons, school leadership teams can ensure that the Tomlinson and McTighe design elements can be infused in all learning experiences.

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[15] Tomlinson, Carol Ann. *The Differentiated Classrom*. Alexandria, VA: Association for Curriculum Supervision and Development.1999.

[16] Tomlinson, Carol Ann and McTighe Jay. *Integrating Differentiated Instruction + Understanding by Design*. Alexandria, VA: Association for Curriculum Supervision and Development.2006.

Multiple Intelligence and Five Minds for the Future

This widely accepted theory was developed by Howard Gardner, a psychologist, and professor of neuroscience from Harvard University. Over 25 years ago his classic book, *Frames of Mind: Theory of multiple intelligences* made a major impact on the education world. In that book and in later statements, he identified eight unique intelligences:

- Verbal-Linguistic Intelligence
- Musical-Rhythmic Intelligence
- Logical-Mathematical Intelligence
- Visual-Spatial Intelligence
- Bodily-Kinesthetic Intelligence
- Interpersonal Intelligence
- Intrapersonal Intelligence
- Naturalist Intelligence

Gardner's newest book, *Five Minds for the Future* outlines the specific cognitive abilities that may well illuminate future directions for 21st Century Schools.

Five Minds for the Future

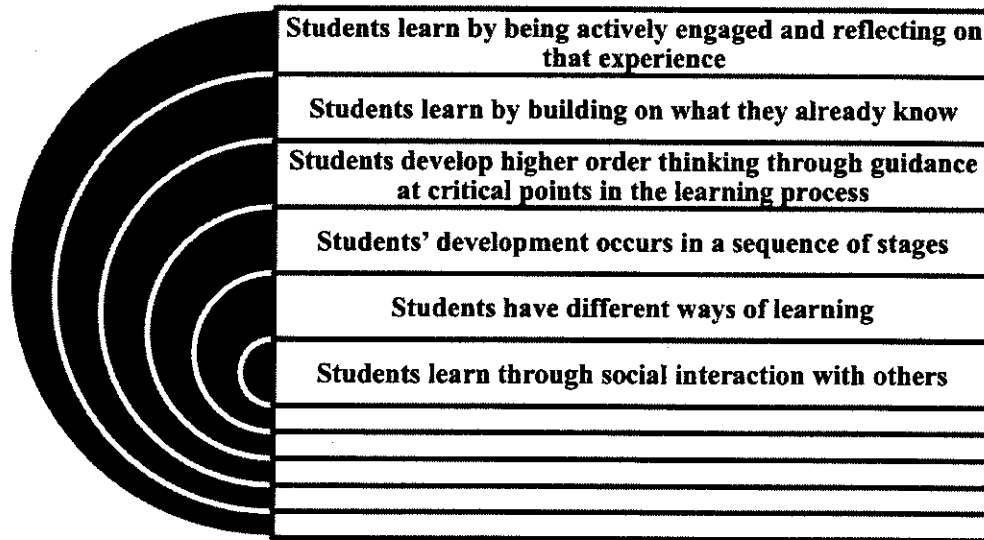|	
The Disciplinary Mind	• The mastery of major schools of thought, including science, mathematics, and history, and of at least one professional craft.
The Synthesizing Mind	• The ability to integrate ideas from different disciplines or spheres into a coherent whole and to communicate that integration to others.
The Creating Mind	• The capacity to uncover and clarify new problems, questions and phenomena.
The Respectful Mind	• Awareness of and appreciation for differences among human beings and human groups.
The Ethical Mind	• Fulfillment of one's responsibilities as a worker and as a citizen.

Learning Commons Connections: Gardner provides grounding frameworks for the leadership teams of the Learning Commons who strive for teaching and learning environments where all learners and teachers win.

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Guided Inquiry

"Guided Inquiry is carefully planned, closely supervised targeted intervention of an instructional team of school librarians and teachers to guide students through curriculum based inquiry units that build deep knowledge and deep understanding of a curriculum topic, and gradually lead towards independent learning. Guided Inquiry is grounded in a constructivist approach to learning, based on the Information Search Process developed by Kuhlthau, for developing students' competence with learning from a variety of sources while enhancing their understanding of the content areas of the curriculum."[17]

This theory has been developed by **Dr. Carol C. Kuhlthau & Dr. Ross J. Todd at the Center for International Scholarship in School Libraries at Rutgers University and expanded in** *Guided Inquiry: Learning in the 21st Century.* A collaborative space, designed to facilitate sharing information about the theory and practice of Guided Inquiry is found at: http://guidedinquiry.ning.com/

Six characteristics of Guided Inquiry ©

Students learn by being actively engaged and reflecting on that experience
Students learn by building on what they already know
Students develop higher order thinking through guidance at critical points in the learning process
Students' development occurs in a sequence of stages
Students have different ways of learning
Students learn through social interaction with others

Learning Commons Connections: The constructivist basis of this theory and the belief that learners share responsibility in seeking understanding, supports all work in the commons. The characteristics of Guided Inquiry are excellent criteria for measuring successful design of learning experiences in the Learning Commons.

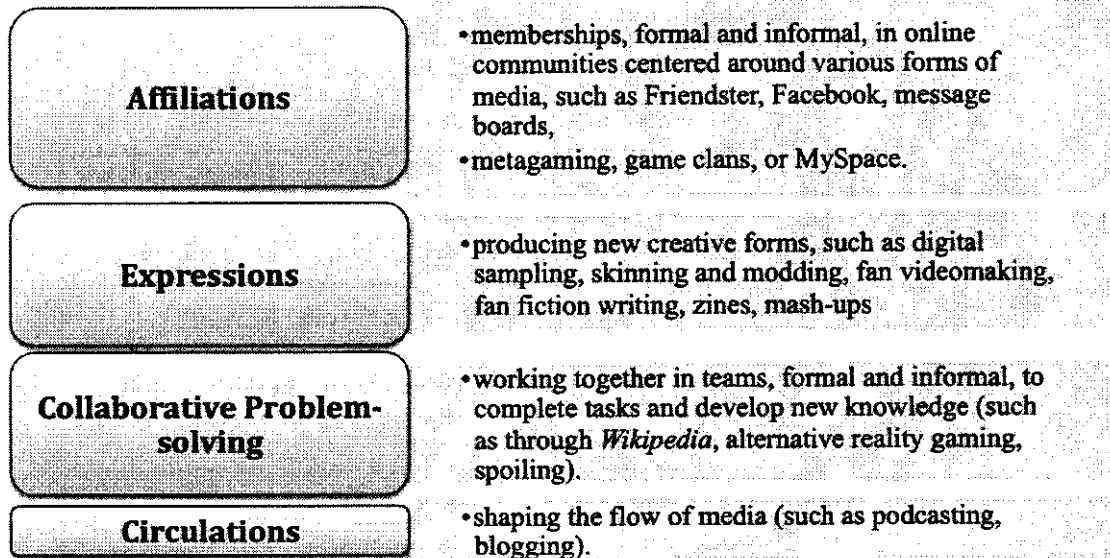[17] http://cissl.scils.rutgers.edu/guided_inquiry/introduction.html

Participatory Culture

Recent advancements in technology and the Web.02 features in particular have opened up new collaborative spaces for users. In fact Henry Jenkins and others proclaim that these advancements have spawned a unique way of creating, sharing and learning called a participatory culture.[18]

Characteristics of a Participatory Culture

- relatively low barriers to artistic expression and civic engagement
- strong support for creating and sharing one's creations with others
- some type of informal mentorship whereby what is known by the most experienced is passed along to novices
- members believe that their contributions matter
- members feel some degree of social connection with one another (at the least they care what other people think about what they have created).

The paper maintains that while not every member must contribute, all must believe they are free to contribute when ready and that what they contribute will be appropriately valued. The document also suggests that *participation* is expressed in a variety of forms; affiliations, expressions, collaborative problem solving, and circulations

Affiliations	•memberships, formal and informal, in online communities centered around various forms of media, such as Friendster, Facebook, message boards, •metagaming, game clans, or MySpace.
Expressions	•producing new creative forms, such as digital sampling, skinning and modding, fan videomaking, fan fiction writing, zines, mash-ups
Collaborative Problem-solving	•working together in teams, formal and informal, to complete tasks and develop new knowledge (such as through *Wikipedia*, alternative reality gaming, spoiling).
Circulations	•shaping the flow of media (such as podcasting, blogging).

Learning Commons Connections: The emerging participatory culture will find nourishment and inspiration in the client based organization and learning environment in the Learning Commons. Further connections to work of Henry Jenkins can be found at his blog http://www.henryjenkins.org/ and in his recent publications, *Convergence Culture* and *Fans, Bloggers and Gamers*.

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[18] http://www.projectnml.org/files/working/NMLWhitePaper.pdf

The Current Crisis

An important Canadian report has laid bare many systemic problems for school libraries. This document, *The Crisis in Canada's School Libraries: the Case for Reform and Re-Investment*, commissioned by the Association of Canadian Publishers and Canada Heritage in 2003 has played a critical role in the battle to strengthen school library programs in Canadian schools. Designed with the policy maker in mind this valuable work provides volumes of evidence, based on research that school library programs have a positive impact on student achievement. One of the unique contributions made in this work is a formal recognition of the impact the school library has on cultural identity, socialization and citizenship. Written by Ken Haycock a champion of school libraries in Canada and everywhere, this work is a grounded starting point for change. The document can be accessed from http://www.cla.ca/slip/final_haycock_report.pdf

Dr. Haycock is professor and director of the school of Library and Information Science at San Jose State University. A recent publication *The Portable MLIS* edited by Ken Haycock and Brooke Sheldon provides a broad overview of librarianship. http://www.greenwood.com/catalog/LU5847.aspx

Learning Commons Connections: No change will happen unless all levels of educational institutions and governments recognize the need. This document goes right to the top.

Active Literacy

Active Literacy is knowing how to work information and ideas dynamically to construct meaning. Working with content curriculum today has driven the need for learners to have the ability to apply strategic thinking while reading, viewing, listening to all kinds of media, ideas and information as well as communicating their new learning. Two leaders in this movement over the years are Stephanie Harvey and Anne Goudvis. Their strategies for working with non-fiction have helped teachers understand that literacy involves working with far more than the novel. Link to their books, podcasts and recent video support at Stenhouse.

http://www.stenhouse.com/html/authorbios_32.htm

Another leader in the field of active literacy is Dr. Heidi Hayes Jacobs. As well as her recent book, *Active Literacy Across the Curriculum: Strategies for Reading, Writing, Speaking and Listening*, Dr. Jacobs is president of Curriculum Designers, Inc. and offers support and professional development for schools in the areas of Interdisciplinary curriculum and curriculum mapping. http://www.curriculumdesigners.com/

Learning Commons Connections: The success of knowledge building hinges on the ability of learners to construct meaning in all disciplines. In the Learning Commons learners are not only active consumers but also active producers of information and ideas.

Administrative Leadership

Through his many publications and presentations David Booth has broadened definitions of reading and literacy to address the real world of 21st century learners. In a recent 2nd edition of the popular *Literacy Principal,* Booth now lays the groundwork for principals and school literacy leadership teams to advance schools to address the new literacies. He acknowledges the critical role teacher librarians and technology play in this process. http://www.stenhouse.com/shop/pc/viewprd.asp?idproduct=9089 David Booth is Professor Emeritus in education at the Ontario Institute for Studies in Education of the University of Toronto where he is Scholar in Residence in the Curriculum, Teaching and Language Department. Further connections to Booth's research can be found at http://www.cea-ace.ca/foo.cfm?subsection=lit&page =map&subpage=ove&subsubpage=dbo

Learning Commons Connections: The hard work involved in reinvention of school libraries and computer labs to support school wide action research and improvement requires the leadership and dedication of strong administration.

Literacy and Libraries

Connecting literacy and libraries is not always as intuitive as we would like. There are a myriad of ways to make those connections for schools. Ray Doiron and Marlene Asselin combined collective minds across Canada to explore this issue in their Publication, *Literacy, Libraries and Learning* and highlight these ideas:

- promoting reading for learning and pleasure;
- improving critical literacy skills when using information from many sources;
- encouraging research methods that respect copyright and lead to original work;
- designing information tasks to help students work effectively with data;
- developing better informational text structures that increase comprehension;
- encouraging the integration of emerging technologies and traditional resources.

Chapters of this publication can be previewed on-line at Stenhouse, http://www.stenhouse.com/shop/pc/viewprd.asp?idProduct=8972&r=&REF ERER=

Learning Commons Connections: Whole school literacy is developed, initiated, and celebrated through leadership in the Learning Commons. Improving literacy achievement is an organized and coordinated effort rather than being driven by isolated projects.

Sparking the Middle Years

Adolescent learners have their own special set of needs. One of their characteristics is the need for real world relevant learning experiences. Chris Tovani coined the phrase "fake reading" in her book *I Read It but I don't Get It* and then challenges all teachers to consider reading their mandate whatever the discipline, in a later publication, *Do I Have to Teach Reading?* Information about her books and videos can be found at Chris Tovani's website *http://www.tovanigroup.com/*

Adolescents also tend to lose interest in school just at the time when they start to develop the abilities to think and reason at higher levels. In his book *Puzzle Them First: Motivating Adolescent Readers with Question Finding*, A. Vincent Ciardiello presents a powerful way to make learning relevant and engaging for learners. Published by The International Reading Association this book is a goldmine of effective strategies and a valuable approach to addressing the needs of this special group of learners.
http://www.reading.org/publications/bbv/books/bk581/abstracts/bk581-2-Ciardiello.html

Learning Commons Connections: Keeping learning real world, relevant and engaging becomes easier when the world is at the finger tips of learners and teachers. There is no "fake work" in the Learning Commons.

Effective Student Questioning

For students to fully participate and thrive in this new 'learning age', they must be critical thinkers. Questioning is the base skill that makes all thinking purposeful. **Consequently intuitive questioning techniques are becoming essential learning tools**. Through the lens of effective questions students learn to be responsible and effective information users.

Questioning skills will help every student succeed with many kinds of information tasks including:

- Exploring a topic for research
- Developing a focus for research
- Accessing information
- Validating information sources
- Designing surveys and interviews
- Processing information
- Thinking critically about information
- Deeper understanding of issues
- Connecting to real world problems and events
- Critical analysis of media texts
- Self analysis and peer review

A practical professional text to kick start staff development on effective student questioning is *Q Tasks: How to empower students to ask questions and care about answers* by Carol Koechlin and Sandi Zwaan. Selected chapters may be viewed on-line at Stenhouse.
http://www.stenhouse.com/shop/pc/viewprd.asp?idProduct=9000&r=&REFERER=

Another valuable resource to keep pace with is the Question Mark www.questioning.org

Learning Commons Connections: Building a school wide climate conducive to inquiry is a key goal for the commons. Modeling and testing questioning strategies for all ages and disciplines is natural in this high stimulus environment.

Over to You. Discuss with Us at:http//schoollearningcommons.pbwiki.com

- What other connections to a Learning Commons concept do you recommend?

Other Voices in Education

David V. Loertscher

The idea behind the main topic of Treasure Mountain #15 is to make connections between our advanced thinking of school library media programs and ideas outside our immediate field. There seems to be a giant tug of war going on in the field of education between those who favor "coverage" and direct teaching in order to demonstrate high scores on state and national testing and those who are promoting more constructivist ideas of inquiry, 21st century skills, and the push to use Web 2.0 tools and cloud computing. There are hundreds of competing voices for us as teacher librarians to listen to and compare to our own thinking. It would seem that rather being isolated from the mainstream of educational theory and practice, we should be in a leadership position. That stance has not been an easy one for us to achieve. We need to keep trying.

Below are a few voices along with others that will be reported at the conference that might assist us in determining our journey. No attempt has been made to be comprehensive. Rather, here are just a few sample ideas to consider.

Reading

- In September, 2009, an article was published in the *New York Times* describing Nancy Atwell's position on children having choices in what they read. There were over 400 replies to that article on line, many saying that kids should be required to read the classics. Nancy responded in a video giving the six myths about reading. This video was posted on her publisher's website at: http://www.heinemann.com/
Questions: What connection does choice in reading have with leveled reading and the study of exactly the same literature across various grade levels to the development of the learning commons in the world of information and technology?

- A Library Without Books? A very spirited discussion occurred in Sept. 2009 about the Principal, James Tracy of the Cushing Academy (39 School St., Ashburnham, MA 01430-1500 (978) 827-7000) who is discarding the bulk of book in the library to do digital and create a sort of learning commons.
http://www.boston.com/news/local/massachusetts/articles/2009/09/0 4/a_library_without_the_books/
Question: What role do we see for print material as the digital world and transfer of print to technology continues to happen?

Technology

"We have teachers who want to use the internet for all kinds of content and experiences for our students, but we have tech coordinators who are locking down our networks. What do we do about that?" It was a question posed by Kathleen Barnhart of the Illinois Board of Education, but it could have been asked by anyone working in education today. Drawing the balance between safety and providing the best instructional experience is rapidly becoming one of the toughest issues in education.

Barnhart asked the question at a forum provided by the State Educational Technology Directors Association (SETDA), and she posed it to Aneesh Chopra, White House chief technology officer, and Jim Shelton, the assistant secretary for innovation and improvement at the US Department of Education. Both had interesting answers.

Chopra, who served in a similar role for the Governor of Virginia and worked with the Virginia Department of Education on a number of projects, noted, "The typical role of the IT leader in an organization is cost management of decisions around procurement, etc, and it is really about risk mitigation." He went on to say that while it is essential to have the "lock the network down" voice, you also need someone who will say "there are ways to involve students and content from the internet." Then, you find a balance between those two voices.

Shelton's answer paralleled that of Chopra. He said, "It is incumbent on all of us to create the environment in which people can take a little risk."

So how does a district balance safety and learning? There is not a simple answer; there are many aspects to consider, from policy to tools to training, all of which are necessary.

Recognize that safety and learning are everyone's responsibility. Students, teachers, parents, and IT directors all have a stake in ensuring safety and learning. A clear, well-explained and consistently enforced Acceptable Use Policy signed off by students, teachers, parents, and the school district is a critical beginning. Policies that clearly comply with CIPA and other state and federal laws and are easily explained to students, educators and parents also are vitally important.

Provide high-quality, flexible and comprehensive tools. IT directors need an integrated system of tools to protect students against predators and other personal threats as well as to protect the network and users against spam,

viruses, malware, and other technology threats. These solutions also can save money by optimizing the network and saving storage space formerly needed for unwanted email.

Provide training and dialog about what is possible. IT directors need training and support on how to use these tools effectively and efficiently. However, educators also need to know the strengths and limitations of the tools. The voice of risk mitigation and the voice of learning need to talk about **how** things can be done and **how** challenges can be overcome, and not just accept either/or answers. With the proper tools, both sides can discuss under what circumstances open access to the Internet can take place or laptops can be taken home and used on other networks safely. Completely shutting down a capability of a laptop or a Web 2.0 site to protect students is no longer a viable option.

Create an environment where "people can take a little risk." This takes knowledgeable leaders who understand how tools can help protect students, but it is only the responsible application of those tools that can create the best learning environment for students. Knowledgeable leaders will not just toss responsibility for IT over the wall and say it is the IT department's problem, but will encourage - and participate in - the dialog Chopra talked about.

For more information on these and other related issues please visit the
CIO's Source for Safety and Learning
Lightspeed Systems
1800 19th Street
Bakersfield, CA 93301

Question: What steps are teacher librarians taking to trade access for teaching responsibility?

Tom Barret, a teacher leader in technology in England, does presentations like this one: http://docs.google.com/present/view?id=dgzzw5hw_52dkpjk9ff and makes them available to the world through his blog at:
http://tbarrett.edublogs.org/

Question: What do teacher librarians do with such tech savvy folks in their schools? Are we reading to work along side such folks?

Deconstructing the ARCS Model
Designing Interventions for Non-Proficient Students

Don Latham, Associate Professor, and Melissa Gross, Associate Professor
School of Library and Information Studies
Florida State University

A key component of designing any kind of instruction is determining how best to motivate the people you are trying to teach. As any instructor who has ever stared out at a sea of bored faces can attest, motivation is not always easy to achieve, yet everyone agrees it is vital to successful learning. Students who are interested and engaged are more likely to put forth the effort required to learn a new skill and/or master new content, while students who are uninterested often will do as little as possible to get by. Some students are motivated by grades or other extrinsic rewards; some are intrinsically motivated by the satisfaction of acquiring new knowledge or a new skill. Such students can be joy to work with, but the fact remains that with many other students motivating them can be a real challenge. There may be a temptation for teachers to gear the instruction to the most hardworking students and hope that the others will experience some sort of residual gain. However, with the current emphasis on accountability and assessment, teachers no longer have the option of letting poor-performing students slide by. What, then, are teachers and school library media specialists to do?

Keller's ARCS Model of Instructional Design

Various motivational models have been developed to assist teachers and instructional designers in integrating effective motivation into teaching. One such model that has had wide influence in the United States is the ARCS (Attention, Relevance, Confidence, and Satisfaction) Motivational Model. Developed in the early 1980s by John Keller, a Professor of Education at Florida State University, the ARCS Model is based on the idea that people are more likely to be motivated "to engage in an activity if it is perceived to be linked to the satisfaction of personal needs . . . and if there is a positive expectancy for success" (Keller 1987, p. 3).

The ARCS Model is based on expectancy-value theory, which states that "people are motivated to engage in an activity if it is perceived to be linked to the satisfaction of personal needs (the value aspect), and if there is a positive expectancy for success (the expectancy aspect)" (Keller 1987, pp. 2-3). The ARCS Model divides expectancy-value theory's two categories into four conceptual categories related to motivation: Attention, Relevance, Confidence, and Satisfaction (Keller 1987). According to the model, these categories represent conditions that must be met in order to motivate students and keep them motivated.

Attention involves "directing attention to the appropriate stimuli" (Keller 1987, p. 3) and sustaining it throughout the learning process. Relevance involves connecting the subject matter taught to students' lives – in particular, to their future careers, their pleasure in learning, and/or the process by which they prefer to learn. Confidence involves instilling in students the confidence that they can succeed at learning the material. It is important to begin with a task that students can feel reasonably confident in mastering and then build on that initial activity with increasingly difficult tasks. Finally, satisfaction involves helping students to feel good about what they have accomplished. Rewards may be extrinsic and/or intrinsic.

Keller also offers instructional strategies in each of these categories, techniques that can help foster these conditions. Attention strategies include employing incongruity or conflict, concreteness, variability, humor, inquiry, and participation. Relevance strategies include connecting the material to students' experience, demonstrating value of the material in the present context, demonstrating value in the future, matching the material to students' needs (for achievement, affiliation, etc.), providing models of enthusiasm and success, and offering choice in the completion tasks. Strategies to instill confidence include stating learning requirements clearly, arranging material in order of difficulty, setting specific expectations for success, attributing student success to effort, and fostering self-confidence in students by encouraging them to practice and become increasingly independent. And strategies to insure satisfaction include allowing students to try out new skills in real-world settings, providing unexpected rewards, providing feedback and praise, avoiding negative reinforcements, and providing frequent, yet varied, positive reinforcements.

Information Literacy Instruction, Motivation, and the ARCS Model

An instructional domain of particular interest to library media specialists is that of information literacy instruction. For more than a decade, both the K-12 and higher education arenas have placed increasing emphasis on information literacy as crucial for academic achievement and life success. Standards have been developed, both at the state and national levels, to insure that students are equipped with the specific skills needed for finding, evaluating, and using information effectively and ethically.

In 1997, the American Association of School Librarians, in cooperation with the Association for Educational Communications and Technology, published *Information Power: Building Partnerships for Learning*, in which nine Information Literacy Standards for Student Learning were identified along with specific indicators for each. In 2000, the Association for College and Research Libraries issued the *Information Literacy Competency Standards for Higher Education*. That

document identified five standards related to finding, using, and evaluating information. And in 2009, AASL published *Standards for the 21st-Century Learner*, which acknowledges that "[t]he definition of information literacy has become more complex as resources and technologies have changed" (*Standards* 2009, p. 3). Now multiple literacies are needed, including "digital, visual, textual, and technological" along with information literacy (*Standards* 2009, p. 3). The *Standards for the 21st-Century Learner* focuses on four key skill areas, which may be broadly categorized as the ability to engage in critical thinking, use information effectively, share information ethically, and pursue personal enrichment.

Yet, for all of the emphasis being placed on information literacy, research indicates that many students are leaving high school without having attained these skills. A few years ago, the Educational Testing Service tested 3000 college students and 800 high school students, using the newly developed Information and Communication Technology test (now called the iSkills test). Only 13% of the students achieved sufficient scores to be considered information literate (Foster 2006).

The reasons for this are complex and myriad. Particular standards vary from state to state and are often buried within the standards for specific content areas (Harris, 2003), so there is likely little consistency in what is being taught. In addition, the amount of time devoted to instruction by school library media specialists varies widely (AASL, 2007). And there is a great deal of variability in the extent to which and the means by which information literacy skills are assessed. If such assessment is not included in state-mandated standardized tests, then it seems unlikely much time will be spent either in the classroom or in the school library media center on such instruction.

Several researchers focus on the lack of motivation as an important factor contributing to students' low information literacy skill levels. Burdick (1998), for example, suggests that some students are "information aliterate," meaning that they have the ability but not the desire to undertake "library research projects." In her study of high school students working on a research paper for an English class, she found that 25% were "negatively involved" in the project. In other words, they reported being bored with, uninterested in, and detached from the project or topic (Burdick, 1998). Crow (2007) notes that, in general, many students' intrinsic desire to learn begins to decline in their third-grade year and continues through eighth grade. She suggests that school library media specialists might keep students motivated by drawing on Self-Determination Theory (SDT) and addressing students' needs for autonomy, perceived competence, and relatedness.

Small, a former student of Keller's, has written extensively on the importance of integrating motivational strategies into information literacy instruction. In a

1998 article, she provides an overview of several theories of motivation, including the ARCS Model, and argues that these theories should inform the design of information literacy instruction. In subsequent publications, she reports on research in which she discovered that elementary and middle-school library media specialists (1999) as well as community college librarians (2004) tended to employ far more strategies related to getting and maintaining attention than they did other kinds of motivational strategies related to relevance, confidence, and satisfaction. In addition, she and Arnone have developed strategies that school library media specialists can use to achieve motivational goals, including the Motivation Overlay for Information Skills Instruction (2000) and IM-PACT, which explicitly incorporates Keller's ARCS Model into instructional design for information literacy (2005).

Potential Limitations of the ARCS Model

While the ARCS Model has been widely influential and undoubtedly has merit, our research suggests that it may also have limitations, especially in addressing the instructional needs of students who have non-proficient information literacy skills. Three research projects, two completed and one in progress, have looked at the information literacy skills, views of information literacy, and self-perceptions of students who are in their first year in college. What has emerged is a profile of non-proficient students that has important implications for designing information literacy instruction.

In Study One, 51 first-semester students at a Research 1 state university were tested, using the Information Literacy Test (ILT), a web-based, multiple-choice test based on ACRL's *Information Literacy Competency Standards for Higher Education* (Wise, Cameron, Yang & Davis, n. d.). Participants were also given brief pre- and post-test surveys in which they were asked to predict their performance on the ILT.

In Study Two, 20 first-year students at a Research 1 state university participated in in-depth semi-structured interviews on their experiences with finding, evaluating, and using information. These students also took the ILT and completed the two pre- and post-test surveys.

In Study Three, which is in progress, 192 students from two community colleges took the ILT and completed the two pre- and post-test surveys. From those who scored in the non-proficient range on the ILT, 57 students were recruited to participate in in-depth semi-structured interviews on·their experiences with finding, evaluating, and using information. In all three projects, participants were paid for participation.

In Study One, 45% of the students scored in the non-proficient range on the ILT (defined by the test designers as a score of below 65%) (Gross & Latham, 2007). In Study Two, in which 17 of the 20 participants ranked in the top 10% of their class in terms of admissions data, only one student scored in the non-proficient range on the ILT, although many of the other students achieved scores that were just above the score needed to be determined proficient, and only one scored as "advanced" (Gross & Latham, 2009). In Study Three, no students scored at the advanced level. At one community college 27 % (26 out of 95 students tested) scored at the proficient level. At the other community college 6 % (6 out of the 96 students tested) received a score that indicated proficiency.

In all three studies, students scoring in the non-proficient range tended to over-estimate their performance on the ILT both before taking the test and after taking it. In addition, non-proficient students tended to predict their rankings among their peers as being between the 70th and 80th percentiles, even though their actual rankings were much lower. In other words, the non-proficient students over-estimated both their skill levels and their standings among their peers. Almost all of them ranked their skills as "better than average" (Gross & Latham, 2007, 2009). Moreover, although a number of students recalled learning how to use the library in elementary school, most of them described their information literacy skills as either self-taught or as having been taught to them by their peers (Gross & Latham 2007; Latham & Gross, 2008).

A key to interpreting this data can be found in competency theory. Developed in the field of psychology by Kruger and Dunning (1999), competency theory suggests that people with low-level skills in a given domain:

- don't know that they are incompetent;
- believe they are above average in ability;
- tend to overestimate their own performance;
- are unable to recognize competence in others; and
- are unable to gain insight into their own performance from analyzing the performance of others.

Our research indicates that competency theory applies in the domain of information literacy skills (Gross & Latham, 2007, 2009).

Non-Proficient Students and the ARCS Model

When considered in relation to the four conceptual categories of the ARCS Model, our research findings, as informed by competency theory, suggest that the model may be of limited value in developing effective instruction for non-proficient students. While Keller does have some expectation that instructors know something about their students, investigation into the student's point of

view towards instruction, their information needs and preferences, and how they understand what motivates them to learn is not an explicit part of the ARCS model. One interesting aspect of focusing on the needs of students who lack information literacy skills, but who believe they are really good at finding, evaluating, and using information is that they often constitute an unknown proportion of the students in any given class and that their instructional needs may be highly different than those of students who do not have a miscalibrated idea of what their skill levels are.

Attention

Take the category of attention, for example. In a recent interview we conducted with Keller, he discussed implementation of the ARCS Model as a top-down process. In other words, the instructional designer and/or the teacher choose strategies to get students' attention (personal interview, July 27, 2009). Students are seen largely as recipients of instruction and beneficiaries of sound instructional design, not as active participants. Keller sees the potential role of the school library media specialist in this process as one of support in helping teachers develop instruction (personal interview, July 27, 2009). The instructional strategy relies initially on using a quick attention-getter, such as a startling fact or provocative question. While such techniques might pique students' interest for a moment, the real issue for instructors is to <u>sustain</u> attention after it has been gained (Keller, 1987). Citing Zuckerman (1971) and Berlyne (1965), Keller (1987) states that in order to sustain students' attention "it is necessary to respond to the sensation-seeking needs of students . . . and arouse their knowledge seeking curiosity" (p. 3).

Clearly, in order to be successful in getting and maintaining attention, more knowledge of how students understand their learning needs is required. Our research, particularly Studies Two and Three, has done just that, starting with an emphasis not on instructional models, but on instructional needs: not on strategies, but on students.

In that sense, we have been employing a qualitative research methodology called phenomenography, which focuses on people's perceptions of a particular phenomenon rather than on some abstract notion of objective reality. Within the field of information literacy research, this approach has been used by Bruce (1997) to study higher education administrators' perceptions of information literacy and by Maybee (2006, 2007) to investigate college undergraduates' perceptions of information use. In our own research, we have discovered that first-year college students tend to perceive their information skills as largely self-taught, they consider their skill levels to be above average, but they think of information skills as nothing special, as something that most of their peers possess. The question then becomes how can you sustain attention on a topic for

those students who think they already know what they need to know on the topic being presented to them.

Relevance

The issue of sustaining attention is related to the assertion in the ARCS model that there needs to be a connection between the material to be learned and some aspect of student's lives — perhaps academic achievement, career success, and/or personal fulfillment in order for instruction to be successful. Keller (1987) calls this connection Relevance, and describes it as central to students feeling challenged in a meaningful way (Keller, 1987).

Our research has revealed that demonstrating the relevance of information literacy instruction to students who have non-proficient information literacy skills is especially difficult for several reasons. The students we interviewed are not familiar with the term information literacy, have difficulty understanding what it means at a face value, and do not perceive information literacy as a discrete set of skills. The fact that students do not appear to know what information literacy refers to is surprising, given that the term has been in circulation for almost twenty years and has been the focus of key sets of standards for the past decade. It is unknown whether the term is not being used by academic and school librarians or by teachers in talking with students — or whether the term is so vague that it does not resonate sufficiently with students so that they remember it.

When asked what they think it might mean, some students have been able to produce definitions close to the definition information professionals have developed. Interestingly, many of these students are those who scored at the proficient level. However, others tend to be thrown off by the combination of words, not really knowing how to put "information" and "literacy" together. Some students conflate information literacy with computer literacy, or technology skills, the ability to write, or even their ability to get a good grade. Moreover, as indicated previously, students tend to think of the skills required to find, evaluate, and use information as nothing special, as something almost everyone possesses. While they acknowledge that the ability to find, evaluate, and use information is important, they believe that they and their peers already have this ability.

In terms of effort on the part of the instructional designer to build a connection between the material to be learned and some aspect of student's lives, the belief that they already have these skills is problematic. Students may agree with the connections made, but if they feel that they already have these skills, the idea that these skills are relevant to their lives may not motivate them within the context of instruction in the way Keller intends.

Confidence

Confidence is Keller's third category related to motivation. Keller (1987) says that students need to feel confident in their ability to master the task at hand whether it is learning a new skill or acquiring new knowledge. He explains that instructional designers can foster this sense of confidence by including a series of increasingly more difficult tasks in instruction. Students begin with relatively easy tasks at which they can be successful and then gradually move on to more difficult tasks, building skills and knowledge as they proceed.

In our interview with Keller (personal interview, July 27, 2009), he reiterated the importance of instilling confidence in students, of helping to change many students' self-perceptions that they cannot succeed because they cannot learn. He specifically cited Dweck and Reppucci's (1973) concept of "learned helplessness," which refers to the belief some students have that their success or lack thereof can be attributed to their innate ability rather than effort. Such students are unlikely to put forth much effort because they do not believe that it will have any effect on their performance.

Our research has uncovered an opposite kind of problem, namely that non-proficient students have an overabundance of confidence in their abilities, at least as related to information literacy skills. As a result, they do not believe they need instruction, for they believe they already know what they need to know about finding, evaluating, and using information. Motivating such students is not a matter of helping to build their confidence; instead, it is a matter of finding ways to help them recalibrate their self-estimates of their skill level without undermining their sense of self-efficacy in approaching the learning task.

Satisfaction

Satisfaction is closely connected to both perceived relevance of the task and confidence in one's ability to learn it or do it. Satisfaction, according to Keller (1987), is whatever "make[s] people feel good about their accomplishments" (p. 6) and can include both intrinsic and extrinsic rewards. Crow (2007), however, points out that shifting satisfaction from intrinsic to extrinsic, which is something that often happens in the classroom, actually can decrease students' motivation and ultimate satisfaction in their achievements.

The students in our interviews reported general satisfaction when completing self-generated information tasks. They experienced less satisfaction in completing imposed (Gross, 1995) information tasks, like the kind they do for school, because they felt that they had to do them for a grade and were

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constrained by the requirements of the assignment. Interestingly, in Study Two, which involved mostly proficient students, several of our interviewees commented on the importance of finding something interesting, some "hook," in assigned tasks for school. Interviewees in Study Three, which involved only non-proficient students, rarely made such comments, but instead talked about how difficult it often was to get interested in a school assignment and how they sometimes had to just push themselves through, even though they knew they were not performing at as high a level as they might otherwise achieve.

There seems to be inherent satisfaction in self-generated information seeking that is often absent for non-proficient students in imposed information seeking. Might there be some way to help students transfer the satisfaction in the personal arena to their tasks in the academic arena? Conversely, might it be the case that satisfaction — too much satisfaction — actually works against motivation and instead leads to complacency, i.e., the state of being self-satisfied? Might not a bit of dissatisfaction actually be a valid starting point for instruction and a bit of continuing dissatisfaction a necessary condition for lifelong learning?

Future Research

The ARCS Model provides a useful framework for general instructional design, but it would appear to be deficient as a framework for developing interventions for information literacy instruction focused on the needs of students with non-proficient information literacy skills. Our research hopes to address these instructional needs by:

- developing an understanding of student perceptions concerning what information literacy is and how these skills are best developed;
- developing criteria for the design of instructional interventions that respond to the miscalibration between skills and self-views of their skills that some students experience;
- delivering an intervention based on student criteria that improves student attainment of information literacy skills and is satisfactory to students; and
- providing criteria for the development of interventions, as well as a tested intervention, that can be utilized by schools, colleges, and universities to improve information literacy instruction.

One issue of interest is the question of whether information literacy instruction must be imposed (required) in order to be effective. This may very well be the case for these students as they may not feel motivated to attend a workshop or class to attain skills they believe they already possess.

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In our interviews with students, we have asked how they prefer to learn new skills. We have found that while some of them identified a class or workshop as the best way to learn a new skill or improve an existing skill, many preferred face-to-face, one-on-one instruction, with the implication that such instruction should be available on an as-needed basis and that seeking such instruction should be voluntary.

In Study Three we have been asking students their opinion about making information literacy instruction mandatory. Almost all of the students we have spoken with have been in favor of this idea, although several have made the point that this should take place in middle or high school.

It has become evident that if we are to develop effective instruction for non-proficient students, we must re-think our strategies and maybe even our goals. In their qualitative study of distance learners' attitudes toward information literacy, Scales and Lindsay (2005) state, "It may well be that the broader view of information and a true commitment and interest in lifelong learning will serve our students better in the long run than precise expertise in the more mechanical aspects of information literacy" (p. 521). We believe that our phenomenographic approach as informed by competency theory and imposed vs. self-generated queries offers an opportunity to both reconceptualize information literacy instruction and reconsider motivation in terms that will speak to the instructional needs of non-proficient students.

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Creation of a Research Community in a K–12 School System Using Action Research and Evidence Based Practice

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Abstract

Objective - The purpose of this study was to apply skills developed from an Action Research Training Model (Gordon) in the design of two action research projects to ensure that students are ethical users of ideas and information. It was deemed necessary to assess prior knowledge and attitudes of students and teachers in order to identify issues to be addressed.

Methods - Both projects employed the use of survey instruments, which presented students with scenarios involving aspects of information use, and asked whether or not the actions in the scenarios were examples of ethical use. The high school survey was administered to 381 students in tenth grade English classes. The elementary survey was administered to 87 students in fifth grade. A more comprehensive teacher survey was administered at the high school level. For each student behavior addressed by the survey, there were two questions: one eliciting the teacher's perception of how often students engaged in that behavior, and the second how often the teacher had to confront a student about the same behavior. Participation was voluntary, and 36 teachers took the survey.

Results - Surveys administered at the high school level showed that most students have a good understanding of the ethical use of information regarding clear instances of plagiarism. Students' understanding was less clear in two major areas: creating a bibliography that accurately reflects the sources used to create the work, and the level of collaboration or assistance that is appropriate in completing a research assignment. The teacher surveys showed some discrepancy between perceptions of the frequency of certain types of unethical student behavior and how often teachers challenged students on that behavior. The surveys showed that teachers found plagiarism to be the most prevalent behavior, while obtaining copies of exams and buying papers were the least frequently occurring behaviors. At the elementary level, results indicated that understanding how to properly cite sources was a major area of concern. Students were also confused about whom to ask for help during the research process. Instructional intervention was developed and applied. The survey was re-administered with the addition of items that were based on the interventions.

Responses showed a marked improvement in understanding by at least 20%. Some responses improved by as much as 60%.

Conclusion - The study validated the Action Research Training Model as the first dimension and conceptual framework that informs and guides instructional practices of school library media specialists and teachers in a K-12 school district. After using the model to examine student-teacher knowledge and understanding of ethical use of information (second dimension), there was recognition of the need to clarify the school's position on the ethical use of information for teachers and students and provide intentional instruction and interventions for students beginning at an earlier grade level. After being made aware of the results, teachers were anxious to work with library media specialists to address issues and to look for opportunities within research units to collaborate.

Introduction: Background of the Action Research Project
Why would an award-winning school district engage in a rigorous and challenging action research project? The school district was already aware of evidence based practice as defined by Todd: "Evidence-based practice is where day-by-day professional work is directed toward demonstrating the tangible impact and outcomes of sound decisions making and implementation of organizational goals and objectives" (7). The school district had embraced this concept of evidence based practice in their decision making and in their teaching. They had established a district data team representative of all schools, conducted a comprehensive data inventory as well as a gap analysis to determine what additional data were needed in order to improve teaching and learning. However, they were not convinced that they were seeing benefits through improved transactions. As Todd notes, evidence based practice offers six key benefits:

1. It provides local evidence at the school level that library initiatives make a visible contribution to learning, and that administrators, teachers and parents can see the real impacts;
2. It convinces administrators and community funders that the money invested in the school library is worth it;
3. It demonstrates the teacher-librarian's commitment to learning outcomes;
4. It helps teacher-librarians plan more effective instructional interventions and information services;
5. It contributes to job satisfaction;
6. It moves beyond anecdotal, guess work, hunches, advocacy, and touting of research findings (7).

The moment of realization came in October 2001 at the 10th annual AASL (American Association of School Librarians) Conference and Exhibition held in Indianapolis, Indiana. Dr. Carol Kuhlthau and Dr. Ross Todd, both from Rutgers

University, presented a transformational session entitled, "Research Process and Evidence based Practice." Two school library media professionals from Londonderry, New Hampshire were in attendance and afterward connected with Dr. Carol Gordon, then at Boston University, now at Rutgers. The two library media professionals began a conversation with Dr. Gordon about their recognition of what they described as a "missing ingredient" in the Londonderry program. Although recipients of the AASL School Library Media Program of the Year award in 2000, they had an intuitive sense that the program needed to make the next step. The vision generated by Dr. Kuhlthau and Dr. Todd of what "should be" was reinforced by the conversation with Dr. Gordon, who proposed the idea of action research because it was well-suited to improving teaching and learning. "Action research, as a tool of evidence based practice, structures reflective practice" (Gordon). Action research is problem-focused, context-specific, and future-oriented, and aims at improvement and involvement (Hart and Bond). Although well-conceived in its purpose and well-described in its intent, there is, however, a lack of consensus about its methodology. Boomer defined action research as a "deliberate, group or personally owned and conducted, solution-oriented investigation" (8). Anderson, Herr, and Nihlen defined it as "insider research done by practitioners using their own site as the focus of their study...it is oriented to some action or cycle of actions that practitioners wish to take to address a particular situation" (2). The components of action research are reflection, inquiry and action (Patterson and Shannon).

As a result, a plan of action, or action research, was developed to move the program to a dimension where it would be both collaborative and authentic. The hope was that this effort would ensure enhanced student achievement and success as well as improving the professional practice of the school library media specialists through their reflective practice in the design, delivery, and assessment of instruction. The library media professionals' moment of realization was the connection they made between evidence based practice, as it was defined by Todd, and action research, which offered a structure for the gathering and analysis of evidence. The next step was for the Director of Library Media and Technology Services to marshal the resources (i.e. support from the superintendent) to sanction a proposal to work with a university-level research mentor, find a source of funding and gain the approval of the Londonderry School Board. Another critical component was to introduce the concept of action research to the other school library media specialists and convince them that because action research is problem-focused and provides solution-oriented investigation, it would serve the program and address ongoing concerns regarding improved student learning. There was definite resistance on the part of the already over-scheduled library media specialists to commit to something new, and that challenged them to grow professionally.

The university mentor came to the school to conduct an orientation on action research and methodologies for the team of eight school library media specialists, the director and the technology trainer/integrationist. She provided a basic understanding of action research as a tool for systematic, intentional inquiry into one particular aspect of their professional practice in order for them to better understand and improve their work. After that, as one library media specialist observed, the district traveled the "bumpy road of action research".

Working with their mentor, school library media specialists learned how to pose researchable questions and write proposals (Appendix 1). Using various sources such as diaries, surveys, questionnaires, interviews, and observations, data were collected and shared with participating teachers, administrators, parents and the school board. When the research projects concluded, participants completed an Action Research Summary (Appendix 2) which, in addition to addressing methods and results, provided an opportunity for reflective consideration of how the study had changed their practice and what they had learned. It was soon obvious that through sustained and guided efforts by their research mentor, support from one another and a keen interest from senior administrators, the library media specialists had engaged and found the work meaningful. The added value of the collaborative nature of the work and the empowerment of the school library media specialists to make decisions and take responsibility for their professional growth was meaningful.

As the library media specialists grew more comfortable using action research and shared what they had learned with the administration, it was determined that it was critical to provide ongoing professional development opportunities as well as support their work as mentors to other teachers in the use of evidence based action research methodologies. This strategy would help to address the school district's strategic goal to achieve and sustain a high level of professional competency of all staff members. It would assist district educators to better inform and improve their practice and most importantly, meet the research learning needs of students. This need was one that resonated with both the school library media specialists and their classroom colleagues. Despite their award-winning program and data sets that showed a high level of student achievement, they felt that students continued to struggle with the research process and resulting projects appeared more "repackaged" than "reflective" of understanding the topic or issue. In particular, educators felt that in working on research assignments and projects, students did not clearly understand the concept of ethical use of information. Thus, in addition to other areas of investigation, action research was employed by high school and elementary school library media specialists, in collaboration with classroom teachers, to focus on the critical objective of ensuring that students are ethical users of ideas and information. As a result, the connection between action research and professional development became clear.

Action research incorporates many of the qualities of an 'ideal' staff development program. It is individualized and can be used by a teacher at any developmental level. It assumes teachers are knowledgeable and gives them power to make decisions. It can be carried out collaboratively. It is an on-going process and for that reason can be more effective than a typical one day in-service presentation. One of the more significant qualities of action research is that it puts the teacher in the position of accepting more responsibility for her (his) own professional growth (Wood 16-17).

Conceptual Framework for Two Action Research Studies on the Ethical Use of Information
What emerged from this project was a two-dimensional model (Gordon) for doing action research in the context of school library instruction (Figure 1). The subject of two of the action research studies was the ethical use of information by children and teens. The first dimension of the model provided the conceptual framework through the establishment of the understanding and use of action research as a tool of evidence based and reflective practice (Gordon). In the second dimension, school library media specialists (with assistance from participating teachers) designed, administered and analyzed results of two action research studies related to student and teacher understanding of the ethical use of ideas and information in order to address immediate concerns and increase their understanding of why students struggle with this issue and what interventions are required. This model is based on a formal research study performed by the university researcher that was concurrent with the action research projects specific to each school library (Gordon).

Dimension One: Action Research as a Tool of Evidence Based Practice
The conceptual framework of the study rests on the use of action research as a tool of evidence based practice. Action research can engage educators in examining the effectiveness of their methods when they have identified an area of concern and use the research process to gather evidence for their theses (Gordon).

As previously noted, through their work with the university mentor, the school library media specialists had learned how to pose researchable questions. They recognized that not only did the research questions need to be measurable, but also meaningful to their work with students. It was also critical that the school library media specialists and teachers recognized the importance of selecting and developing the appropriate data collection instrument. Whether to utilize diaries or journals; pre- and post-surveys,
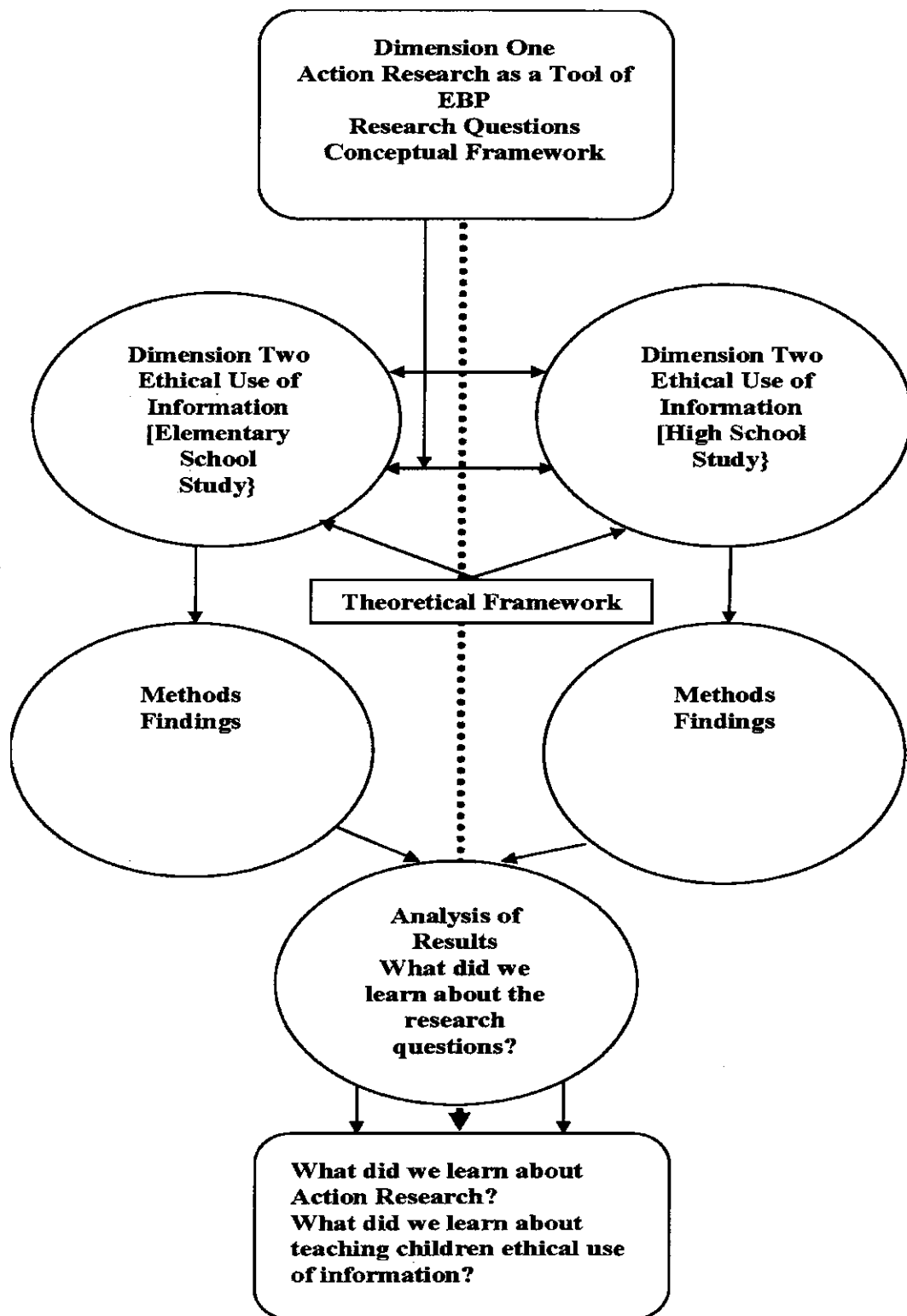
Dimension One
Action Research as a Tool of EBP
Research Questions
Conceptual Framework

Dimension Two
Ethical Use of Information
[Elementary School Study}

Dimension Two
Ethical Use of Information
[High School Study}

Theoretical Framework

Methods Findings

Methods Findings

Analysis of Results
What did we learn about the research questions?

What did we learn about Action Research?
What did we learn about teaching children ethical use of information?

Fig. 1 Conceptual Framework Two Studies on the Ethical Use of Information by Children and Teens

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questionnaires or tests; rubrics, interviews, or observations, was carefully considered because the instrument had bearing on the reporting of results (evidence) and what was learned. The school library media specialists had been trained by the university mentor to ground their projects in educational theory. As the action researchers considered their research questions, they not only had to think about data collection methods and timelines, but also determine with which educational theorist the approach best aligned. This was a transformational element that allowed for meaningful discussions and exchanges among all participants about how students learn and what interventions are most appropriate (and when) in order to ensure their success.

Research Questions and Theoretical Framework
The two studies presented here were conducted by one high school and two elementary library media specialists and addressed the question, "Do our students understand what is ethical or unethical in terms of the use of ideas and information?" Both studies are based on understanding students' prior knowledge as it relates to learning and the constructivist theories of Dewey, Piaget, and Vygotsky in order to apply appropriate interventions.

> Research has shown that a learner's prior knowledge often confounds an educator's best efforts to deliver ideas accurately. A large body of findings shows that learning proceeds primarily from prior knowledge, and only secondarily from the presented materials. Prior knowledge can be at odds with the presented material, and consequently, learners will distort presented material. Neglect of prior knowledge can result in the audience learning something opposed to the educator's intentions, no matter how well those intentions are executed in an exhibit, book, or lecture (Roschelle 37).

Additionally, in a review of the literature on academic dishonesty and plagiarism among students, Ercegovac and Richardson posited that the "seminal writings by John Dewey (1909), Jean Piaget (1997) and Lawrence Kohlberg (1976) could provide a solid theoretical framework in moral reasoning and a good starting point to build on. Their work should be considered by education and library communities in any efforts to design well-grounded academic honesty policies and programs for learners across the educational spectrum" (301-2).

This coupled with the authors' additional suggestion that "attention also is needed in the areas of mapping research results to pedagogical units and specific disciplinary lesson plans, diagnostic and assessment tools that librarians, media specialists, and instructors could customize for their curricular needs" (Ercegovac and Richardson 313) aligns well with the use of action research to investigate learning problems in order to determine and apply instructional interventions.

The high school library media specialist determined it was necessary to assess the attitudes of students and teachers to identify the issues that needed to be addressed. While anecdotal evidence surfaced among the teachers, little concrete information existed to establish students' understanding of what was and was not ethical use of ideas and information. Additionally, teachers' perceptions of how effectively students could utilize information needed to be understood in order to establish learning expectations, develop effective instruction, and to plan for professional development activities.

At the elementary level, the two library media specialists and four fifth grade teachers also set out to assess students' understanding of the ethical use of information. Their research addressed the following questions: Did fifth grade students know the difference between ethical and unethical use of information? And would the teaching of information literacy skills, such as note taking and bibliography, in conjunction with the fifth grade curriculum change student knowledge and practices with regard to ethical use of information?

Limitations of the Studies
It should be noted here that the findings of these two studies are limited in their generalizability to a wider population. Qualitative research is not concerned with effect size or generalizability to a population because it is local and context-specific. Instead, it is said to be transferable to similar populations. Criteria for transferability were met through triangulation, where multiple methods of data collection were used. The findings of these studies are transferable to similar tenth grade high school classes, in the case of the first study, and to similar grade four level elementary classes, in the case of the second study, within the schools where the action research occurred. The replication of both studies in successive years renders the findings transferable to fourth and tenth grade students in the district over time.

Dimension Two: Study One - Ethical Use of Information at the High School Level
Methods
For the assessment of student understanding of ethical use of information at the high school level, members of the library media staff developed a survey for students (Appendix 3) and adapted a related survey for faculty. They were based (with permission) to varying degrees on surveys developed by the Academic Integrity Project at Central Connecticut State University.

The teacher survey was more comprehensive than the student survey, with paired questions designed to determine teachers' perceptions of how often students engaged in unethical behavior related to academic integrity, and also the number of times the teachers had challenged students for those behaviors. The behaviors surveyed included copying or allowing others to copy during an

exam, using unauthorized materials or devices during exams, submitting work that was not the student's own, fabricating research or laboratory data, plagiarism, buying or selling research papers, and reporting cheating by other students. Participation by faculty was voluntary, and 36 high school teachers took the survey.

It was determined that the student survey, while covering many of the topics in the teacher survey, needed to be presented in a more student-friendly manner. Therefore, the student survey presented twelve scenarios involving aspects of ethical use of information, and asked the students whether or not the actions taken by students in the scenarios were examples of ethical use of information. Two additional questions elicited responses about what students knew about the school's position on ethical use of information, and how they had received information (if any) about the school's position. The student survey was administered to 381 tenth grade students during their English classes. Staff also developed an answer key for use by English teachers who wished to take the opportunity to stimulate discussion with students.

Findings

The results of student surveys showed that most students have a good understanding of the ethical use of information regarding direct instances of plagiarism. For the scenario of a student who fabricates data and the corresponding citation, 87% of responding high school students identified the behavior as unethical. The scenario of a student who copies complete sentences from a source without attribution was identified as unethical by 90% of high school students. The scenario involving cutting and pasting a table from a web site and submitting it as original work was reported unethical by 87% of high school students. A similar percentage of students recognized turning in a paper written by someone else as unethical (84%).

Students' understanding of the ethical use of information was less clear in two major areas: creating a bibliography that accurately reflects the sources used to create the work, and the level of collaboration or assistance that is appropriate in completing a research assignment. At the high school level, 48% of the students felt it was ethical to include random citations to meet the minimum number required by the teacher, while an additional 18% reported they "didn't know". Only 56% of high school students thought it was unethical to "guess" which book was the source of a quote used in a research paper.

Student responses showed some confusion over what level of assistance is acceptable for an assignment. High school students overwhelmingly reported brainstorming ideas as a group to be ethical (92%), as well as asking a librarian for assistance in Internet searching (93%). However, thirty percent of high school students thought it was ethical to have a relative conduct the search for

information for a project, while 10% reported they "didn't know". While students overwhelmingly agreed it was ethical to have a parent make suggestions for improvements for a paper (95%), a surprising 56% of high school students thought it was acceptable to have a friend who was a better writer revise and make improvements to a paper.

Most students reported that they knew "some" or a "fair amount" about the school's policies on the ethical use of information (64%). However, 28% knew "little" or "nothing," and only 8% felt they knew "a lot". Most students said they received the information from their teacher (82%), but only 49% said they received the information in the class syllabus.

The teacher survey illustrated a variation in teachers' perceptions of student behavior and the student behaviors they had challenged. For the questions involving students copying or allowing others to copy during an exam, 53% of teachers reported the typical student had done it more than several times. Based on survey response structure, this would mean 3 to 5 times (in high school career). However, 24% of the teachers reported having never challenged a student for that behavior. While 56% of the teachers reported that the typical student turned in another student's work (or prepared work for another student to turn in) occasionally, often or very often, 32% of the teachers reported never having challenged a student on that behavior. The teachers' responses indicated that the most prevalent unethical student behaviors are failing to cite resources (quotes, phrases, figures or data), and in copying information from websites and presenting it as their own work. Eighty-three percent of the teachers reported that the typical student exhibits both of these behaviors. Fifty-nine percent of the teachers reported that they challenge students on these two behaviors often to very often.

Teachers agreed that the typical student did not practice two behaviors: obtaining or distributing an exam in advance (86% never or seldom) and buying papers (88% never or seldom). Similarly, teachers reported they had never challenged a student on this behavior (72% for obtaining a copy of an exam; 83% for student buying an exam). Additionally, teachers reported that the typical student seldom or never reported cheating or plagiarism to faculty (64%).

Student responses to the survey indicate they have a good understanding that it is unethical to copy the work of others, or to fabricate information or data. However, there is less clarity on the ethics of fabricating their sources. This indicates a lack of understanding of the purpose and value of a bibliography. Also, students are unclear in their understanding of how much assistance from others is appropriate. There is not a clear understanding of the difference between getting assistance with searching for information and having someone else search for you. Similarly, there is less clarity about whether having someone

else revise and improve a paper is different from receiving suggestions for improvement. Teachers need to make their expectations clear for what level of assistance is appropriate.

While the student surveys indicated students are aware that failing to cite sources, submitting work that is not their own, and fabricating data are unethical, teachers report that it is the unethical behavior most likely to occur. Indications are that students understand the message that they need to use information in an ethical manner, but have difficulty putting that understanding into practice. Teachers need to look beyond one-time admonishments to avoid plagiarism, and to develop instruction and design projects that will build the skills that allow students to confidently create work that reflects their knowledge.

Implications for Practice

Teachers did not always see the library media specialists as equal partners. While initially concerned that teachers might be inclined to consider follow-up and intervention solely the responsibility of the library media specialists, after the results of the study were shared and discussed, overall awareness of student confusion was raised and recognized as everyone's responsibility. Teachers were anxious to work with the library media specialists to address the issues and to look for opportunities within research units to collaborate.

There was also recognition that the school needed to clarify its position regarding the ethical use of information. A statement was developed and included in the student handbook, but it was further recommended to consider the development of a district-wide statement endorsed at the highest level (the school board and senior administration). The proposed statement would not emphasize punitive measures, but rather address the creation of a culture of academic honesty as a value and the norm. It was suggested that this statement be communicated to parents, because of their role in developing and influencing student attitudes.

Dimension Two: Study Two - Ethical Use of Information at the Elementary School Level

Methods

"Are the following examples fair or unfair ideas?" This was a question asked of fifth grade students on a survey that posed various scenarios regarding ethical use of information (Appendix 4). The survey was adapted from the ethical use of information survey administered at the high school level. The wording and scenarios were changed to better suit an elementary student population. The survey was administered to 87 students in two fifth grade classrooms at each of two elementary schools (total of four classrooms) prior to a unit of study with a required research component.

Using the preliminary results of the survey, two library media specialists and four fifth grade teachers determined what areas of ethical use needed focus and attention. They developed lessons to address these areas of weakness as a part of the thematic unit of study in order to assess whether teaching information literacy skills in conjunction with the unit of study would change student knowledge and practices related to the ethical use of information.

After the students had completed their unit of study and submitted their research projects the survey was re-administered. Four additional questions were added to allow unstructured student responses and to better assess the success of the process.

       1. What is plagiarism? (explain in your own words)
       2. Why would someone be tempted to plagiarize?
       3. Draw the copyright symbol.
       4. Explain some things that you can do to make sure that you do not plagiarize and violated copyright laws.

The students' projects were also assessed for ethical use of information.

Table 1: Areas of Concern from Pre- and Post-Survey Responses (F=Fair; NF=Not Fair; NS=Not Sure)

Question	Pre-Survey Responses	Post-Survey Responses
Question #2: Okay to ask a librarian for help.	31%=NF or NS	10%=NF or NS
Question #5: Copies two complete sentences from web page without using quotation marks.	34%= F or NS	3%=F or NS
Question #6: Lists a source she didn't use to meet teacher's three-source requirement.	44%=F or NS	14%= F or NS
Question #9: Copy/paste a chart into your report without including the citation in your bibliography.	30%=F or NS	3%= F or NS
Question #10: Download copyrighted material.	32%=F or NS	16%=F or NS
Question #11: Make a video copy for two friends.	38%=F or NS	2%=F or NS

Question #12: Allow friend to install your new computer software.	80%=F or NS	12%=F or NS
Question #13: Burn a CD for a friend	81%=F or NS	20%=F or NS
Question #14: Allow friend to photocopy your music book.	47%=F or NS	26%=F or NS

The survey results were reviewed with the students and explanations were provided as to the fairness or unfairness of each scenario. Students had many legal questions and were truly interested in understanding copyright. A parent of a fifth grader who was an intellectual property lawyer volunteered to give a presentation to the students and answer any questions that pertained to copyright infringement.

Findings
The initial survey results indicated areas of misunderstanding amount the students that were of concern to the participating library media specialists and teachers. Of particular concern were questions 2, 5, 6, 9, 10, 11, 12, 13, and 14. The library media specialists were particularly surprised by question two which asks if it is fair or unfair to ask the librarian for help. Thirty-one percent of the students thought that this was unfair and the library media specialists felt strongly that they needed to rectify this misperception. Table 1 contains the combined results of the post-survey for both elementary schools.

Implications for Practice
After analyzing initial survey results and determining the areas of concern, the library media specialists decided to focus on developing lessons on note taking, using bibliography cards, developing a bibliography, and what it means to plagiarize. Lessons addressing these information literacy skills as well as a lesson on copyright (Appendix 5) were presented prior to the students beginning their thematic unit research project. The lesson on copyright (what does copyright mean, which materials are copyrighted, and what constitutes copyright infringement) was taught to address the four additional question items added to the survey; the survey was then re-administered at the end of the unit.

The elementary library media specialists decided to teach the information literacy lessons that were implemented for this project to each fifth grade class and continually emphasize that it is ethical to use the library media specialist as a resource. Another action item was to revise the grade level expectations included in the document *Londonderry School District Information Literacy Benchmarks* to incorporate the idea of ethical use of information starting in first grade and to continually reinforce these benchmarks through the fifth grade.

Other intervention recommendations included:

1. Develop a district level policy on plagiarism.
2. Include a statement in each Student/Parent Handbook on plagiarism, possibly along with the homework statement.
3. Include a statement on plagiarism on each school web site.
4. Encourage teachers to design assignments that don't lend themselves to plagiarism.
5. Purchase resources for student research at the students' level or below so that students will be able to understand the material and therefore be better able to take notes in their own words.
6. Encourage reading teachers to emphasize how to read non-fiction.
7. Begin the process of taking notes and citing sources starting in second grade.

Conclusions about the Results of the Two Studies and About Action Research

Ethical use surveys at the high school level show that most students have a good understanding of the ethical use of information regarding clear instances of plagiarism. The scenario of a student who copies complete sentences from a source without attribution was identified as unethical by 90% of high school students.

Scenarios involving cutting and pasting a table from a web site and turning in a paper written by someone else were also correctly identified by the majority of the students. Students' understanding of the ethical use of information was less clear in two major areas: creating a bibliography that accurately reflects the sources used to create the work, and the level of collaboration or assistance that is appropriate in completing a research assignment.

The teacher surveys showed some discrepancy between their perception of the frequency of some types of students' unethical behavior and how often the teachers challenged students on that behavior. The surveys showed teachers felt plagiarism was the most prevalent student behavior, while obtaining copies of exams and buying papers were the least frequently occurring student behavior.

At the elementary level, post-survey responses related to the identified areas of concern showed a marked improvement by at least 20% after instructional intervention. Some responses improved by as much as 60%. Answers to the additional survey questions demonstrated that most students understood what plagiarism and copyright are and ways that they could make sure that they do not violate copyright law.

The use of action research as a means to provide a rich and meaningful professional development opportunity for school library media specialists and

teachers has transformed instructional practice in the Londonderry School District.

> Despite these traditional challenges of collaboration, there was a strengthening of bonds between the library media specialists and participating teachers. The change in dynamics was precipitated by the unique expertise of the library media specialists in designing and implementing action research. This earned the respect of teachers and the enthusiasm of their students. (Gordon)

In fact, a collaborative research culture has been created in which all those responsible for student learning engage in meaningful reflection on instructional and program practices at the local level through an examination of evidence provided through the process.

Since the inception of the use of action research in the school year 2001-02, the school district has conducted 27 action research projects and there are two currently underway. Action research has become part of the way the district does business and when new initiatives are considered, there is a required action research component in order that the initiative be assessed and evaluated in terms of impact and sustainability.

Areas of investigation explored over the last seven years include:
- How can we get high schoolers off the Internet and into subscription databases?
- How do middle schoolers and high schoolers take notes and how can we teach this skill better?
- Can third graders reach higher order thinking skills through project work?
- Are our end-users satisfied with the current level of library service?

Additional representative action research projects are provided in Appendix 6.

The school library media specialists have emerged as leaders of evidence based practice in the school district and have data and evidence on how students learn and achieve in an information environment. Data are regularly shared with decision-makers and stakeholders to inform practice and provide improved instruction and service to students.

Shared results of the various action research projects include a formal report and presentation to the school board. Senior administrators and board members have been impressed with the findings and have encouraged the continuation of efforts to the point where funding, initially provided by federal dollars, has been incorporated into the general operating budget. School library media specialists are viewed as experts in implementation and leaders in the improvement of

instructional practices. Proposed new initiatives are often vetted through a required action research component and most recently, a new element was incorporated into the school district's strategic plan which calls for the implementation of an action research course for students at Londonderry High School. This course will enable students to conduct a semester-long research project, providing the opportunity for the student to be actively engaged in authentic inquiry on a topic of their own choosing, at a deeper level than might be possible in other projects.

Regarding the example of action research used to assess student understanding of the ethical use of information, high school students are getting the message that it is unethical to copy the work of others, or to fabricate information or data. However, the teacher surveys indicate that it is still difficult for students to put that understanding into practice. Teachers will need to move beyond one-time admonishments for plagiarism, and endeavor to build the skills and understanding that allow students to confidently develop and support their own ideas and work.

As a result of our findings at the elementary schools, the library media specialists and teachers have reflected on how improve their own practice. It was decided to continue to teach lessons on information literacy to all fifth grade students, to begin to discuss copyright and plagiarism beginning in the early grades, and to revise district information literacy benchmarks.

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NOTE: Documentation and appendices referred to in this paper may be found online at:

http://ejournals.library.ualberta.ca/index.php/EBLIP

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Using the Virtual Reality Environment "Second Life" in School Librarianship

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Few of us have time for a second life! We are too busy in our real lives. The good news is that you don't have to spend large amounts of time to benefit from Second Life and to take advantage of the robust library community there. Read on for more information!

I. What is Second Life?

Second Life (SL) is a multi-user virtual environment in which persons create avatars to allow them to move and interact with other avatars. They can build and manipulate objects. To move, they can walk, run, fly, or teleport. There are many areas within SL to allow people to meet, learn, talk, and roleplay. Second Life is operated by a company called Linden Labs which is located in California.

II. A survey of the library community in Second Life

The Alliance Library System of Peoria, Illinois, can be credited for its early work in nurturing the library community in Second Life. This library system has provided leadership and community development for dozens of libraries around the world. To learn more about their work and the Alliance Virtual Library in Second Life, visit their website at http://infoisland.org. They created the popular group in Second Life called "The Librarians of Second Life". This group provides a number of activities every week, such as book discussion meetings, special exhibits, professional meetings, and social/networking events. Visit the online catalog of virtual resources at http://sixsunflowers.wiki.zoho.com.

There are various types of libraries that are active in Second Life. A must-see first stop is the Alliance Virtual Library. This virtual library has many special collections and the nearby Reference Desk is staffed many hours each week (http://slurl.com/secondlife/Info%20Island%20International/114/239/33). Some libraries are virtual branches of real life libraries, such as the Public Library of Charlotte and Mecklenburg County, the Michigan Library Consortium, the Olathe Public Library, and the State Library of Kansas. Other virtual libraries and centers exist only in Second Life, such as the Genealogy Research Center, the Pet Bereavement Center, the Caledon Library (for information about Victorian resources), Mystery Manor, the Homeless Resource Center, the Sci-Fi and Fantasy Portal, and Rachelville (for information about children's literature). Some other specialty libraries include the Neil A. Armstrong Library and Archives at NASA Co-Lab, the Chicago Public Schools Virtual Professional

Library, and the Illumination Library (for information about classical literature). Examples of university libraries include the University of South Florida, Mount St. Vincent University, McMaster University, University College Dublin, Nova Southeastern University Law Library, Johnson & Wales University, and Stanford University Libraries. Related organizations are also represented, such as the Federal Reserve System, the Arabian International Librarians Forum, and the Aero Astro Archives. San Jose State University's School of Libraries and Information Sciences is a long-time resident of Second Life. The American Library Association maintains an island in Second Life. Many of these libraries and organizations create special exhibits with information on a variety of resources.

A great source of information is the "Rez Libris" online magazine (http://rezlibris.com). This magazine reports on the library community in Second Life. It provides articles about people, events, exhibits, and places of interest to librarians. Visit their office in-world at http://slurl.com/secondlife/Cybrary%20City/139/150/24.

III. Students in Second Life

Currently, the main grid of Second Life is for people 18 years old and up. Teens may participate in Second Life, but they have access to a separate area restricted to adults. Therefore, it is easiest to use Second Life for professional collaborations, identifying educational resources, meetings, and participating in professional organizations. There are teen projects in Second Life that include adults who have received background checks to work with the teens. Contact Linden Labs for more information if you are interested in using Second Life with your teen students.

The K-12 sector is under-represented in Second Life, probably due to the fact that its use with students is limited. There are several notable examples, including Lighthouse Learning Island (http://slurl.com/secondlife/Lighthouse%20Learning%20Island/5/135/23), organized by Kathy Schrock, which is a consortium of school districts near Cape Cod, Massachusetts, that uses Second Life for professional development. Another active K-12 teaching community is the Atlantis Rising Campus (http://slurl.com/secondlife/Lighthouse%20Learning%20Island/6/135/24), led by Bernajean Porter, which holds various meetings and events for teachers. Chicago Public Schools Department of Libraries also provides an island is Second Life for its librarians and teachers.

Although student/teacher access to Second Life is restricted, it still is important for librarians to become acquainted with navigating in a virtual reality environment. Millions of our students are already active in other similar gaming environments, such as World of Warcraft, Club Penguin, RuneScape, and Everquest. Visit the KZero website (http://www.kzero.co.uk/blog) for

interesting research trend information about the use and growth of virtual worlds, especially as it pertains to school-aged children. There are various universities and organizations that are actively working on the development of open-source virtual reality environments. Currently, Second Life is probably the best example of a virtual reality environment, but that is likely to change as the technology matures and proliferates. To stay relevant, librarians should be on the forefront in using and modeling various important Web 2.0 technologies, including virtual reality environments.

IV. AASL-SIGMS Virtual Learning Community

School librarians can benefit from participating in the AASL-ISTE SIGMS Virtual Learning Community. This group meets monthly during the school year for orientation sessions and meetings to discuss topics of professional interest. Some past guest facilitators include David Loertscher, Joyce Valenza, Doug Johnson, David Warlick, Mike Eisenberg, and Will Richardson. To learn about upcoming events, monitor the AASL listserv, the SIGMS listserv, SIGMS in Twitter, SIGMS in Facebook, AASL in Facebook, SIGMS in LinkedIn, or LM_NET.

V. Tips for getting involved

If you are new to Second Life, make it a priority to attend one of the monthly AASL-ISTE SIGMS Orientation meetings. A group of friendly volunteer librarians will be there to assist you in learning the basics of Second Life, including how to communicate, navigate, and become involved in various professional groups.

While there, join several groups in order to begin to receive announcements about upcoming events. Recommended groups include ALA SL-Events, ISTE Educational Technology Assoc, and Librarians of Second Life (invitation only – IM Elaine Tulip for an invitation). Instruction on how to join groups is part of the orientation sessions. Also, offer friendship to colleagues who you meet in order to see them online and to keep in touch.

Finally, spend some time exploring Second Life. While at the orientation meeting, you will receive landmarks to various educational sites. In addition to library sites, you will enjoy the immersive education sites, such as Dante's Inferno, Land of Lincoln, Renaissance Island, Genome Island, NOAA, Virtual Hallucinations, the Sistine Chapel, and Virtual Ability Island. Many people are happy to help you, if you have questions. Be sure to visit the four islands of the International Society for Technology in Education (ISTE) at http://slurl.com/secondlife/ISTE%20Island/91/83/30. They have many events which support teachers in technology integration.

VI. If you are new to Second Life

1. Go to the Second Life website at
http://secondlifegrid.net/programs/education several days in advance to set up
your free basic account.

2. Verify that your computer and connectivity meets the systems requirements at
http://secondlife.com/support/sysreqs.php.

3. Click on the orange "Get Started!" button. Go through the subsequent screens
to create your avatar account.

4. Download and install the Second Life viewer software at
http://secondlife.com/support/downloads.php.

5. Open the software and log into Second Life using your avatar first name, last
name, and password. Watch your avatar "be born". Complete the orientation
activities to learn about how to communicate, move, search, and edit your
appearance.

6. When finished, search "Places" for locations such as Chicago Public Schools,
ISTE, or the American Library Association. Teleport to a favorite location,
explore, and become acquainted with Second Life. (When searching, make sure
the "search mature places" square is checked.)

In closing, while it is often difficult to find the time to learn a new technology, by
committing an hour or two to learning the basics of Second Life, you will have
access to a wealth of professional development opportunities, educational
resources, and outstanding collaborative experiences. Join us in-world!

By Lisa Perez
Area Library Coordinator
Chicago Public Schools Department of Libraries
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Research Question: What are information literacy practices in adolescent content creators in Web 2.0?

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Background

In 2007 93% of teens stated that they used the Internet, 61% claimed to use the Internet daily, furthermore more than two-thirds of online teens had created content for the Internet, primarily for personal reasons (Lenhart & Madden, 2007). This informal content creation occurs beyond the school day, many schools restrict access to content creation or do not provide instruction in using content creating tools. As a result many adolescents are encountering information, engaging in participatory communities, and developing information literacy practices in informal contexts, beyond the academic sphere.

A large-scale ethnographic study released in 2008 identified three levels of online activity: hanging out, messing around, and geeking out. They define the participation thusly:

- *hanging out* which has a primarily social and communicative purpose
- *messing around,* a more media centric interest driven activity in which teens are exploring different online environments
- *geeking out* which "represents a more intense engagement" with a more focused digital ecology (Ito, November 2008).

While each level of activity has implications for education understanding how teens encounter information, and learn informally when 'messing around' or 'geeking out' is of particular interest since there is a creative aspect to these activities that may not be as apparent or present in 'hanging out' activities.

Information literacy has primarily been conceptualized as the skills of finding, locating, and using information. This research conceptualizes information literacy as sociocontextually based, and recognizes that the practices within different contexts may differ. It views information as "anything we experience, which is informing" (Bruce, 2008)In investigating the information practices of content creators as located within participatory cultures (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006) it is investigating the learning that occurs, and considers information that is deliberately searched for, as well as information that is serendipitously encountered. It recognizes the agency of teens in creating content, and choosing to participate, and therefore learn, within the context of the participatory culture.

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Supporting Reading Workshop Students and Teachers

Terri M. Beard and Patricia Antrim

Reading teachers face particular challenges when implementing reading workshop. They work individually with students who vary widely in their reading ability and instructional needs. They build and use extensive classroom collections of books, but when a teacher serves all students at a particular grade level, as is common at the middle school level, students quickly exhaust those resources. This study explores how one reading workshop teacher not only successfully solved this problem for her students, but also built a robust support system for her below-grade-level readers by collaborating with her library media specialist. She tracked the performance of her 19 below grade level fifth-grade readers across two semesters and found that when they consulted with their library media specialist to select "just right" books that interested them, they read more, enjoyed it more, and increased their reading scores.

Introduction

The reading workshop has gained popularity among reading teachers because it integrates leveled groups and supports individualized instruction. The teacher actively works with students to teach them the skills and strategies they need in order to grow stronger as readers. Collins (2004) describes the seven guiding principles of the independent reading workshop: readers have time to read just-right books independently every day, select their own appropriate books, take care of books, respect each other's reading time and reading lives, have daily opportunities to talk about their books in genuine ways, and read for understanding.   Most reading workshops occur in rotating blocks of time. Students move from activity to activity with frequent teacher interaction as they develop into self-regulated learners. With guidance, they learn to set their own goals and evaluate their own progress as readers (Fountas & Pinnell, 2001). Although the teacher has ample opportunities to teach, students are allowed numerous occasions to choose learning activities that will best suit their individual needs.

Reading workshop teachers employ Miller's Gradual Release of Responsibility Model (2002), which involves the teacher (1) modeling or showing children how reading is done through think aloud activities, (2) providing guided practice or scaffolding for students, (3) accommodating independent practice, and (4) and giving children opportunities to make their own connections. Boushey and Moser (2006) explain that a typical reading workshop consists of several learning blocks or rotations, beginning with a short, whole group mini-lesson followed by three to five 15- to 20-minute rotations. These consist of activities like reading to self, reading to someone else, writing, project work, spelling activities, or

listening to reading. Rotations include small group interactions with the teacher facilitating and individuals conferencing with the teacher. The reading workshop typically ends with the whole class gathering to share and reflect. As students become more familiar with the workshop method, they become more independent readers.

In reading workshop students choose their own independent reading material. Students are typically assessed at the beginning of the year to determine their reading level and needs. They are then taught how to choose literature at their reading level and interest. This has been called finding "just right" or "a good fit" book (Boushey & Moser, 2006). Clements (2002) emphasizes that this is a skill that students must be taught. Choosing appropriate books is more readily facilitated by the teacher when students have access to a large library within the classroom. Fountas and Pinnell (2006) recommend a large classroom library that includes 300 to 500 books grouped in various levels and genres. A workshop model becomes more problematic in a middle school setting where students rotate from class to class and reading workshop teachers need enough books for several classes of students. Not all schools or teachers have the capital resources or space needed for a large classroom library. Students and teachers in this situation must depend on the school's library media center for a selection of books large enough to accommodate individual interests and needs. Clements (2002) asserts, however, that many struggling readers have a very difficult time self-selecting literature that is appropriate to their reading level and interests.

This study was conducted at an elementary school in a suburban district in western Missouri. The students in this study were all struggling below-level readers in fifth grade. The teacher in this study teaches reading to all 71 fifth graders in this school. The students rotate into her classroom for reading instruction only. Although the classroom library is large, the teacher observed that the below-grade-level readers in her classes struggle when trying to choose books at the appropriate reading level. They typically chose books that are too difficult. The teacher relied on the school library as an extension of her classroom reading workshop. With a flexible schedule in place, the library media specialist encouraged students to come to the library as needed rather than at a scheduled check-out time. She taught the below grade level students to select books at their reading level, and she provided a well-stocked collection of high-interest books.

This study is significant to elementary school teachers and library media specialists because the reading achievement of below-grade-level readers is a constant concern for educators. Library media specialists play a valuable role in the intervention process for these struggling readers. If students have the additional guidance the library media specialist gives, their process of learning how to pick appropriate reading material is enhanced. When students have

appropriately leveled reading material, they grow and achieve more in their reading.

> Matching books to readers is critical for children who are beginning to build a reading process; and it is also important to use a gradient of text to be sure that older readers have the support and challenge they need to expand their reading powers as they engage with more complex texts over time. (Fountas & Pinnell, 2006, p. 1)

Any additional help the classroom teacher and below-grade-level reader receive, especially from a well-trained, teacher-certified library media specialist, is likely to result in benefits to the student. It was expected that below-grade-level readers would show greater increased in reading ability when they benefited from the guidance and support of the library media specialist.

This was a longitudinal study tracking the progress of a single cohort of students across two semesters, one without intervention and one with intervention. The researcher used multiple assessments at the beginning of the fall semester that, taken together, establish a baseline of student performance at the beginning of the study. These multiple assessments were used again at mid-year and at the end of the spring semester to track student performance throughout the year. These multiple assessments assisted the researcher to triangulate data and support her conclusions.

This study was limited in part due to the small number of students used, 19 below-grade-level readers in one grade level in one elementary school. Another limitation was the inability to limit all reading material to only the level of appropriate reading. The students had the freedom to bring books from home or to check them out of the local public library. Not all books used by the students in the study have been leveled by Lexile. Thus, the teacher and the library media specialist relied heavily on multiple measures of level appropriateness. Other influencing factors may have affected reading progress. The researcher did not attempt to control all other factors that may have affected students' reading achievement. Because of these limitations, the results of this study are not generalizable to other elementary students. However, even with these limitations, the results of the study provide valuable information for elementary school teachers and library media specialists for providing interventions for struggling below-grade-level readers.

Situating this Study in the Literature

Library media specialists play a vital role in the success of literacy programs in a school, and they can help strengthen students beyond that. Jones (2005) reports on a 1950s study that followed 505 children from in utero until 32 years of age.

This study focused on the resiliency of children and how it affected their lives and productivity as adults. Children who, despite various risk factors, grew up and managed to do well were labeled "resilient" (Jones, 2005). Certain protective factors were identified that promote resilience and competence in children. These include mentoring, reading, problem solving, social skills, and hobbies and interests. Jones called these the Library Ladder of Resiliency. According to Jones,

> Library media specialists who connect with students in ways that go beyond discipline and maintaining order in the library media center are more effective instructional partners. They are able to promote literacy by placing the right book at the right time in the hands of a student. They are able to bring life to information literacy lessons by teaching these skills using topics meaningful to students. (p. 26)

The second protective factor that Jones (2005) discusses is reading. Jones cites Werner and Smith's 1992 study; they found that many resilient children are competent readers. Jones asserts that

> Library media specialists who unite students with books are the heart and soul of effective reading and literacy efforts. This is especially important for middle school students because one developmental task is identity formation. What better way to help a teen establish identity than to experience life through a character who is dealing with similar challenges and issues. (p. 27)

The third and fourth protective factors are those of problem solving and developing social skills. Utilizing problem solving models can help students solve academic and personal problems. Library media specialists frequently use problem solving models to teach research methods or to teach students to choose appropriate books. These models can be applied effectively in other life areas. Library media specialists also encourage social skills by supporting and hosting activities that encourage students to make friends and work together. The last protective factor is hobbies and interests. "Library media specialists promote this protective factor when they select and market books and resources that encourage hobbies and interests" (p. 27). Jones (2005) concludes, "Resiliency research supports what library media specialists have known all along: the media center is not only the heart, but also the soul of the school. To this I add, library media specialists bring heart and soul to students" (p. 27).

Ways library media specialists help struggling readers include book talks, read-alouds, strategy work, and finding the right book (Kindig, 2006). Kindig says, "Some children never seem to find a book that fits. Often they only read what is assigned to them in school. Finding out a child's interests can make all the difference when helping him or her select a book" (p. 2). Not only can students

benefit academically, but they can receive social and emotional benefits as well from personal interactions with the library media specialist (Jones, 2005).

Several common threads appear among the many practitioners who feel they have hit upon just the right way to help struggling readers succeed. Allington (2006) identified four common threads that appear in the research literature describing strategies for teaching struggling readers. The first is to use thinking strategies or "thoughtful literacy." Keene and Zimmermann (2007) discuss various thinking strategies that all good readers use. Good readers use their schema, or background knowledge, to help in comprehending text. They activate prior knowledge before, during, and after reading text. They assimilate information from text into their own schema and make changes as needed. They use schema to enhance their understanding of text. Good readers monitor their comprehension during reading. They know if what they are reading makes sense, and when it does not they stop and reflect, analyzing, and rethinking as needed, to clarify what they are reading. They ask questions as they read and know that other readers' questions are valuable as well. They use their own experiences and new textual information to draw inferences. Good readers use sensory details to bring text to life, identify important ideas and themes as they read, synthesize by using multiple thinking strategies to create overarching ideas and themes about their reading, and make decisions about what they read and share with others. These strategies are popular components of teaching and modeling in reading workshop.

The next common theme among strategies to help struggling readers is to have students read books at the appropriate level. Kragler (2000) reports that above-average readers usually self-select books that are too easy, while below-average readers choose books that are too difficult. While this choice does not challenge the above-average student, it can have devastating results for below-average readers who end up not reading because of the frustrational level of what they choose to read. According to Fountas and Pinnell (2006),

> Matching books to readers is the foundation for helping students build and expand reading strategies across the grades . . . . Every day, students must read material that will allow them to use and expand the strategies they currently control. You don't get better by struggling through material you do not understand; you do get better by meeting challenges successfully. (p. 83)

Allington (2006) notes, "Research has clearly demonstrated the need for students to have instructional texts that they can read accurately, fluently, and with good comprehension if we hope to foster academic achievement. The evidence also suggests that for large numbers of students this recommendation has been routinely ignored" (p. 61).

Another common thread among researchers of reading practices is in the area of fluency. Collins (2004) defines fluency as reading with phrasing, intonation, and expression. Allington (2006) observes that fluency is an important part of reading development and some students struggle well into intermediate grades with fluency. They frequently fall behind their peers and often only read when asked. They rarely read voluntarily or for enjoyment. Fluency exercises such as reading the same passage repeatedly can help, but should be considered short-term. Moving the struggling reader to more independent reading should be the end goal.

The final category for helping struggling readers is to have them read, read, read. Krashen (2006), an advocate of providing a sustained silent reading time every day for students, asserts that free time to read daily is the source of students' strength in vocabulary, spelling ,and in comprehension as readers. Reading a large volume of literature is a standard requirement on the road to becoming a good reader. Allington suggests that there "exists a potent relationship between volume of reading and reading achievement" (p. 44).

> Reading is like other human proficiencies – practice matters. Voluntary, engaged reading, in school and out, seems most powerfully linked to high levels of proficiency. Internally motivated reading activity, then, seems to have a stronger relationship to reading growth than volume of mandated, unengaged reading (Wang & Guthrie, 2004, cited in Allington, 2006, p. 56).

Methodology

This study involved 19 below-grade-level fifth-grade readers who participated with their peers in a reading workshop. For the first semester of the school year they were allowed to self-select their own independent reading material from the classroom collection and the school library. For the second semester of the year, they were asked to allow the library media specialist to assist them in choosing appropriately leveled materials in the school library. The expectation was that this intervention would increase the students' overall reading achievement more in the second semester than in the first, when they selected books without assistance. The students were taught during both semesters using the reading workshop model as described in Boushey and Moser (2006).

The students participating in the study were in three different fifth grade reading classes. A reading specialist came into the classroom to work with the lower-level students once or twice a week during the reading workshop time. The 19 students in this study were identified as below-grade-level readers using the results of two testing instruments, the Scholastic Reading Inventory (SRI) and the Developmental Reading Assessment 2 (DRA2). If a student scored below-grade-

level in either assessment, they were identified as such and qualified for the study.

The SRI (Scholastic, n.d.) is a computer-generated reading assessment. SRI results are reported as a Lexile level in reading. The test, taken on the computer, is individualized to each student and adjusts as the student takes the test, raising or lowering the difficulty level as the student answers the questions. Any student scoring below a 700 Lexile qualified for this study. This test was given in September 2008, again in January 2009 for targeted students only, and finally in May 2009.

The DRA2 (Pearson Education, 2009) is an individualized reading assessment administered and scored by the teacher. It measures reading accuracy and speed, expression, and phrasing. Students that scored below a fifth-grade level on this oral reading assessment, qualified for this study. It also tests for reading fluency, reading engagement, and comprehension. The comprehension portion of the test assesses the students' questioning and prediction, summarization skills, literal comprehension, interpretation, reflection and metacognitive awareness.

The third instrument used for this study was a survey created by the library media specialist. This was intended to provide her with current information about the study group, immediately before the below-grade-level readers began using her intervention. She specifically wanted to learn about the students' attitudes toward reading and their interests and hobbies. This information was used to help her direct students toward books at appropriate levels and books of special interest to individual students. Students took the survey online during the reading workshop time in January and again in May.

Other data collection included the teacher's log of the books each student read during the two semesters. She logged the titles of every book each student read and confirmed that the students had indeed read their books by conferencing with them about each book. The teacher also noted whether the book was a good level for each student.

Intervention

This longitudinal study was divided into two parts. For the first semester in the fall of 2008, no changes were made to the normal teaching routine for the students in the study. The teacher on occasion chose appropriately leveled books for small group work, and the students were allowed to go to the library to choose individual reading books for independent reading during the reading workshop. The students had previously been instructed in the process of choosing an appropriately leveled book. The teacher documented the books the

lower level reading students chose and noted whether the level was appropriate for them.

During the second semester the below-grade-level reading students were required to work with the library media specialist in the library when choosing appropriate reading material. She guided them through the process of choosing an appropriately leveled book every time they chose one from the school library. Students used Lexile labels on the spine of the book and Lexile information in the library's online catalog. They also used an online resource at Lexile.com (MetaMetrics, Inc., n.d.) to discover Lexile level for books that interested them. Not all books are leveled by Lexile; therefore, she taught them to consider the size of the print, length of the book, topic, and the vocabulary used to select "just right" books. She taught them to use Boushey and Moser's (2006)"I PICK" strategy: I for "I choose a book," P for "What is my Purpose for choosing the book?," C for Comprehension . . . ." Can I understand what I am reading?," and K for "Do I Know the words?" The students took all of these factors into consideration when they chose a book.

The teacher shared student Lexiles and instructional needs for each of the targeted students during monthly collaborative meetings with the library media specialist. She used this information to help the targeted students select reading materials every time they went to the library during the second semester of this study. All of the students were given a library pass; however, the targeted students were asked that the library media specialist initial the pass to indicate that they had chosen books with her aid.

Findings

Figure 1 summarizes the results of the SRI and DRA2 reading assessments that were administered in September, January, and May. It shows the percentage increase for these assessments in the semester without intervention and in the semester with intervention. Greater increases were reflected in all areas during the intervention semester, with the exception of oral reading fluency (Data are reported in more detail in Beard, 2009).

The targeted students' mean Lexile score as measured by the SRI assessment for the fall test was 689. This corresponds to a fourth grade reading level. SRI indicates that the Lexile ranges by grade level are as follows: 300-600 correlates to grade two; 500-800, grade three; 600-900, grade four; and 700-1000, grade five. Figure 2 shows the performance of the targeted students as sorted by SRI scores specific to each grade level at the time of each test, illustrating the movement from one Lexile level to another.
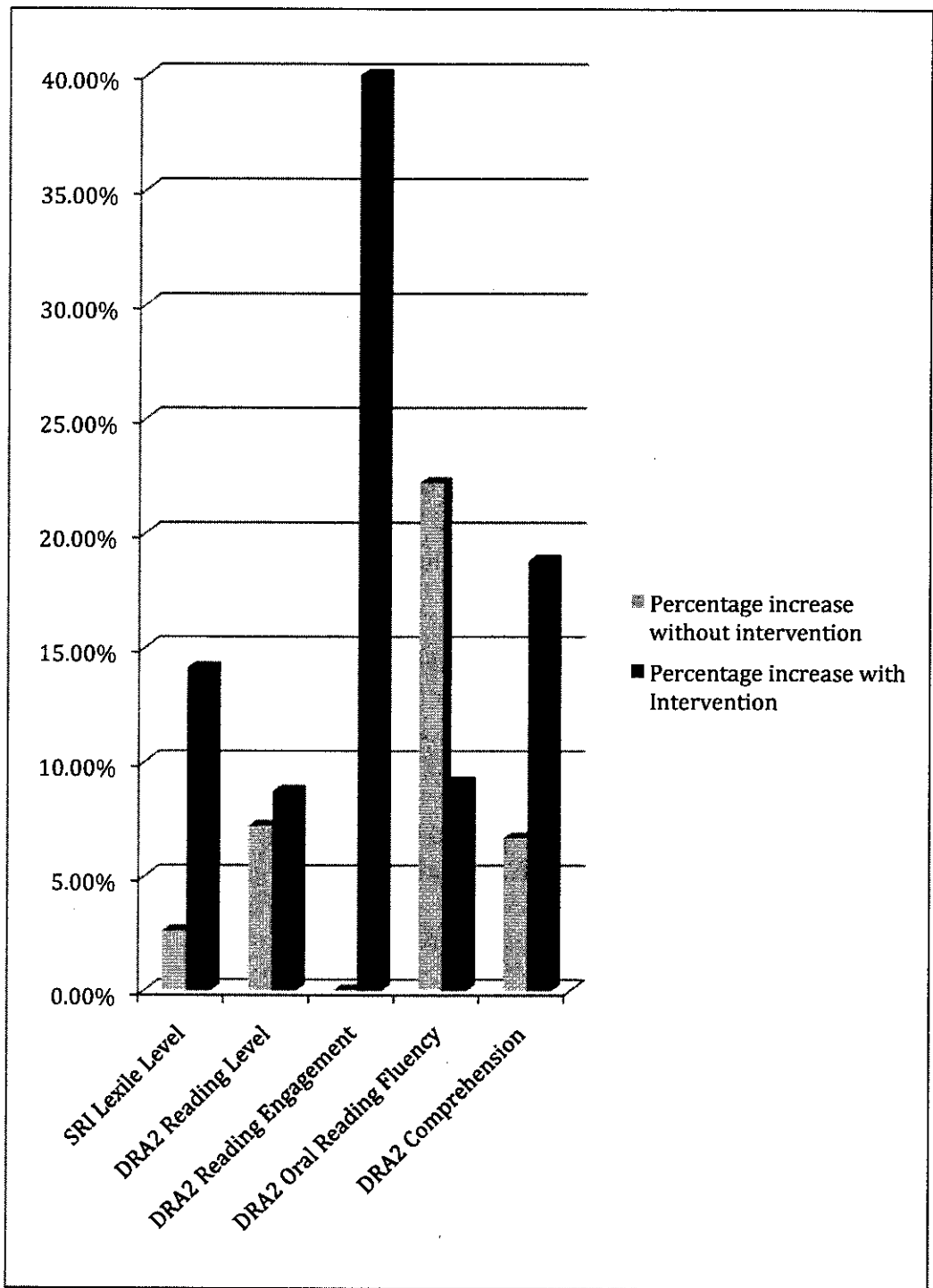
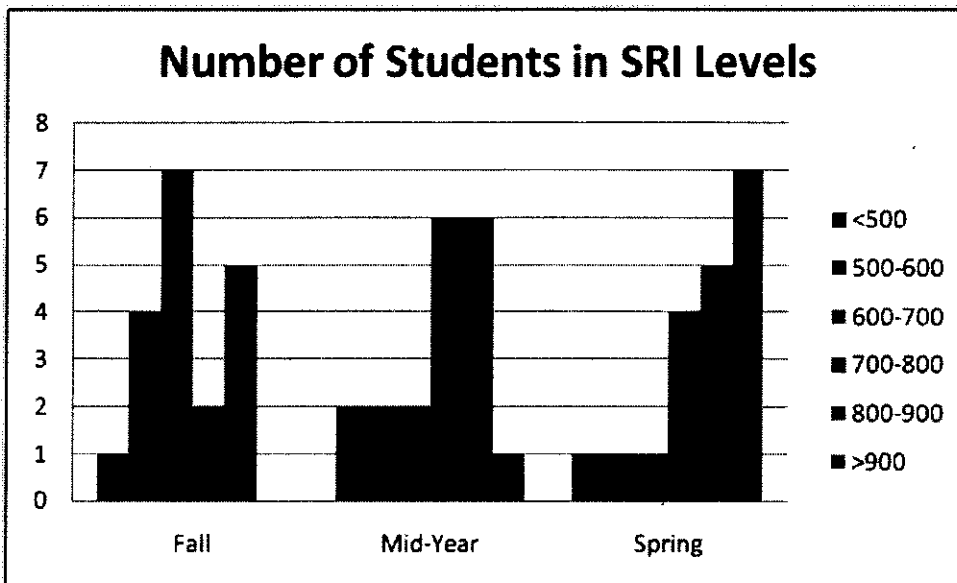Figure 1: Percentage Change for SRI and DRA2 Assessments by Semester

Figure 2: Number of Students at Each Level in Fall, Mid-Year, and End of the Year

In January, the targeted students' mean Lexile score as measured by the SRI was 707. This was an increase of 18 points from the beginning-of-the-year assessment. At the end of the year, their mean Lexile score for that test was 807, an increase of 100 points from the mid-year assessment. At midyear, only one student tested at greater than 900, but at the end of the second semester, seven did and all but three students' Lexile levels were at or above grade level.

The students were also given the Developmental Reading Assessment 2 (DRA2). DRA2 testing covers four areas. The first is the actual reading level; 50-59 is considered the fifth grade level. Figure 3 shows student reading levels by grade level. The other three assessment areas, reading engagement, oral reading fluency, and reading comprehension, are divided by the benchmark categories labeled Intervention, Instructional, Independent, and Advanced (Beaver & Carter, 2006). Each assessment has unique scores for each benchmark category.

The mean reading level for the fall test was 39.47. At mid-year, the mean reading level was 42.31, which showed an increase of 2.84 from the beginning of the year assessment. When tested in the spring of 2009, the mean reading level for that test was 46, an increase of 3.69 from the mid-year assessment.

Reading engagement tests the wide reading ability of students, and determines how involved they are in the reading process. Do they read frequently and with purpose? Do they set goals with their reading? Reading engagement scores are reflected in Figure 4. The number of Intervention level students decreased during the first semester, but at the end of the spring semester, no students were found to be working at the intervention level. The number of students at the
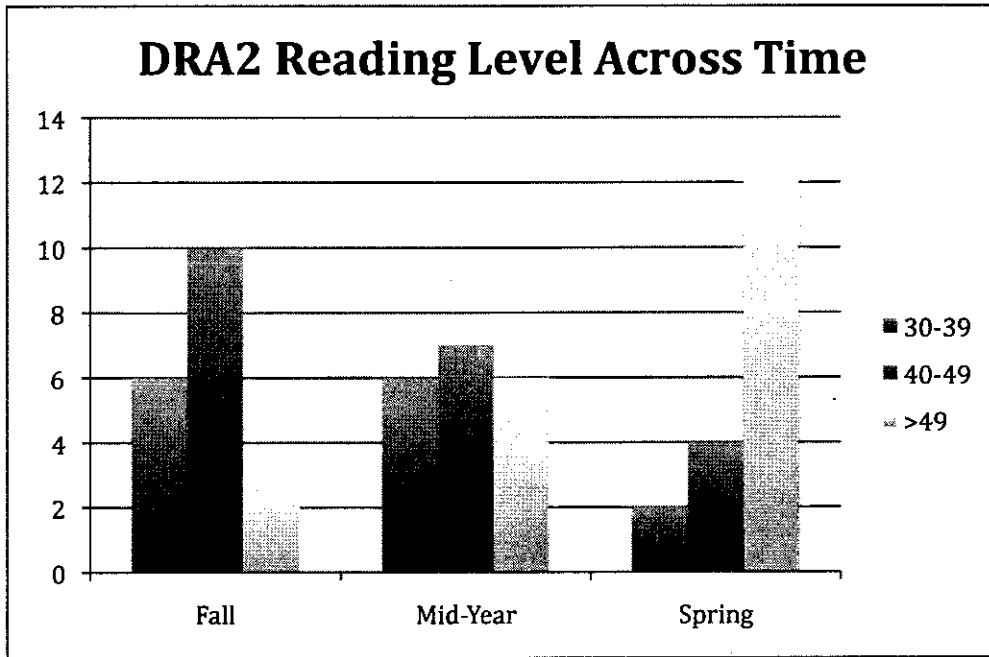
81

DRA2 Reading Level Across Time

Figure 5: DRA2 Reading Levels at Fall, Mid-Year, and Year End

Instructional level held steady during the fall semester but fell by half during the spring semester. While one student tested at the advanced level at the beginning of the year, eight did by the end of the year, with most of that movement occuring during the spring semester when students consulted with the library media specialist.
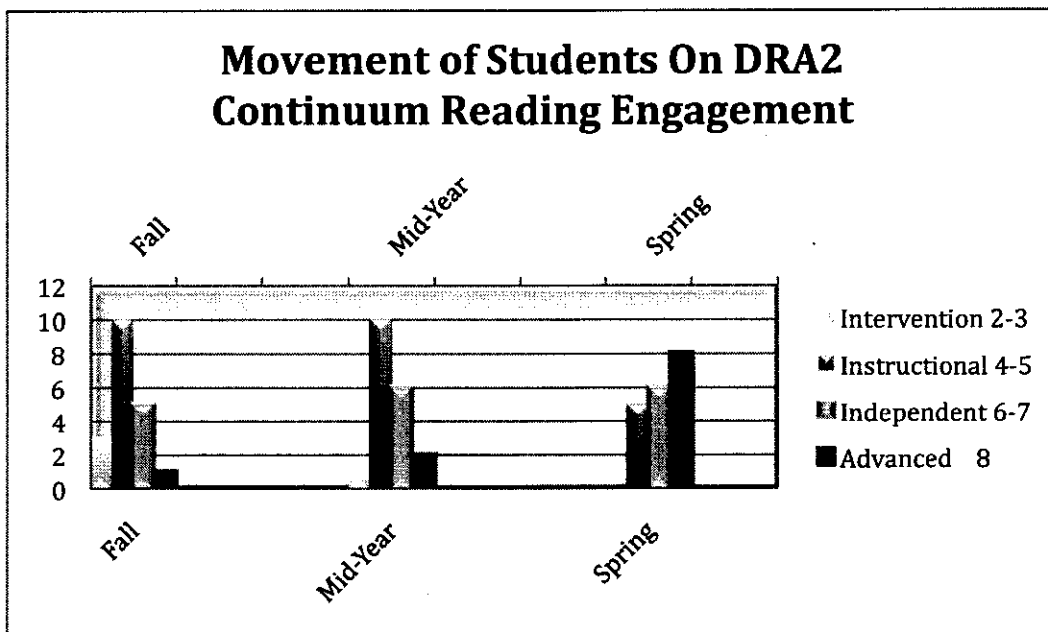
Movement of Students On DRA2 Continuum Reading Engagement

Figure 4: Movement of Students on DRA2 Continuum for Reading Engagement

82

The mean score for oral reading fluency in the fall was 9. At mid-year, the mean score was 11, and at the end of the year, it 12. While six students scored in the two higher benchmark categories in the fall, 13 students did in the spring. The largest increase in oral reading fluency occurred the first academic semester. According to Allington (2006), oral reading fluency is best taught through repeated reading activities, including audio taping of out-loud reading, older students reading baby books to younger children, choral reading, echo reading, sharing books, and readers' theater activities. While, oral reading fluency increased during each semester, it is likely that the increase was not affected by the intervention but was supported by activities only in the classroom.

The comprehension portion of the DRA2 test assesses the students' questioning and prediction, summarization skills, literal comprehension, interpretation, reflection, and metacognitive awareness. The mean score for reading comprehension in the fall was 15 with the majority of students reading in the Instructional range. At mid-year the mean score for reading comprehension was 16. No students scored within the Intervention benchmark range. Spring testing resulted in an average score for reading comprehension of 19, an increase of 3 points from the mid-year assessment; four students tested in the Advanced range.
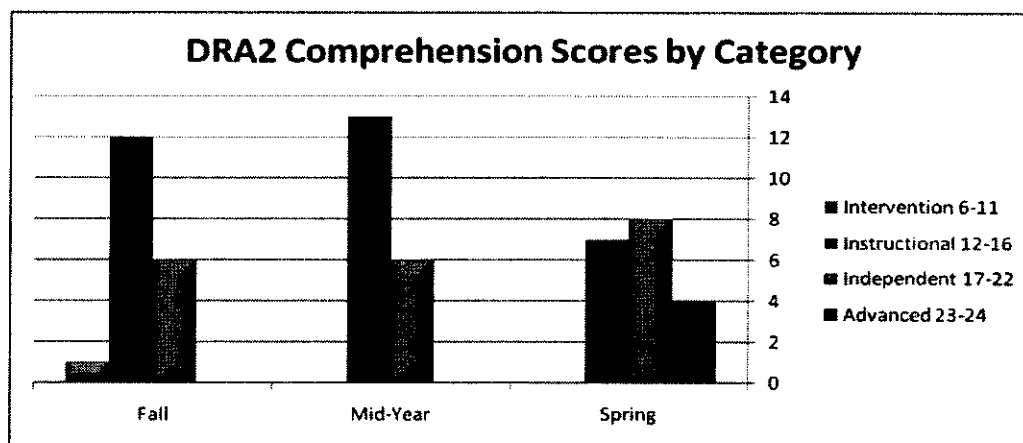
Figure 6: DRA2 Comprehension Scores by Category

Other Benefits of Student-LMS Contact

The students were required to read 8 fiction and 8 nonfiction books for a total of 16 books during each semester. Without intervention, 47.4% of the students read more than the required number and 52.6% read under the required total. With library media specialist intervention, one student read the required number, 88.9% of the students read more than the required total of books, but only 11.1% read fewer than the required total. As a cohort these fifth graders read 283 books during the semester without library media specialist intervention. During the semester with library media specialist intervention, they read 459 books. These

results suggest that intervention from the library media specialist increased student motivation to read more books than they had without that intervention.

Number of Books Read

■ Semester 1 ■ Semester 2
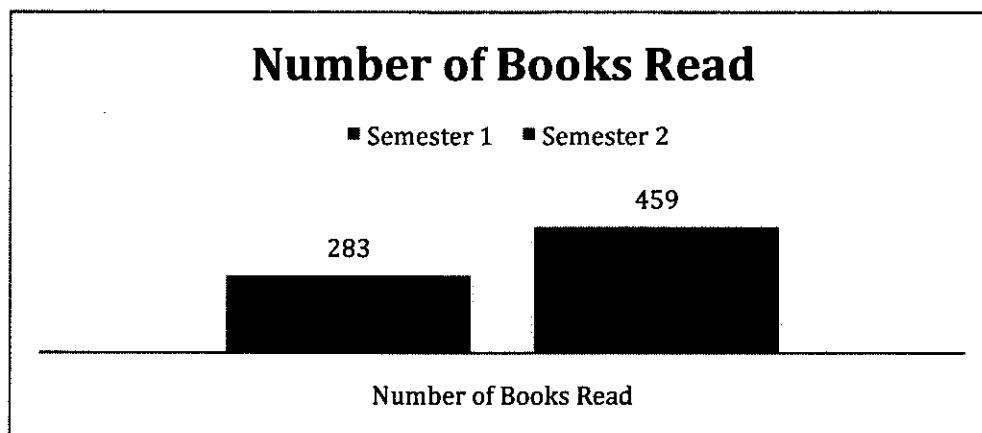
459

283

Number of Books Read

Figure 7: Number of Books Read per Semester

The library media specialist's survey of students also revealed that more students reported enjoying reading in the spring semester. While 53% reported enjoying reading in January; 67% did in May. Fifty-eight percent reported spending 20 minutes or more a day reading in January, but 61% did in May. In January, 32% reported checking out books once a week; in May, 50% did, an increase of 18%.

An additional benefit of the study was from library media specialist and reading teacher collaboration. Although the teacher and library media specialist regularly collaborated on a monthly basis previous to this study, their collaboration increased during the study to at least once per week, and frequently two or more times per week. In particular, the library media specialist and the teacher were able to collaborate on the needs of specific students. Not only did the library media specialist gain helpful information from the teacher to assist these students, but the teacher also gained the insights of the library media specialist for helping each student.

Implications

This study shows that below-grade-level readers benefit when they consult with the library media specialist about "just right" books. The library media specialist became a purposeful collaborator with the teacher to enhance the reading experiences of each of the targeted children. By utilizing a flexible schedule and the training she had as a certified library media specialists, the library media specialist's interactions with the 19 students involved more that just directing them to good books, or to books that she found they were interested in, but also enabled her to match the individual child's reading level with their selection of books.

The positive results of this study also affirm the benefits of the library media specialist giving lower achieving students extra attention. Not only did the targeted students increase their overall reading achievement and improve attitudes and motivation, they also benefited emotionally and socially from the added attention from another caring adult in their school environment.

Teachers and library media specialists benefit from more frequent collaboration, as occurred in this study. Specifically, collaborating on the needs of individual students is key to intervention for meeting their specific learning needs, particularly for below-grade-level children. Frequently such collaboration takes place for curriculum units, but not always for individual student needs. The results of this study indicate that collaboration about individual students should become a regular part of teacher and library media specialist interaction.

The results of this study show that when below-grade-level readers are given the advantage of library media specialist assistance in choosing books that match their reading level and their interests, they will be more successful in their reading achievement. When books match the students' needs and interests, as well as their reading level, they will likely read more and develop their reading skills in areas such as reading engagement and comprehension.

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A New Approach to School Library Media Leadership

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Abstract

Historically, professional school library media guidelines have advocated leadership as a defining role of the school library media specialist (American Association of School Librarians & Association for Educational Communications and Technology, 1998). The most recent guidelines, *Empowering Learners: Guidelines for School Library Media Programs* (American Association of School Librarians, 2009), explicitly states, "The school library program is built by professionals who model leadership and best practices for the school community" (p. 45). Furthermore, for the first time, the guidelines devote an entire chapter to leadership, "*Empowering Learning through Leadership*," and prescribe specific leadership responsibilities in the following areas: leadership in a global society, building relationships, modeling leadership, and planning for the future. Nevertheless even though this prescription for leadership exists on the national stage, school library media specialist leadership has been historically slow to manifest itself at the building level (McCracken, 2001) or through library education (Vansickle, 2002).This literature review discusses the leadership role of school library media specialists an how might enable school library media specialists to assume leadership roles within schools.

Introduction

A leader can be defined as one who inspires others to make a change (Wilson & Lyders, 2001). School library media specialists have not been traditionally regarded as leaders by teachers (McCracken, 2001), principals (Edwards, 1989), or even media specialists themselves (Ishizuka, Minkel, & Lifer, 2002; McCracken, 2001) due to larger organizational dimensions and traditions in schools. Still, a substantial body of research affirms that that school library media specialists have a significant leadership role to play within schools and that when school library media specialists exhibit leadership behaviors, they impact student success (School Libraries Work, 2008).

Leadership can be defined many ways. For the purposes of this paper, leadership is defined as the ability to create changes within an organization that benefit everyone within the organization (Kouzes and Posner, 2007). Leadership can also be expressed in many ways and can be tailored to the particular personality of the leader, composition of the group to be led, or challenges the organization faces.

While leadership is important for established, stable organizations, it is often most needed when organizations experience turbulence. Organizational challenges require particular approaches to leadership that help members work together through times of change and remain committed to the organization's core mission and purpose. Schools are often in the midst of change brought upon by a myriad of local, state, and national forces. Transformational leadership is an especially useful form of leadership for schools because it is rooted in organizational change.

Transformational Leadership

Transformational leadership is a theory built upon the concept that leaders may bring about or guide change within an organization by engaging in unselfish behavior (Bass & Bass, 2008; Burns, 2003; Posner & Kouzes, 1994). Transformational leaders look beyond their personal needs and strive to achieve goals that are important to an organization as a whole. The end result of change guided by transformational leadership is an organization with members who are empowered, share a vision, and deliberately labor to achieve a common goal (Posner & Kouzes, 1994).

Northouse (2004) credits James Downtown (1973) with coining the phrase "transformational leadership." However, Burns (1978) was the first to propose an articulated theory of transformational leadership and to thoroughly analyze qualities of such leaders. Transformational leadership has been accepted by scholars as a way to reconstruct organizations facing significant alterations in mission, structure, or accomplishment (Abu-Tineh, Khasawneh & A-Omari 2008; Barker, Bass & Riggio, 2006; Brown & Posner, 2001; Fields & Herold, 1997; Harris, 1996; Hautala, 2005; Howell & Avolio 1993; Koehler & Pankowski, 1997; Marriner-Tomey, 1993; Ridgway, 2001).

According to Bass (1990), transformational leaders lead by motivating followers and appealing to their inner values. Though the leader and the follower may begin with separate goals, ultimately their purposes become fused (Burns, 1995). These leaders work with their followers to achieve significant goals while using a vision to morally encourage them to become leaders themselves. Subsequently this leadership creates a metamorphosis within an organization. In addition, they empower their followers by inspiring them. Participatory leadership is a method commonly used by transformational leaders to enable their followers to engage in the transfiguration of their organization in a cooperative manner. In doing so, transformational leaders improve the conduct within their organizations. The leader and the followers learn from the process and change themselves into more effective people (Bass & Riggio, 2006; Burns, 1995; Kouzes & Posner, 2007).

Transformational leadership "...assists a group of people to move from one stage of development to a higher one and in doing so [to] address and fulfill better a higher human need" (Couto, 1995, p. 102). This is because of the deep interest transformational leaders take in the well-being of their followers and the lasting effects of their leadership efforts (Bass, 1990; Burns, 2003). These exceptional leaders exhibit the willingness to take risks, the ability to create a shared vision, collaborate with followers and other leaders, model exceptional practices, and encourage the people around them (Bass & Bass, 2008; Burns, 2003; Posner & Kouzes, 1994). These skills can be applied to a variety of settings, whether the leader works with one person, an organization, or an entire culture (Northouse, 2004). Generally speaking, transformational leaders are able to challenge their followers and motivate them to achieve levels of success they originally did not think were possible (Bass & Bass, 2008).

Transformational Leadership in Schools

Transformational leadership can be applied to schools – the setting relevant to this study. Sheppard (2003) theorized that without sharing the leadership role, changes within a school will likely be short-lived due to competing priorities that can change the leadership focus. Transformational leadership is useful because it is a process for creating change within an organization. When seen as a process, this type of leadership becomes a behavior instead of a role and the need for formal distinctions between leaders and followers is less necessary (Uhl-Bien, 2003). In fact, anyone can be a leader at any given time within in an organization as long as he or she is inspiring others to create change. Because dramatic reforms are often called for in educational environments, transformational leadership is well suited for schools. Being an adequate leader may not be enough. Instead, using transformational leadership to encourage stakeholders to embrace a new vision may facilitate change.

This approach to leadership eliminates the need for principals, the formal leaders of the organization, to accept the entire weight of a school reform and distributes some of the leadership roles to others to share the vision for the change. Often, school leaders must bring about change within an institutional culture that does not lend itself to accelerated restructuring efforts (Cohen, 2003). Leadership becomes transformational within schools when the leaders identify with the behaviors of the teachers they are leading (Sheppard, 1996). These connections encourage teachers within schools to feel understood and to be more involved, creative, and committed. Commitment is a key factor in inspiring change within schools because the commitment of teachers makes it possible for reform efforts to be sustained even when a principal is replaced. An administrator with transformational leadership practices can establish commitment because the administrator shares the leadership role with others involved.

Students also benefit from commitment to shared visions. They benefit because of the high rate of job satisfaction that decreases turnover (Griffith, 2004). Where transformational leadership exists, "...there is likely better communication among staff, greater mutual trust and understanding, greater cooperation and collaboration, and more active engagement of staff" (Griffin, 2004, p. 350). The link between transformational leadership and these factors has been noted in both educational settings (Leithwood & Jantzi, 1999) and business management settings (Koys, 2001).

The stability created by transformational leadership in schools has an indirect positive effect on student achievement and progress. Thus, higher levels of transformational leadership within schools have been linked to lower levels of achievement gaps between minority and non-minority students (Griffith, 2004). Also, research not directly related to studies in transformational leadership show that students, especially those that are socio-economically disadvantaged, benefit from environments that make students and teachers feel as if they are part of a community (Battistich, Solomon, Kim, Watson & Schaps, 1995; Burns, 1995; Griffith, 2004; Kouzes & Posner, 2007). Consequently, the existence of transformational leadership within educational environments can serve as an additional method of evaluating school effectiveness in conjunction with student achievement (Griffith, 2004).

Training in transformational leadership components and assessment of strengths has been suggested for school leaders (Greenlee, 2004). School library media specialists in particular can benefit from this training. They have the advantage of being able to work with one student, a parent, a class, a teacher, an entire school, or a community. The fact that media specialists are not always perceived to be leaders (Edwards, 1989; Ishizuka et al., 2002; McCracken, 2001) makes the practice of transformational leadership the most efficient way to influence change within schools because it has the potential of empowering media specialists to create change movements without officially being identified as leaders.

Leadership and the School Library Media Specialist
Leadership Defined by School Library Media Specialist Professional Guidelines

Professional guidelines delineate leadership roles for school library media specialists based research findings and practices in the field, The first time leadership roles for school library media specialists were clearly described was when *Information Power* (American Association of School Librarians & Association for Educational Communications and Technology, 1998), the national guidelines for library media programs was released. The authors of *Information Power* noted that strong school library media specialists collaborated,

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promoted technology, and advocated for their school library programs (American Association of School Librarians & Association for Educational Communications and Technology, 1998).

A recent revision of the guidelines, *Empowering Learners: Guidelines for School Library Media Programs* (American Association of School Librarians, 2009), indicate how school library media specialists can best impact student learning. These standards explicitly importune school library media specialists to be leaders: "The school library program is built by professionals who model leadership and best practices for the school community" (American Association of School Librarians, 2009, p. 45). *Empowering Learners* notes that school library media specialists are expected to be visible and active leaders within their school communities (American Association of School Librarians, 2009). Fulfilling this role includes, but is not limited to, activities such as becoming early adopters of educational and technology tools, being an integral part of school committees, collaborating with and training school faculty, sharing expertise with families, and using research to inform daily practices. Accomplishing the leadership role is imperative, because "As interactive technology has come to permeate every aspect of daily life; leading businesses and organizations have changed the way they work in order to thrive... SLMSs must lead this revolution to make room for new models of teaching, learning, and organization to prepare learners" (American Association of School Librarians, 2009, p. 46).

In response to the aforementioned standards, the need for leadership knowledge, skills, and behaviors has not gone unrecognized by the school library professional community. Various institutions have created structures to support leadership development. *School Library Journal* has sponsored an annual Leadership Summit since 2005. Similarly, the American Library Association's (ALA) Emerging Leaders Program is a "...leadership development program which enables newer librarians from across the country to participate in problem-solving work groups, network with peers, gain an inside look into ALA structure, and have an opportunity to serve the profession in a leadership capacity" (American Library Association, 2009, ¶ 1). The Institute of Library and Museum Services (IMLS), a major source of federal funding for libraries and museums, also provides support for school library media specialist leadership development. Several grant programs can, and have been, used to develop and sustain the growth of leadership skills in school library media specialists through master's and doctoral programs and research (Institute of Museum and Library Services, 2009).

There has also been a leadership focus in practitioner literature (e.g., Dickinson, 2006; Frost, 2005; Hartzell, 2002; Lankford, 2006; Moreillon, & Misakian, 2007; Smith, 2009; Wilson & Lyders 2001) further evidenced by the appearance of leadership monographs: *No School Library Left Behind : Leadership, School*

Improvement, and the Media Specialist (Harvey, 2008), *Enhancing Teaching and Learning: A Leadership Guide for School Library Media Specialists* (Donham, 2008), *Case Studies in Educational Technology and Library Leadership* (Baule, 2005), *Leadership and the School Librarian: Essays from Leaders in the Field* (Lankford, 2006), and *Leadership for Excellence: Insights of National School Library Media Program of the Year Award Winners* (Carr, 2008).

Despite the research and professional practice evidence available to support the leadership role of school library media specialists and the emphasis placed on leadership within the guidelines, there is still a tenuous connection between research, professional practice, and library science education. For example, before 2007 there were no library education programs that included coursework that specifically focused on assisting school library media specialists with actualizing the leadership role.

To fill the void between research and professional practice, Everhart and Dresang (2007) conducted research to investigate the needs of school library media specialists who attempted and completed the National Board Certification process – often viewed as a leadership development mechanism. The certification candidates that participated in their study indicated that they could have benefited greatly from coursework that gave them access to leadership models and mentors. Hence, the research findings reflected the need to connect professional practice, school library media guidelines, and school library media education.

Everhart and Dresang (2007) further concluded that universities need to develop more courses that place emphasis on the leadership role of school library media specialists. Based upon their findings, they created the Project LEAD (Leaders Educated to Make a Difference) program at the Florida State University College of Information. Project LEAD's curriculum is based on the tenets of the National Board Certification process. It is currently the only program in the country that addresses leadership skills in school library media specialists through a research-based curriculum.

The development of programs such as Project LEAD is important for school library media specialists because the outcomes of school library media specialist leadership are compelling. Over the past two decades, numerous studies have validated the effectiveness school library media specialist leadership at a range of school levels and locations (School Libraries Work, 2008). Many of these studies have correlated student achievement in reading to the presence of school library media specialists engaging in leadership activities:

- In Alaska, students with full-time school library media specialists as active participants in their school faculties were twice as likely to score on or

above average on reading achievement tests (Lance, Rodney, Hamilton-Pennell, Rodney, Petersen, & Sitter, 1999).

- In Colorado, elementary students who attended schools with school library media specialists who collaborated more with teachers were 21% more likely to have higher reading scores on their achievement tests than those who attended schools with less collaborative school library media specialists (Lance, Rodney, & Hamilton-Pennell, 2000).

- In Florida, strong library media programs with professionally trained full-time school library media specialists who collaborated with teachers and advocated for the school library were positively related student to achievement in all academic areas as measured by Florida Comprehensive Assessment Test (Baumbach, 2003).

- The 11th grade American College Test scores were higher in Illinois when school library media specialists collaborated with teachers in a variety of activities (Lance, Rodney, & Hamilton-Pennell, 2005).

- Students in Indiana schools performed better on standardized reading tests when school library media specialists helped design instruction and collaborated with teachers (Lance, Rodney, & Russell, 2007).

- In Texas, there were positive associations between assessment performance and school library media specialist interaction with teachers and students at all school levels (Smith, 2001).

It is clear from the longitudinal research that has been conducted in a various states and settings that when school library media specialists take on leadership roles, they contribute to the school environment that creates better learning opportunities for children.

Conclusion

This brief review of literature cites research that clearly makes a case for the importance of school library media specialists in leadership roles (School Libraries Work, 2008). However, it remains apparent, that even a decade after the release of *Information Power* and the recent publication of *Standards for the 21st Century Learner*, school library media specialists are still finding it difficult to fulfill empowering roles within schools. These roles cannot be realized unless teachers, principals, and school library media specialists embrace a team approach. A team approach, which is reflected in transformational leadership, offers an opportunity for all educators to assume leadership roles and impact student achievement (Uhl-Bien, 2003).

Transformational leadership may be an avenue for school library media specialists to demonstrate leadership. However, there were no studies located that addressed the development or enhancement of transformational leadership skills through degree programs for school library media specialists. This is a void both *in* current research and *between* research, professional practice, and school library media guidelines that needs to be addressed. Understanding the function of academic preparation in the development transformational leadership skills is a small yet crucial step towards providing school library media specialists with the skills needed to be essential decision makers in school reform.

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Pondering a Peruvian mystery part I: The historian's way of knowing

Carol Gordon

The case of the Nazca civilisation

During midyear break I travelled with Dr Ross Todd and my brother to realise a lifelong dream the three of us shared: to climb Machu Picchu. The trip took us beyond our dreams, reaching into the Sacred Valley between Lima and Cuzco to view the ruins of ancient Peruvian civilisations. It occurred to me that the archaeological sites we visited were models of inquiry.

As a school library researcher I wondered what we could learn about creating inquiry opportunities for our students from the ways that archaeologists engage in inquiry to discover new knowledge about old civilisations. Like our students, archaeologists are digging for information that is buried beneath the surface. They, too, struggle with sorting and evaluating information to make meaning of what they find in order to discover new knowledge.

On our excursion through Peru, the heart of South America's ancient civilisations, we learned about an ancient people called Nazca who lived on the coastal desert plains for five hundred years, from 100 A.D to 600 A.D. This region is four kilometres south of Lima in the Pampa region.

All the evidence of the Nazca's existence is buried beneath the dry, barren surface of the desert, except for a mysterious legacy of lines and drawings scratched into the surface of the land. The invention of flight led to the discovery of these geoglyphs. The lines were first observed by passengers on commercial airlines that began flying across the Peruvian desert in the 1920s. They reported seeing "primitive landing strips" on the ground below (see Figure 1).

The Nazca plain has one of the driest climates on earth and is flat and stony, so dust and sand do not accumulate on the surface. These factors explain why the geoglyphs are so well-preserved. The Nazca geoglyphs are also unusual because of their number and their diversity. Evidence indicates they were made continuously throughout the pre-hispanic period, displaying the cultural continuity of the Nazca civilisation. Stylised designs appear to correspond to different stages of cultural change. Some archaeologists think that the concentration and juxtaposition of the lines and drawings required intensive long-term labor. Others observe that the lines seem random, drawn for no apparent reason as they crisscross the pampas region in all directions. In addition to geometrics such as angles, rectangles, trapezoids and concentric circles, the Nazca lines include various designs of animals, flowers, plants, objects and anthropomorphic images (see Figure 2 overleaf).

The anthropomorphic figures are fewer in number, situated on slopes (Figure 3 overleaf). The most well-known of these figures is The Astronaut, which is 32m in length. Another drawing appears to be a dog-like creature with two enormous hands, one normal and the other with only four fingers.

Archaeologists raise many questions about the Nazca lines, drawings, and artifacts that are excavated from this site. Who were the people

Figure 1: Primitive Landing Strips? Source: <visibleearth.nasa.gov/view_detail.php?id=17305.jpeg>.

In part one of an inspired discussion Carol Gordon considers the importance of inquiry and the practice of the historian demonstrating useful student learning opportunities.
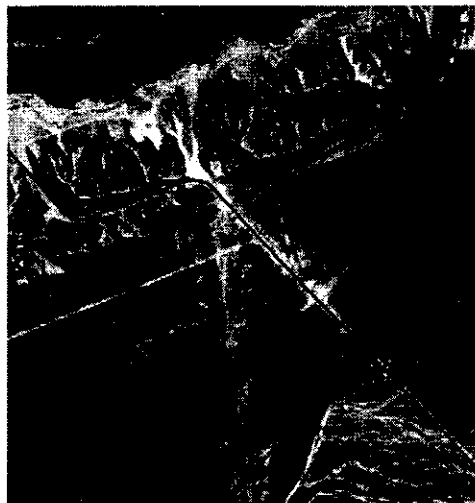
called Nazca? What was it like to live in their time? Why did they create these images in the desert? What do they mean? What can they tell us about what it was like to be in their time and place? What were the events of their history? What happened to them? What can we learn about the present from the Nazca?

These are questions of the historian, but they have been asked by the casual observer as well. This has led to speculation about the meaning of the lines and drawings. Evidence is the stimulus for theorising: the more substantive the evidence, the more sound the theory. The evidence depicted in Figures 1, 2 and 3 is evidence that brings some observers to the conclusion that the Nazca lines and drawings were made by aliens from outer space who landed on Earth using the landing strip like the one depicted in Figure 1. This is not a theory, but an observation or perception. It is based on content analysis of a primitive kind: only the impression derived from the images is evidence for the alien 'theory'. More supporting evidence is needed to raise the level of speculation to theory.

Evidence resides in the exploration of experts who bring a method, or process, to the task of making meaning of Nazca artifacts. What mental tools do they use to gather evidence and analyse it? Archaeology is a wonderful metaphor for the intellectual processes that comprise the phenomenon of human inquiry. As a school library researcher, I am interested in examining the ways of knowing of archaeologists and historians. They may point the way to understanding the nature of inquiry and how we can best build a pedagogy of inquiry learning for students that is authentic and rigorous.

Learning as the making of meaning

Inquiry helps us make sense of the world around us. Children formulate questions naturally: no one teaches them how to do it. They look to authority in the guise of adults to supply the answers. When they become adults, random questioning is no longer adequate. They need systematic approaches to find evidence and
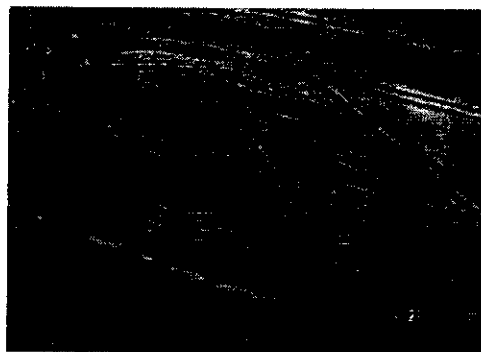
make meaning from it. Their schooling has taught them to be specialists in symbolics (e.g., language and mathematics); empirics (e.g., the sciences); aesthetics (music, art, movement, and literature); synoetics (personal knowledge); ethics (moral knowledge); and synoptics (history, religion, and philosophy) (Phenix, 1964).

The categorisation and compartmentalisation of knowledge serves a useful purpose for schooling: it facilitates decision-making about what to include and exclude from any given course of study. Organising knowledge into disciplines serves another useful purpose by distinguishing among the unique ways of knowing of each discipline. These ways of knowing are distinct and unique processes that facilitate the adding of new knowledge to already existing bodies of knowledge called disciplines. Each discipline raises different kinds of questions. These questions lead to different kinds of evidence and different instruments for collecting evidence that leads to the best possible explanation of a phenomenon.

Disciplines are organic: they grow and change with the collection of evidence and theorising. They can also work together in an interdisciplinary way. Like history, archaeology is a synoptic subject: it integrates all other subjects, or categories of human knowledge as mentioned above. It studies a civilisation's knowledge of mathematics as it is expressed through engineering and architectural feats. It includes the study of language to decipher encrypted symbols, and the study of history to place artifacts, language, and stories in a context of time and place. It uses inference to make claims about what the civilisation knew about science from its stories and building structures. It seeks to understand the ethics and kinds of personal knowledge needed to survive in a given time and place, and to learn from artifacts that represent the creative pursuits of a civilisation.

Religion and philosophy offer a window to the meaning of life through the motifs and patterns of pottery and other artifacts. Through these

Inquiry helps us make sense of the world around us. Children formulate questions naturally: no one teaches them how to do it.

Figure 2: Animal, vegetable, or mineral?
Source: <www.Go2Peru.com>

Figure 3: Alien or abstract representation of a human? Source: <photography.nationalgeographic.com/ photography/enlarge/nazca-lines-littlehales_pod_ image.html>.

disciplines, archaeology seeks to build a sense of history about a civilisation. The archaeologist is a type of historian, but unlike the historian, the archaeologist uses unwritten, as well as written artifacts as evidence. What are the ways of knowing of the historian and archaeologist that build knowledge about antiquity?

The historian's way of knowing

The historian is interested in the human story and human events of the past in order to reconstruct the past and study its relationship to the present. The central category in history is time, and specifically past time (Phenix, 1964). The historian/archaeologist sees the Nazca lines as an ancient message in a bottle that carries information about the past for the future genera-tions. They view it as a gift of the past that may be representative of the human story told over time.

History has an integrative concept of time that includes the objectivity of science, the subjectivity of rhythmic time in language and the arts, and the concrete subjectivity of time with respect to personal relations and moral decisions. (Phenix, 1964) All these dimensions of time are necessary because historical time applies to events that have occurred as a result of human decisions. History links to personal knowledge and ethics because it is the story of what individuals have deliberately done with regard to their moral consciousness (Phenix, 1964). "History is the story of what human beings have made of themselves in the context of their physical and social envi-ronments." (Phenix, 1964, p. 238) The value of history is that it teaches humankind what it is to be human. The historian/archaeologist may see the Nazca monkey (Figure 4) as the pattern of human consciousness over time and a symbol of the continuous and interlocking story of humankind.

Historians think of whole time that encompasses all of these dimensions of time and relates it to unique happenings that have occurred (Phenix, 1964). These happenings are events, which are

the unit of historical inquiry. The task of the historian is to describe, order, and interpret events (Phenix, 1964). These events are not abstractions; they are concrete and rooted in fact. Archaeologists can speculate about an event from artifacts, such as the mummy pictured in Figure 5. Who is the mummy? What kind of event caused the mummy's death? Was it war and conquest? A disease epidemic? A natural disaster?

Like literature, history aims to present unique events in the form of convincing stories. Imagination fashions fact in the manner of telling the story. However, the stories are deeply rooted in facts and evidence. An event is considered an outcome, or human decision. While the event is the basic unit of historical knowledge, a history is an account involving many events in their mutual relationship to time. The ultimate goal of history is to tell the whole story. History is not a chronicle, however.

> The confusion of history with chronicle is one of the chief sources of distaste for history on the part of students. They can hardly be expected to be interested in a recital of dead 'facts' that have no apparent relevance to them as persons in search of meaning. (Phenix, 1964, p. 239)

Historical understanding comes from the inside: the historian has an imaginative identification with persons whose decisions have caused the happenings of the past. Historical understanding consists of a re-creation of the past through participation in the thoughts of people of the past; history is making the past come alive (Phenix, 1964). Deep understanding of history is integrative and interdisciplinary: It is:

> . . . personal insight expressed in ordinary language, informed by scientific knowledge, transformed by esthetic imagination, and infused by moral consciousness. (Phenix, 1964, p. 240)

Historians bring a panoramic view of the human condition to their search for knowledge of what really happened. They want to know the truth.

Figure 4: Nazca monkey. Source: <http://lh4.ggpht. com/_6oWxJ_sKhw0/SDnFHQLICuI/AAAAAAAABxQ/R jzpBCFYqGU/IMG_1522.JPG>

Figure 5: Nazca Mummy, Source: <http:lastdaysoft-heincas.comwordpresswp-contentuploads200810nazca-mummy.jpg>

Deep understanding of history is integrative and interdisciplinary.

The truth is not easy to attain. How can we ever know what really happened when we were not there? While we cannot understand the Nazca civilisation as well as we do our own, we can reconstruct history by inference as we examine available evidence. The kinds of evidence useful to the historian/archaeologist include: eyewitness accounts; written documents; monuments; artifacts; and the present world since it is a consequence of past actions. History is:

> . . . that imaginative re-creation of past human events that best accords with the evidence of the present . . . the best possible explanation of the present in terms of the past." (Phenix, 1964, p. 240)

The construction of the past is by interpretation of evidence through primary and secondary sources. Each interpretation is the historian's hypothesis, commonly called an historical thesis to be distinguished from the scientist's hypothesis. The thesis is a statement of what might have happened and the consequences of each thesis are developed in light of the evidence. It must be documented in primary sources (artifacts or documents of the time and event being studied), secondary sources (documents of historians who interpret primary sources), and tertiary sources (writings of critics of interpretations made in secondary sources) that are evidence of the past. Theses become the basis for historical interpretation. In archaeology the best source is a primary source since artifacts yield reliable evidence. In history, secondary sources are considered more reliable since primary accounts of events often contain bias, faulty interpretation, or misconceptions.

Implications of historical ways of knowing for inquiry-based teaching and learning

In order for students to think as historians and archaeologists, they need to be immersed in learning tasks that mimic the tasks of historians and archaeologists (Figure 6). Engagement is a key factor. It is difficult for students to engage in

In order for students to think as historians and archaeologists, they need to be immersed in learning tasks that mimic the tasks of historians and archaeologists

Figure 6: Archeological Roles: What are they?
Source: http://archaeonet.ning.com/

an historical event without having a role in that event. The event has to be, in some way, relevant to their experiences and interests. One kind of role is the role of the expert. What does it look like to be an archaeologist? What tools do they use? What problems do they encounter? What decisions do they make?

Another kind of authentic learning task is to immerse students in the role as a person who lived in a particular time, place, and event. These tasks facilitate the transformation of student to participant. What was it like to be the daughter of the lord of the manor? The son of a serf? What would it be like to be a member of Leonardo da Vinci's painting studio? A member of Captain Cook's expedition? Although roles that are set in the time period studied are very effective, students can also assume present day roles. How would a student as reporter refute claims of her colleague that the Jewish Holocaust never happened by working with a classmate who assumes the role of the colleague who constructs such an argument?

A variety of roles may focus on one event, such as the execution of Sir Thomas More or the trial of Galileo during the Inquisition. This focus provides opportunities for collaborative role playing and differentiation of tasks with interventions designed to help individual students.

In the planning stage of creating an authentic learning experience for young historians, one way to facilitate historical analysis for students is through periodisation, or grouping events into periods of history about which generalisations can be made. (Phenix, 1964) The 'Renaissance' or the 'Age of Reason' are historical periods that are macro events. However, they require the same kind of explanation as happenings resulting from individual human decisions. This does not only include heroes or leaders or villains of history, but encompasses people across the spectrum of the human race, including those who are not members of any given dominant culture. The historian imagines what it might be like to live in a particular period of time, or macro event, from several perspectives, and how those people might be expected to behave. For example, American history is very different when viewed through the eyes of Native Americans who were 'discovered' by Europeans. Historians check their predictions with the evidence at hand, including what has been preserved in time, i.e., the present. They analyse documents, including information in multimedia formats (content analysis) and interpret the written word, as well as contextual clues.

Skills for reading text, images, and objects are critical to the understanding of history, and interventions that help students to read with improved comprehension. These strategies are structured to coincide with guiding the inquiry through the Information Search Process (Kuhlthau, 1986). They include:
• tools to check or activate prior knowledge

(visualisation, graphic organisers, mapping;
* support for topic selection (browsing, conferencing, interacting with peers, blogging or journaling;
* interventions to check for focus formulation, in this case of historical inquiry, thesis formulation (written or oral statements of intent; conferencing, blogging or journaling);
* information collection (sticky notes; graphic organisers; mapping color coding notes)
* a variety of formats for presentation (historical thesis paper; poster session; chapter headings for a student-authored book; a dictionary of special terms; a Renaissance Fair).

Another approach used to design historical inquiry is to describe general principals or laws of historical development that could explain the past and predict the future. In this way, theories of history are developed: particular events are seen as examples of universal laws. However, this is not history: it is social science. Laws of history belong to the study of social science. Laws are timeless, abstract, and impersonal, unlike the personal constructions in time that are the subjects of history.

There is much confusion about history and social science; historical inquiry centres on the imaginative re-creation of the past event or macro event based on evidence; social inquiry is empirical, or scientific in its logic. There are many opportunities to help students think as social scientists, especially when they are engaged in the present day issues such as climate change, disease control, disaster response, and pop culture. However, the tools of the social scientist are different, as are the questions they ask and the ways they analyse evidence. Social scientists ask questions about how society can be improved in the present and use surveys, interviews, focus groups, observation and journaling, and other qualitative instruments to collect evidence in present time.

The learning task, regardless of the type of role students assume, becomes the assessment: students get the chance to practice their skills, receive feedback on their performance, and revise their work. Performance-based assessments (also called authentic assessments) are at the heart of constructing meaningful learning experiences that are grounded in the academic disciplines. The chance to revise, for example, is the chance to learn more, and all students deserve this chance. This entails providing ongoing assessments throughout the inquiry, rather than solely at the end of it.

Rubrics can guide peer review sessions, the development of checklists, and creation of writing prompts for journaling or blogging. Wikis support collaborative work that students can edit each other work. Wikis can function as secondary sources that could be evaluated collaboratively by students seeking the facts. Assessment of

work generated by these instruments is formative, offering students the chance to revise to address misconceptions or deepen understanding. Peer review is especially effective when guided by clear criteria for the task in a rubric that describes what good performance looks like.

Perhaps the most important type of assessment is self-evaluation, whereby the student becomes his or her own best critic. In order for students to do this with integrity, the learning task and their role in it grows from the essential questions of the history and archaeology, so that they are grounded by the structure of history as a discipline. Students then use the lens of the historian to inform their self-evaluation. Without this perspective they are trapped in the role of student, cut off from the structure of the discipline and its way of knowing, or building knowledge.

The assumption of roles in an authentic learning task offers opportunities for students to work in teams, the way experts do, and to share their emerging knowledge. Collaborative role playing is effective because students working together are more likely to sustain their roles because of the interdependency built into the task. We know that learning is social (Vygotsky, 1978) and that the social aspect of learning motivates students to sustain their efforts.

Collaboration between classroom teacher and teacher-librarian is also essential because of the interdependency of their task: the teacher is the historian and the teacher-librarian is the facilitator who brings authenticity to the learning task through provision of the tools of the historian that reside in resources and technology. These tools provide opportunities to expand the kinds of documentation historians traditionally use from printed text to other artifacts of the time period, e.g., film, music, art, photography, pictures, artifacts, popular culture. These are the tools of the expert historian and archaeologist: the artifacts, documents, and the application of inference to evidence.

Students need to face the problems and decisions of history and archaeology, and they need to use the tools of the experts. They need to go beyond textbooks and classrooms in order to experience the challenge of interpreting events through the eyes of those whose decisions created those events. They need to engage with the evidence in an imaginative way so that they construct the story of an event. Their intellect is not enough to attain a deep understanding of events; they need to feel the drama and struggle in order to appreciate what really happened as an insider, rather than an outsider. Deep understanding has an emotional and psychological dimension. Being human and developing deep understanding goes beyond intellectual pursuits.

There are key concepts of information literacy that are critical to the methods of inquiry used

Deep understanding has an emotional and psychological dimension. Being human and developing deep understanding goes beyond intellectual pursuits.

by historians. Students as historians use footnotes and citation in their work to address each other's work, and to provide elaboration of historical detail when needed. Documentation and attribution are key concepts for historical inquiry to attain the criteria of validity and reliability in the research. Validity means that the research addresses what it claims to address, i.e.., the thesis. Reliability means that the research can be replicated with the same results. Cognitive authority, the presence of bias, and authenticity are also key concepts for the information literate historian who produces valid and reliable findings. These information skills flow naturally from history as a discipline and support the role of historian as students are challenged to think on higher order thinking levels.

The critical thinking skill that is at the heart of historical analysis is inference. Inference is the reasoning involved to draw a conclusion from the evidence at hand. How do we teach students to do this? There are many examples of exercises and materials that support the teaching of inference. The use of visuals and technology are particularly interesting, since children who have difficulty with inference, interpretation, and analysis may also have problems reading text.

Listed below are websites with links to ideas and materials to give students practice in using inference. These materials might also be incorporated in inquiry units as interventions to help students who have difficulty making inferences. Of course the best support for students is modelling. The classroom teacher is a good source for providing modelling as s/he teaches history throughout the year. It is not realistic to expect students to perform higher order thinking skills in the context of history without practice, which is best accomplished in the classroom prior to and subsequent to the inquiry unit.

Teaching Tips: Inference
<http://www.emints.org/ethemes/resources/S00001679.shtml>.

Teaching Inference with Advertisements
<http://educononline.com/2009/01/06/teaching-inference-with-advertisements/>.

Critical Thinking Strategies: Inference
<http://www.powayusd.com/projects/literacy/CriticalThinking/Inference.htm>.

Teaching Inference, Interpretation, and Analysis with New (and Old) Technologies
<http://fno.org/feb02/inference.html>.

The integration of appropriate information literacy skills and relevant critical thinking skills is essential to teaching of history through inquiry. Constructing meaningful inquiry-based learning tasks is not simplistic for the teacher librarian. It requires sophisticated knowledge of the disciplines and their respective kinds of questions, methods, evidence, and analysis to plan and design authentic, rich learning tasks and assessments grounded in rigorous disciplinary contexts. There are several reasons to take this approach:
* Do we want to evaluate student problem-solving in the visual arts?
* Experimental research in science?
* Speaking, listening and facilitating a discussion?
* Doing document-based historical inquiry?
* Thoroughly reviewing a piece of imaginative writing until it works for the reader?
* Then let our assessment be built out of such exemplary intellectual challenges.

(Wiggins, 1990)

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Pondering a Peruvian Mystery, Part 2: The Artist's Way of Knowing

Carol A. Gordon

The Aesthetic Realm of Meaning

In the previous issue of *Synergy*, Part 1 of this article describes the nature of historical inquiry and the historian's way of knowing. The article describes how historians and archeologists are unraveling the mystery of the Nazca civilization, which existed in Peru from 100 A.D. to 600 A.D.. Evidence that yields the truth about Nazca's past is culled from the mysterious legacy of lines and drawings scratched into the surface of the land. These geoglyphs take the form of animals, flowers, plants, objects, or anthropomorphic figures. Speculation about their origin and meaning ranges from the supernatural to the extraterrestrial. This phenomenon serves as a metaphor for the way historians build deep understanding and new knowledge. "Like our students, archeologists are digging for information that is buried beneath the surface. They too struggle with sorting and evaluating information to make meaning of what they find in order to discover new knowledge." (Gordon, 2009) When students engage with information they have initiated an inquiry process. Their sustained success depends on the help and intervention they receive in order to find meaning in the information. Implicit in the interventions designed and applied by classroom teachers and teacher librarians are assumptions of what classroom teachers and teacher librarians mean by "inquiry" and "deep understanding."

This article defines aesthetic inquiry that is specific to the arts: Literature, music, dance, and the visual arts. The underlying premise is that there are realms to which academic disciplines belong. These realms serve as prisms that break down the light of human knowledge into distinct "colors," or realms of meaning. This has consequences for how artists view the world and human experience, and how they express those views. It is a kind of inquiry, or way of knowing, that is characterized by imagination, rather than empirical methods. Phenix (1964) defines six realms of meaning. Each realm encompasses disciplines traditionally studied in schools (e.g., mathematics, science, history), as well as disciplines not usually included in primary and secondary school curricula (e.g., personal knowledge, moral knowledge, philosophy). These Realms of meaning are useful for determining how to teach for meaning and deep understanding. This has important implications for inquiry situated in classrooms and school libraries. The rainbow concept of realms of meaning precludes a one-size-fits-all approach to "doing research." Instead it suggests multiple models of inquiry

grounded in the distinct and unique intellectual traditions of the academic disciplines. This article looks at the artist's way of knowing, specifically through the study of literature, which belongs to the aesthetic realm of meaning. This realm informs the teaching of literature and the questions that such an approach raises about the role of the teacher librarian in English and Language Arts inquiry. Examining oral traditions and artifacts left behind by the Nazca civilization offers insights into how the visual artist, the storyteller, and the writer view the world through imagination.

Literature and the Medium of Language

The Nazca civilization did not leave a recorded history or evidence of a written language so there is no literature that represents their aesthetic understanding of the world. Instead oral tradition has carried their stories across generations. The story found below has survived the journey and will serve to illustrate key concepts about the aesthetic realm.

Flesh-eating giants arrived by sea on reed rafts that were as large as big ships and landed in what is now known as Santa Elena. The giants are described as monstrous, with enormous heads and hair hanging down about their shoulders. Their eyes were as large as small plates. There were no women with them; the men were dressed in animal skins or nothing at all. They set up their camp like a village and dug wells in the rock until they came to water. After they built cisterns to distribute the water, they destroyed and ate everything in site, including fifty native people who were outnumbered by the giants. The giants were eventually defeated by an angel who slew them with a single stroke of a sharp, bright sword and a fearful fire from heaven that consumed them. (Cieza de León, 1883)

As fantastic as this story seems, there may be some truth to it, as evidenced by a Peruvian museum exhibit of the bones that remain of the Giants of Saint Elena. (Fig. 1)

Figure 1: Remains of the Giants of Santa Elena

Photographs of the 'giant' skulls in the Ica museum.
Copyright by Gilbert de Jong.

Is this exhibit genuine? Is the story based on fact? Is it a mythological representation of a real event, or is it pure fiction? These are questions historians would ask because they are interested in what really happened in the past. Aesthetics, however, is not interested in finding out what is true and not true in the literal sense. Literary language is essentially fictional; it is not designed to convey literal truth. Literary works, even when based on facts or delivered as a realistic story, are ideal abstractions. Aesthetic understanding is attained through direct perception of these abstractions, rather than through concepts (Phenix, 1964). Nor is the understanding expressed in propositions, as with scientific knowledge, but in particular objects. For example, a weaving or piece of pottery, such as the Nazca objects shown in Fig. 2, can only be understood as unique objects that convey meaning through the medium of wool or clay. In the case of the story of the Saint Elena giants, the medium for expression is language. What makes the weaving, the pottery, and the story aesthetic objects of art is the medium that expresses their meaning, whether it is wool, clay, or language. The medium conveys details that make the work of art unique. In the Nazca story, these details are conveyed through descriptive propositions such as, "The men were wearing animal skins or nothing at all." These propositions contribute to the content of the work of art but their truth or falsity is not the measure of the aesthetic meaning of the work. Similarly, the ability of a student to recall details of plot or descriptions of character and setting do not constitute aesthetic understanding. Tests, research papers, or any learning outcome that assesses knowledge and understanding based on this kind of detail cannot assess the learner's grasp of the work's meaning. Such understanding is the perception of the literary work as a particular, complex organization of verbal symbols that communicate ideational, emotional, and sensuous meanings unique to that work

(Phenix, 1964). This is more obvious in the case of a weaving or piece of pottery since the medium of wool or clay is concrete, with observable properties such as color, texture, and form. Language, however, is abstract and is experienced through imagination rather than directly through the senses.

Figure 2: Nazca Objects of Art

Weavings and pottery of the Nazca Civilization
Source: Nazca Lines and Culture,
http://www.crystalinks.com/nazca.html

It would seem that the literary arts have the advantage of using the commonly accepted and widely understood medium of language. However, language can create barriers to literary understanding. Though the same vocabulary and grammar apply to literary language and everyday language, or language applied to other realms and discipline such as history, the kind of language used varies. Hence students may confuse literary, or aesthetic meanings of words with their meanings in other realms. A major problem in the study of literature is to distinguish the various functions of language. Language used for aesthetic purposes conveys different meanings from language used for non-aesthetic purposes. In literature, language is deliberately exploited for its expressive effect rather than to describe things. Language is used to stimulate contemplation. Language is intended as a source of aesthetic delight and not as a means to another end. The language of art is non-discursive; it is not exclusively meant to tell a story. It is symbolic and metaphoric, offering layers of interpretation. This poses challenges for the design of learning experiences for aesthetic learning.

Technology is a viable tool to meet this challenge. It offers a digital medium where Web 2.0 tools, such as Wallwisher, encourage learners to play with language.

Through language various patterns of sound and of imagery, symbol, metaphor, and myth are organized into a single expressive whole (Phenix, 1964). Literature differs from ordinary language in exploiting the rhythmic possibilities of language. There is an increased regularity in poetic devices and syntax, such as rhyme, rhythm, and alliteration. The art of literature depends on the possibility of using language figuratively, rather than literally or discursively. Figurative language includes literary images which stand for something inner and ideal. Images may be connected with the senses, and attachs meaning to objects that become symbols. Symbols emerge as objects that refer to something other than themselves. A critical literary concept is metaphor, which contains an analogy between two different things and uses both image and symbol. When literary language is explicitly taught in the context of the literature, students move toward understanding the meaning of the literary work.

It seems that the single most important contribution that the school library can make to helping students develop a sensitivity to language as an art medium is to provide a strong poetry collection and to raise the profile of literary language through poetry slams and readings, poetry writing, musical lyrics, and Web 2.0 tools. These initiatives, designed and implemented in collaboration with classroom teachers, are intended not as ends in themselves, but as strategies to develop an understanding of literary language as the medium for aesthetic understanding.

Literature and Structure

The patterns of literary language, including its rhythm and the devices used to elicit emotional responses results in various kinds of literary works: fiction (including novel, short story, and epic), drama (prose or verse), and poetry. It is a misconception that recognizing these genres and reading classic works of literature, while helpful, do not constitute literary understanding.

Since the meaning of the individual work, in the organization of its elements into an expressive the whole work..., is the objective of literary understanding, classifications by genre, analyses of story, ordering by periods, and other such activities of technical literary scholarship are useful only as they help the reader discover the values inherent in the individual works....." (Phenix, 1964, 184)

Classification of literary works, analysis, and chronological ordering often structure typical assignments that require students to "research" a period of literature, or a particular theme in literature, or the works of a particular author.

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These approaches may help the reader recognize values inherent in individual literary works, but they do not constitute literary understanding. A more productive assignment for literary research is the investigation of an individual work, with emphasis on the language of the work and its literary effects. The telling of plot or the development of character is achieved by skillful composition which conveys a powerful illusion of reality. The artist aims to present a convincing portrayal of human existence. Through theme a literary work communicates universal truths. Understanding the elements of fiction, i.e., plot, character, setting, and theme, in studies of individual works promotes literary understanding when the assignment asks students to make connections between those elements and literary language.

In addition to the language of the individual work and its structure as defined by its genre and elements, the use of myth also adds to the imaginative quality of literary language and expression. Myth refers to the narrative presentation of archetypal, eternal, ideal, or eschatological meanings (Phenix, 1964), such as the idea of "hero" or that, "Good triumphs over evil." Myths are expressions of important social meanings conveyed through images. They create a picture of a community's beliefs. The story of the Nazca giants clearly conveys the belief in salvation through divine intervention: "The giants were eventually defeated by an angel who slew them with a single stroke of a sharp, bright sword and a fearful fire from heaven that consumed them." If this story became an episode in a written epic similar to the adventures of Odysseus in Homer's *Odyssey*, the story would reach the status of a literary object of art that could be studied through the lens of aesthetic inquiry because it contains the archetypal ideals. However, the written language that is the medium of the story must rise to the figurative level.

What happens to the integrity of a literary work when we alter its structure? For example, what if the hero of a young adult novel is a young boy with magical powers? Is the YA novel a literary object? Suppose Homer's *Odyssey* is published in an easy-to-read version for low-achieving students? (Fig. 3) Can we use a graphic novel, rather than the full-text, to teach literature? However, storybooks, graphic and young adult novels can be literary works of art depending on the nature of the language in the individual work. The aesthetic quality of the work is not dependent upon its genre. In addition, there is a research-based rationale for encouraging learners to read what interests them. **The more children read, the better they read (Krashen, 200).** When they read better, they choose more challenging reading materials. If we are serious about promoting reading for all children, personalized approaches that value the disposition and preferences of all children will drive the way educator's promote reading outside of the realm of aesthetic understanding.

Figure 3: What is literature and what is not?

Good overcomes evil
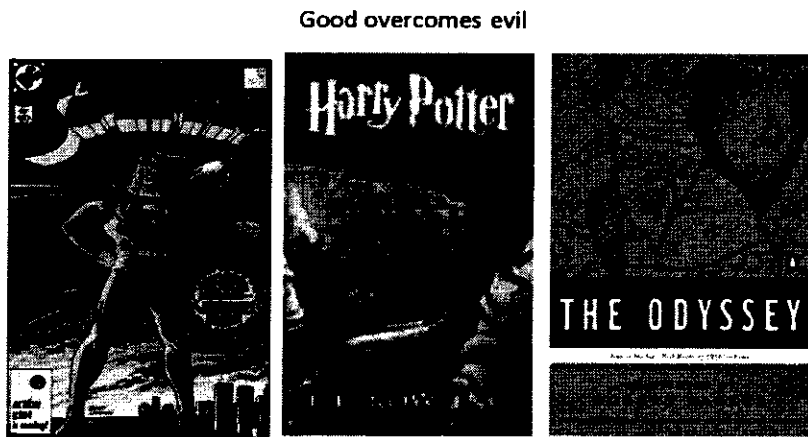
When the intent of the classroom teacher or teacher librarian shifts from teaching aesthetic appreciation to reading motivation, criteria for selection of reading materials also shifts. There is a sliding scale of expectations for selection. If the purpose is to engage young people so that they will read more, and thereby improve as readers, it does not matter whether the reading matter is literature or not. What does matter is that the reader can be engaged in the reading. Methods of promoting reading also matter. Choosing to offer external rewards for reading send the message that reading is not fun, or is not its own reward, or that it does not have intrinsic value. A parent, who is also a writer, expressed concern about a product called Accelerated Reader that assigns a varying number of points to the books in the program. Children earn these points by reading the books and taking a quiz to earn points.

Librarians and teachers report that students will almost always refuse to read a book not on the Accelerated Reader list, because they won't receive points. They base their reading choices not on something they think looks interesting, but by how many points they will get. The passion and serendipity of choosing a book at the library based on the subject or the cover or the first page is nearly gone, as well as the excitement of reading a book simply for pleasure. (Straight, 2009)

Although there is a sound educational reason for teaching literature for aesthetic meaning, the practice inevitably creates a hierarchy of reading materials, placing a greater value on fiction than on non-fiction. Within the genre of fiction, particular value is seen in the "classics" which are considered literary works of art. These judgements have the most profound implications for low achievers and boys. The former may not have reading ability, motivation, interest, or reading experience that contributes to the disposition to read for aesthetic

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understanding. There is often no provision to scaffold the skills they need in order to prepare them for developing deep aesthetic understanding. The result is children who have a desperate need to know that there is beauty, order, rhythm, and meaning between the covers of a book, never learn the joy of literary aesthetics. Boys, on the other hand, may not have the inclination to read fiction or poetry. Research tells us that they prefer non-fiction, and this finding is useful for building engagement with reading. They may rebel when asked to read a Jane Austen novel, but that does not mean, they do need, or are not able, to experience deep aesthetic understanding.

The lack of explicit distinction between reading for aesthetic understanding and reading motivation may lead to bogus issues about whether the classics should be taught, or whether "inferior" reading should be part of the library collection. This conflict needs to be resolved so that children can read the books they want to read, rather than the books they think they should read. Implicit in the duality between literary works and popular reading is the last criteria for teaching for aesthetic literary understanding: teaching learners to be critical and evaluative readers.

Literature and Criticism

Critical skills of analysis, synthesis (or creativity), and evaluation address the issue of what is worth reading as children develop their reading skills. Teaching children to be critical, i.e., to evaluate their experiences, and, in this case, make judgements about a literary work, is a thinking skill high on Bloom's (1956) taxonomy. However, these skills cannot be taught through direct instruction. Rather, they are the result of becoming a proficient reader through reading, and climbing reading ladders as literary understanding is developing. This is a preliminary phase of literary scholarship: novices become more discriminatory as they become better readers.

There are two ways to approach teaching textual criticism. The first is through external criticism, or the study of the circumstances of composition. For example, students may come to the school library to research the Jazz Age prior to reading *The Great Gatsby*, or the life of Ernest Hemingway before reading *A Call to* Arms. The extrinsic approach interprets literature in terms of biographical, psychological, social, economic, political factors presumed to have influenced it. This is a preliminary to reading for aesthetic understanding. Although students may find information that is of value in understanding a literary work, however, it is not to be confused with deep literary understanding. Most of the time English/Language Arts students work in the school library, they are engaged in external textual criticism. This is not a bad thing IF what they learn about the circumstances around the composition of a literary work are connected to the language and structure of the work. When the relevance of extrinsic factors of a

literary work is connected to its intrinsic significance, literary understanding is being taught. For example, biographical knowledge may explain allusions in the author's work, the chronology of his writings, and the relationship to other works, or other writers, or events of the time. These factors, however, are not in themselves aesthetically significant. Psychology of literary composition tells nothing about aesthetic meaning. Psychological information can contribute to understand only if it permits the discrimination of qualities and relationships that might otherwise be perceived less clearly. *Hamlet*, for example, is illuminated by a psychoanalytic interpretation. Social, economic, and political contexts are instrumental in developing literary understanding of the work. It is erroneous, however, to evaluate any work of literature on the basis of its contribution to any social goals. Literature is not intended to be a philosophic treatise. Information found must be relevant to the aesthetic purpose of the work. "The meaning of the work is a system of inter-subjective values, that is, of perceptual abstractions that the work has the power to evoke in all who read it attentively and sympathetically." (Phenix, 1964, 182).

A second kind of textual criticism is internal, which is analysis of language, style, allusions, and explicit statements in the literary work. The intrinsic approach examines the structure of the literature. "…the intrinsic approach is clearly the more essential because it captures the distinctiveness and relative autonomy of literary understanding in the aesthetic mode." (Phenix, 1964, 180) The distinction between extrinsic and intrinsic analyses raises questions about how the school library supports teaching for deep understanding in the aesthetic realm and the critical nature of collaboration. The English teacher brings the expertise of literary language and teacher librarian contributes her understanding of the nature of aesthetic inquiry, along with information tools, including resources and skills which enable the investigation.

Teaching for deep understanding takes place in a culture of inquiry characterized by collaboration where classroom teachers and teacher librarians share a deep understanding of the aesthetic realm of meaning. The deep aesthetic understanding of the classroom teacher and teacher librarian informs teaching decisions and ultimately, the quality of learning outcomes. How can we assess learning activities to determine whether they promote literary understanding?

Principles of Teaching for Deep Aesthetic Understanding

1. Does the activity promote literary understanding through the language of the literary work studied?
2. Is the study of the elements of fiction connected to understanding the literary language of the work studied?

3. Are the purposes of teaching literature for aesthetic understanding distinguished from the promotion of reading that is motivational in intent, rather than instructive?
4. Are extrinsic methods of textual criticism linked to the literary language of the literary work?
5. Are intrinsic methods of textual criticism used to promote deep understanding of literary works?
6. Is the medium of language of the individual literary work taught in the context of the human experience?

While language is common to each of these principles, its meaning cannot be separated from the human experience. The parent concerned with reading by numbers, or points assigned to literary works, captures the spirit of aesthetics.

Not long ago, I went back and re-reread three of my own favorite books of all time, books that made me into a writer. They introduced me to my heroines, girls who grew up in real hardship in vibrantly rendered landscapes that I had never seen before. Anne, in "Anne of Green Gables," made me understand friendship and "kindred spirits" and imagination. Francie, in "A Tree Grows in Brooklyn," made me ache at the injustice of having a charming alcoholic father (his suit drying green after he falls into the bay while fishing) and a mother who cannot love her as much as she loves her more handsome brother. And Nel, the quieter half of the inimitable pair of friends in "Sula," made me feel the way girls love each other intensely in childhood, captured in the precise and lovely language of lines like this: "We were two throats and one eye and we had no price."

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Non-Library Educational Research Publication Outlets for Librarians

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The aim of this study is to define possible publication outlets for librarians who wish to have their work recognized outside of the profession of librarianship. Publishing by practitioners and researchers is especially important for educators in the school library media field, since it has significant potential to enhance librarians' collaborations with -- and respect among -- subject area specialists at both the K12 and university levels. Through an analysis of the top journals in non-library fields which are related to the educational work of school library media professionals, this study reports preliminary details of an exploratory study of major education publications' coverage of work with and in libraries. The study also offers recommendations of ways to fill gaps in knowledge sharing among librarians and traditional educators, through identification of opportunities which exist in publications of mutual interest.

Library and information science professionals, through their professional standards and practice in the field, clearly state the importance of advocacy for the school library media program, and for libraries in general. Similarly, collaboration between school library media personnel and subject teachers of any grade is considered the gold standard of influence on information literacy efforts and student learning at all levels. Thus, we can deduce without hesitation that communicating with other like-minded professionals and scholars, in both formal and informal ways, helps librarians to promote cross-pollination of ideas among peers. Similarly, when the communication is about library or information standards, goals and philosophies which may align with subject area aims of the same nature, this dialogue helps to feed interactions among educators of different disciplines, and helps to encourage mutual understanding in shared work environments. Ideally, the cross-pollination of ideas between librarians and educators helps to advocate for the importance of information literacy for students of all ages.

Information science has had much success in cross-pollination with computer science, business, and medicine. Librarianship could have similar success in infiltrating publications in education, nursing and other helping professions, and

the social sciences, for both content (for example: informatics, learning interventions, information seeking behavior) and for methodology (for example: case studies, focus groups, improvement of quasi-experimental learning designs). In tandem, school library media scholarship could have an impact on the literature of education, especially due to similar shared values and infrastructure which create conditions for more immediate understanding between these two cognate areas. If we believe that collaboration is key to expert function in the field of librarianship, then it must also be key to knowledge production in our formal outlets of scholarship, both in our own field (library-centric) and in the fields of our collaborators (non-library fields).

Formal communication in the form of written scholarship represents the highest level of communication of this type. This paper considers specifically the scholarship of libraries and information studies, which most often appears in its original form in journals read by scholars and graduate students, and which is occasionally abstracted or summarized in publications targeted to practitioner readers or the general public. This study will determine the levels of communication about libraries in the formal outlets of our most significant subject area partner, the field of education.

Method

Journals to investigate were chosen by their inclusion on subject-specific lists produced via Scopus and ISI Web of Science as of August, 2009. The current report is limited to the results of journal investigations in the field of education and the number of articles resulting from a search limited to publication dates from 2000 to 2009. A related study in progress will explore the participation levels of librarians in other content area fields in the humanities, pure sciences and social sciences, specifically in the literature of communication. This larger study will investigate the current capacities and the potential for librarians to connect patrons with learning communities in a variety of subject areas, as well as to contribute to content area discussion within those subject-specific communities.

For each title in the journal list, the researcher searched the Scopus database using *librar** as a truncated term in the 'topic' field along with the publication name' field, connected by the database's default AND Boolean operator. Publication names were searched via the database's journal title lookup tool and then inserted into the main query automatically to avoid typographical error. When results were returned in this manner, the PDF versions of the full text of articles were searched for the term 'librar' using the Adobe Acrobat search feature. Older PDF versions articles not indexed for keyword searching (such as those from *Computers & Education* in 2001), were manually skimmed by the researcher for the word stem 'librar,' and close examination of the abstract,

introduction and methods helped to determine whether they were counted as articles about libraries. Where PDF versions of the actual published journal articles were not available, vendor html versions were searched, using the Internet Explorer web browser's default "word find" function. During the time of this study, no article links were inoperable; interlibrary loan and analysis of additionally required full-text of all articles in which the stem appeared was completed before any results were considered.

Definitional decisions about the nature of articles about libraries, or a particular article's use of the term library or its scope of discussion about library topics were made by the researcher on a case-by-case basis for each instance of the word. For example, articles about building a digital library of subject-specific objects or sources were not counted as being 'about libraries' for this study, since they were specifically about construction of a computer tool, software or architecture that was in all but one case distinct from description of its uses in the educational or applied sense.

Numbers of articles mentioning the library/libraries/librarian word stem were counted, and the context noted where keywords were determined to either about libraries in the sense described and traditionally understood by the researcher and most likely to be acknowledged by school library media researchers, their closest LIS colleagues, and instructors familiar with the concept of libraries in the educational sense. In addition, the number of times an article was cited was also recorded when more than 5 derivational citations were indicated; more than 10 were further explored via the citation mapping tool and will be analyzed and reported on in a subsequent version of this paper. Researcher notes on the nature of library mentions in articles were recorded on a spreadsheet, partially reproduced below.

Results

Data about coverage of libraries in articles published by the first 43 (or roughly one-third of the entire list of 139 journals, in a complete list in Appendix A) of the alphabetically arranged education and special education subject-specific journals in the master list are summarized in Table 1 below. Table notations for presentation handout are as follows: a count with an asterisk (i.e., 1*) indicates a research article principally or partially related to libraries; a count without an asterisk (i.e., 1) indicates an article with tangential relationships to libraries, such as a mention of where data was collected or a reference to campus supports available for subjects studied; a count within brackets (i.e., [1]) indicates an appearance of the term *librar** but with no resulting significant content about libraries, such as its use in the job title or work location of the author of the article, or in a bibliographic citation where the term was located, but where

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library information of the intended nature was not quoted from that reference within the text.

Table 1. Instances of the term *librar** mentioned in articles from education journals, 2000 - 2009 (a list of results and notes from analysis of the first third of the journal list)

[too long to reprint here; to be distributed to attendees at presentation]

In the 43 journals thus analyzed, 21 journals contained no articles in which the truncated stem for the word libraries appeared, thus revealing that the keywords of library, libraries, librarians and the like did not appear in 50% of the education journals examined (see Table 2 below). Within the remaining 22 journals in which some form of the term libraries appeared, 56 articles contained the truncated library search term in results generated via a Scopus search as previously delineated.

Of these 56 articles, 13 of them can be described as library-related studies, such as research into undergraduate library use or attitudes, or studies of library-related content, such as information seeking by a particular user group or database knowledge and use by patrons. Library content was contained in 23% of these articles. Another 29 articles contained a tangentially meaningful use of the term library, such as indicating the location of a study's subjects when queried or a use of the term as part of a contextual statement about the campus or a side reference to libraries as a source of help available generally to the subjects studied. Thus, 52% of articles containing the search term did not use the content or context in any way as part of the topic of the current study; often, it was just a casual mention in an introduction or conclusion. Of the original 56 articles which contained the search term, 14 of these (25%) used the term in a non-meaningful way with reference to libraries, such as in a bibliographic citation or the workplace of an author.

Table 2: Education journals with no mentions of libraries, as described above

Journal Title (Abbreviated)	Number of Articles
ADV HEALTH SCI EDUC	0
AIDS EDUC PREV	0
AM J EDUC	0
ANTHROPOL EDUC QUART	0
APPL LINGUIST	0
APPL MEAS EDUC	0
BRIT EDUC RES J	0

BRIT J SOCIOL EDUC	0
CAN MOD LANG REV	0
CHINESE EDUC SOC	0
COMMUN EDUC	0
COMP EDUC	0
COMP EDUC REV	0
CURRICULUM INQ	0
ECON EDUC REV	0
EDUC ADMIN QUART	0
EDUC EVAL POLICY AN	0
EDUC POLICY	0
GENDER EDUC	0
HARVARD EDUC REV	0
HIST EDUC QUART	0

Readers will note that the above results do not include, as an important outlier, the 29 articles from *Brit J Educ Technol* which did not use the libraries term in any way other than tangentially (at the second level described, which would be indicated as [29]). By including these results, **meaningful library content would have appeared in only 3.5% of the articles examined from the first third of the educational research journals list.**

This outlier is also countered by two additional outliers, which have not yet been closely examined in the same way. Analysis of *ETRD* and *Elem Sch J* was postponed in this analysis, since each returned over 20 articles in which the search term appeared. Upon skimming of the titles, most were found to not be studies that were mostly about libraries in the intended "second-level" manner described thus far, but many mentions, which may be more meaningful than previous results from *Brit J Educ Technol* could potentially be returned if the nature of the articles among these three publications is not entirely similar.

However, if even half of the articles in each of the *ETRD* and *Elem Sch J* result lists contain the library term in either a meaningful or tangentially meaningful context, they would still not counter the strong effect of the 29 minimal references to libraries found by close analysis of the *Brit J Educ Technol* results, and thus not significantly affect the overall percentages of library appearances within the literature thus far. Nevertheless, further research will be performed on all of the titles to confirm this. Of the few articles that did include the term *librar**, most were not cited at all by other publications. One notable exception was an *AERJ* article which was cited 12 times, with half of those citations about or for library-related concepts. First-level or first-generation citation analysis may be another future protocol which could inform this study.

Citation analysis in Scopus revealed interesting aspects of article impact which may be useful to librarians. In the *Brit J Educ Technol*, one study about the use of ICT by primary and secondary school teachers in Scotland (Williams, et. al., 2000), was cited 23 times over the last decade. This is also one of the articles of the type which our own faculties could produce, as teachers' ICT skills and needs are important for librarians also. In fact, it was undertaken by the Robert Gordon University School of Information and Media in the 1997-98 school year as part of a national study at a time when Scotland's country-wide learning objectives were being rewritten; this article is a section of the full report which was commissioned by their government.

Another study in *Brit J Educ Technol* was cited 15 times; it concerned university lecturer's use of digital libraries in their courses, and their perceptions of the content of electronic information from their university library. This study also discussed information literacy as an important educational construct. These and other articles about libraries in higher education, such as studies of usability of digital library resources, or ICT skill levels of university library staff, appeared in *Brit J Educ Technol* and were cited several times, but only one article focused on issues related to K12 libraries. Specifically, and thus back to Williams, et. al. (2000), this second study found that teachers were relying on librarians and computer technicians for specialized support for themselves and their students.

As a check on these citation connections for additional meaningful impact of libraries in education journals, the researcher performed a first and then second generation citation search of another highly cited article. This process would help to verify if connections from education articles produced from the original *librar** search were indeed helping to connect the two fields within their literatures. Using SSCI's citation map, the researcher found 55 articles in two generations of citations based on an article by McDowell (2002) about university lecturer's perceptions of ICT. Specifically, 21 of these resulting articles (almost half) were about meaningful content and study of library work (see Table 3, distributed to attendees). However, not all of these citation links were from the original education journal list in this study; computer publications and library journals appear as well, thus reinforcing a circle of self-impact. It appears that library content is *two* citation generations away from even *one* of the mentions in an education journal, and even then not in sufficient quantities to infiltrate library content in other subjects' journals in any volume.

Discussion

Technical limitations of Scopus are mildly problematic in this method, since it may not be properly indexing all of the terms of a first-level bibliographic entry, nor utilizing available full-text fields from different database vendors. Future study in other electronic sources containing the full-text of articles would assist

in verifying the accuracy of results from a Scopus search of any kind. However, the resulting level of detail in this study was deemed as satisfactory for the intended purposes of the exploration and these preliminary results. To later mitigate this limitation, a cross-vendor analysis of Scopus search results for the journal article counts will be conducted to determine reliability of the method and exact counts of the instances. Needless to say, if the search stem has not appeared in great quantities yet, the subsequent counts may not significantly differ even with these adjustments. Replication of this method with only the top-tier and high-impact journal titles may also be a useful alternative.

With regard to the articles discovered through this process that had particularly high citation counts as important items to reference in subsequent studies, a few interesting content connections were revealed. Studies of undergraduate professors are similarly useful to investigators of K12 information phenomena, as seen in the two articles selected for further citation analysis above. Consider the conclusions from a study in which interviews of university lecturers in the UK, in a variety of subject areas, indicated changes that electronic information brought to their work in the classroom:

> "The electronic academic library perspective did not suggest the need for radical change to teaching and learning practices. Reading lists were extended to incorporate new electronic information resources, so that students mainly accessed specific resources identified for them. Lecturers did not expect students to be using resources of a different nature to those held by the academic library, nor to be using materials with which the lecturers themselves were unfamiliar" (McDowell, 2002).

Librarians of many types could discuss this type of finding further through formal study and publication, and could have been involved in the original construction of this study or others like it. Similarly, McDowell (2002) found that the teachers expected the librarians to impart many of the ICT skills students would need for their courses. These types of findings and the perceptions surrounding them are easy prompts for discussion and collaborative study. Clearly, mentions of library resources and instructional practices such as these are beneficial to an understanding of our field of librarianship by other types of educators and scholars; thus, advocacy and communication opportunities are plentiful given these types of publications as starting points for librarians.

Knowledge gained from these studies of undergraduates is thus not unrelated to, but clearly useful to K12 scholars and practitioners and the librarians who serve them. For example, the findings that "Students who had more prior experience with the Internet had significantly higher positive perceptions toward using the digital library" (Koohang, 2004), or that "Males [undergraduate students] had significantly higher positive perceptions toward using the digital library"

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(Koohang, 2004), may certainly influence our understanding of these aspects of library use and may inform our practice of information literacy at various instructional levels. Replication of studies that produced meaningful outcomes is certainly an important task which would contribute to our body of literature, could increase the stability of our claims about effective library instruction, and could create immediate connections with the journals where this work first appeared.

And in the clearest example of intentional cross pollination of library content within educational publications, the study found an article by Joyce Valenza (2005) on digital libraries for *Educational Leadership*. This is the type of article that can populate the education scholarship with discussions of libraries and their places in other professions and subject areas. In the same journal in 2004, though, a piece entitled "Save the Libraries" gives off the wrong message! Clearly, our strategy here must be well-planned and clearly articulated to all.

The researcher acknowledges the need for field-specific publication for promotion and tenure, as well as the many perceptions of academics about this topic which create barriers (perhaps unintentional) to publication in top journals of other fields. However, this researcher posits the idea that this type of cross-disciplinary publishing need not be the only publishing a faculty performs during a given year, cycle or career. If each of us as library professionals periodically submitted good work to a top content area journal, in addition to writing solely for our library peers, our problem of scholarly visibility would diminish exponentially with relatively little burden on each individual scholar.

While we may already have theories about the effects of impact factors on promotion and tenure processes in various fields, we need not solely use studies on impact factors of scholarly library journals for this purpose. Publishing in journals not solely focused on fellow library professionals might help determine routes for the diffusion of ideas about libraries into the literatures of a variety of other subject areas. In influencing citation analysis, publishing across disciplinary boundaries may not directly or immediately affect calculations of this type; however, by merely raising awareness of the partnership potential of the education and library cognate areas, cross-pollination of scholarship may begin.

This study aimed to help library scholars and practitioners identify non-library publication outlets that might help to raise the profile of library and information science in near-peer fields. By adding the voice of libraries to the dominant discourse among subject fields which are often partners to ours, librarian scholars may help to improve advocacy efforts, mutual understanding and communicative patterns among educators with similar goals. However, these partnerships on scholarship must be real ones, and topics of research must

inform both fields, not allowing librarianship to become a lesser content area or a role which is solely in support of other

As a corollary to the discussion of collaboration, it is important to note that most professional librarians hold subject-area masters degrees as a condition of their tenure or employment in higher education. This provides a natural and foundational level of communication between library staff, scholars, professionals and students working in many content areas outside of librarianship. Librarians may subscribe to the academic LISTSERVs® of fields in the humanities, pure sciences, or social sciences, and contribute to the discussions there as well as in their own library groups. They may also attend events or conferences of the subject areas of interest, or review new books written in these fields, thus providing a particular brand of expertise not only to other librarians but also to subject area specialists.

Librarians often serve as subject liaisons to other departments at their universities, in addition to providing bibliographic instruction and collection development to those departments. These interactions help to display and further librarians' understanding of inquiry and scholarship in the content areas, as well as to contribute to the learning of new scholars in these fields. Connections on various levels with subject scholars inform their knowledge of current publications and trends in content areas other than librarianship. Similarly, librarian authors may partner with subject professionals at their universities to brainstorm, conduct research, write for publication, or present at conferences, thus contributing to knowledge generation in various fields.

Therefore, the list below (Appendix), contains the titles of journals in the categories of "Education and Educational Research," and "Special Education" as delineated by ISI Web of Science. It is provided for Treasure Mountain attendees' information, advocacy and formal communication efforts. Specifically, some of the following actions may assist us in cross-pollinating information about libraries among scholarly conversations in the fields which we serve:

1) School librarians, public librarians and university librarians can provide subject-area faculty with ideas for studies that involve libraries, including some interesting articles that might spark their interest in topic or methodology; then,

2) Librarians can offer assistance to faculty and other researchers in conducting these studies. If for some reason a librarian felt uncomfortable or inferior in designing or doing the empirical research, he or she could easily assist with the literature review, statement of the problem, and discussions of impact. Partnerships will only cement our value and worth

in the minds of those scholars and of those who read the resulting publication.

3) When partnerships are slow-moving or not yet attainable, librarians can seek to have their own work – research studies, position papers, reviews of the literature, etc. – published in near-peer journals in many related content areas. Since many school librarians were once subject-area classroom teachers, public librarians hold bachelors degrees in a variety of subject areas besides their M.L.S., and many university librarians also hold masters degrees in a content area as a condition of promotion or tenure, our connections to cognate fields should contain enough shared experience to start the conversations.

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Appendix

List of 139 Journals for Which Librarians May Consider for Publishing

(ISI Web of Science Categories "Education and Educational Research" and "Special Education," as of August, 2009, abbreviated journal titles).

Educational Research

ACAD PSYCHIATR	COMP EDUC REV	HIGH EDUC
ACADEME	COMPUT EDUC	HIST EDUC QUART
ADULT EDUC Q	CURRICULUM INQ	INNOV EDU TCH INT
ADV HLTH SCI EDUC	EARLY CHILD RES Q	INSTR SCI
AIDS EDUC PREV	ECON EDUC REV	INT J ART DES EDUC
ALBERT J EDUC RES	EDUC ADMIN Q	INT J EDUC DEV
AM EDUC RES J	EDUC EVAL POLI AN	INT J SCI EDUC
AM J EDUC	EDUC GERONTOL	INTERACT LRN ENV
ANTHROPOL EDUC Q	EDUC LEADERSHIP	J ADOLSC ADLT LIT
APPL LINGUIST	EDUC POLICY	J AM COLL HEALTH
APPL MEAS EDUC	EDUC RES (UK)	J COLL STD DEV
AUST EDUC RES	EDUC REV	J COMPUT AST LEAR
AUST J EDUC	EDUC STUD	J CURRIC STUD
BRIT EDUC RES J	EDUC TECHNOL SOC	J ECON EDUC
BRIT J EDUC STUD	EDUC URBAN SOC	J EDUC BEHAV STAT
BRIT J EDUC TECHN	ELEM SCHOOL J	J EDUC COMPUT RES
BRIT J SOCIOL EDUC	ETR&D	
CAN MOD LANG REV	FOREIGN LANG ANN	J EDUC POLICY
CHINESE EDUC SOC	GENDER EDUC	J EDUC RES
COMMUN EDUC	HARVARD EDU REV	J EXP EDUC
COMP EDUC	HEALTH EDUC RES	

J GEOGR HIGH EDUC

J HIGH EDUC

J LEARN SCI

J LEGAL EDUC

J LIT RES

J MORAL EDUC

J NEGRO EDUC

J PHILOS EDUC

J RES MATH EDUC

J RES READ

J RES SCI TEACH

J SCHOOL HEALTH

J SOC WORK EDUC

J TEACH EDUC

J TEACH PHYS EDUC

LANG LEARN

LANG LEARN TECHN

LEARN INSTR

MINERVA

NEW ZEAL J EDU ST

OXFORD REV EDUC

PERSPECT EDUC

PHI DELTA KAPPAN

QUEST

READ RES INSTRUCT

READ RES QUART

READ TEACH

READ WRIT

RES HIGH EDUC

RES SCI EDUC

RES TEACH ENGL

REV EDUC RES

REV HIGH EDUC

REV RES EDUC

RUSS EDUC SOC

SCH EFF SCH IMPRV

SCI EDUC

SCI STUD READ

SECOND LANG RES

SOCIOL EDUC

STUD HIGH EDUC

TEACH COLL REC

TEACH PSYCHOL

TEACH SOCIOL

TEACH EDUC

TESOL QUART

THEOR PRACT

URBAN EDUC

YOUNG CHILDREN

Special Education

AM ANN DEAF

AM J MENT RETARD

ANN DYSLEXIA

BRIT J DEV DISABIL

DYSLEXIA

EDU TRN DEV DISAB

EXCEPT CHILDREN

FOCUS EXCT CHILD

GIFTED CHILD Q

HIGH ABIL STUD

INFANT YNG CHILD

INT REV RES MNT RT

INTERV SCH CLIN

J EARLY INTERV

J EDUC GIFTED

J FLUENCY DISORD

J INTELL DISAB RES

J INTELL DEV DIS

J LEARN DISABIL

J POSIT BEH INTER

J SPEC EDUC

LEARN DISAB Q

MENT RETARD

REM SPEC EDUC

RES DEV DISABIL

RES PRCT PER SEV D

TOP ERL CHILD SPEC

Analyzing Pre-Service Teacher Librarian EPortfolios for Program Improvement

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Portfolios have become a popular way to assess competencies over time. Basically a collection of sample work, portfolios address the problem of single assessments. Instead, multiple efforts can reflect a complex set of competencies. While it is possible to collect *every* piece of evidence (sometimes done as learning records), one of the values of portfolios is selection, which is a key information competence. Learners choose those pieces that best demonstrate competency, and they typically write a reflection about their choices. Portfolios also require organization, another important professional skill. Thus, portfolio form and function meld well to show professional preparation. Furthermore, portfolios can assume a variety of formats: print, audio-visual, and digital. The latter, though, offers the greatest flexibility in data storage and retrieval because learners can repurpose and link evidence to the relevant standards or outcomes.

As with other assessment tools, portfolios need to be carefully designed.

- What is the purpose of the portfolio? Entrance diagnostic? Benchmark assessment? Exit outcome?
- What kind of evidence is expected? What learning activities will be provided so learners can create artifacts demonstrating information literacy?
- How selective should the evidence be? What is the time frame for the work to be collected? What reflective components are needed?
- What organization is required? To what extent will organization impact assessment results?
- How will the portfolio be assessed? What actions will occur as a result of the assessment?

Because portfolios usually represent substantial effort over time, coordination of the stakeholders and the learning environment is needed from the start. Learners should be informed of the outcome, portfolio requirements, and assessment methods early on so they can begin to collect and think about their work. This awareness also encourages learners to try hard and progress over time.

In education preparation programs, portfolios are usually tied to professional standards and tend to serve as an authentic summative assessment of their candidates. Increasingly, program candidates submit their portfolios in digital form to cut down on paper bulk as well as to provide an authentic way to assess

candidate technology competency. Programs vary widely in their preparation of their candidates relative to portfolio preparation. Additionally, faculty assessment of these portfolios may also be uneven. In terms of programmatic review, this rich data set is seldom analyzed in order to improve programs – which could potentially help optimize candidate performance and preparation for the field.

TEACHER LIBRARIAN EPORTFOLIO REVIEW

The main goal of the University Librarianship Program is to prepare candidates for service and leadership as teacher librarians (TL) serving K-12 students. To insure quality, candidates must meet both state and National Council for Accreditation of Teacher Education Library Media Specialist standards.

To that end, courses are structured to provide candidates with contextualized content (theory and best practice) and well-developed opportunities to build their skills, and apply their knowledge in real-life situations. Authentic performance constitutes the focus of candidate preparation; lesson plans, case studies, site-based assessment and plans.

To provide an authentic way to synthesize learning and insure that TL standards are met, the program coordinator developed a portfolio task. As part of their culminating experience, candidates must create a portfolio of evidence (preferably 2-3 examples per standard) demonstrating that they meet all state and national TL standards. Evidence may be drawn from course work or field experience. For each standard, the candidate must explain the basis for choosing the accompanying evidence and must state the learning derived, including implications for their professional goals.

In 2003 the program was expanded from a credential-only to a credential and master's program. At that point, all courses were reviewed and updated. In alignment with the new level and as an authentic way to assessment candidate competency, the portfolio was required to be submitted in electronic form.

The coordinator evaluated candidate eportfolios holistically, grading them as either A, B, or failing. Candidates always passed. This approach failed to capture enough data to be useful. Therefore, a rubric was created with a data point for each standard as well as overall eportfolio development. As a result, candidates are given much more specific feedback.

Furthermore, she identified anchor eportfolios and calibrated grading with all field experience supervisors to insure consistent assessment. She first showed supervisors a model feedback response with associated eportfolio. Next she had supervisors assess and provide feedback for a different portfolio, and then compare responses, discussing the ratings and comments. A third independent eportfolio was assessed, at which point, analyzes were consistent. In this way,

candidates were able to be shown exemplary eportfolios, which has helped them concretize their efforts.

ASSESSMENT OF TEACHER LIBRARIAN EPORTFOLIOS

Although the eportfolio rubric was used to assess candidates and the scores were sent to them, for the first three years the rubric assessments were not systematically examined to determine the program's quality itself. As the credential program was being reviewed for upcoming accreditation, the significance of the individual standard data became apparent. At that point, the assessment documents were saved. Since then, five semesters of eportfolio assessment data have been collected (N= 35) for exiting TL candidates.

Using a nominal scale of 1 to 4, where 4 is exemplary, the following chart represents the distribution of scores for the eportfolio. The first eleven data points represent the eleven state TL standards; the average score of the aggregate average was 3.56. The rest of the factors assess the eportfolio development itself; the aggregate average was 3.27. The overall average score for the eportfolio was 3.39, with scores ranging from 2.72 to 3.94.

By disaggregating the data by standard/field experience/development as well as demographics, the coordinator identified possible learning gaps across the program population. No significant difference by gender or age was found. Field experience evidence has become more complete over the five semesters because the program coordinator has given clearer directions about the relevant documents. Technology skills have improved over the five semesters reflecting the increasingly rigorous technology course.

ASSESSMENT IMPACT ON PROGRAM IMPROVEMENT

Based on the data analysis, the coordinator has made changes to course design and assignments. She has also reviewed the results with part-time instructors and supervisors in order to improve the program.

This process has resulted in higher-quality eportfolios, more thoughtful candidate self-reflection, higher-quality assignments, and more consistent teaching and learning. Improvements include:

- Tightened evaluation criteria for reading analysis for literature/info courses;
- Provision of more exemplars in several courses;
- Incorporation of photos of libraries for facility assessment;
- Increased use of case studies;
- Expanded database analysis and expanded plan;
- Expanded discussion of non-English selection;

- Increased discussion and assessment on collaboration and communication;
- Increased peer review and feedback for proposals;
- Expanded focus on policies in several courses;
- Provision of more lab time and coaching for cataloging;
- Added textbook management unit;
- Added unit on working with administrators;
- Tightened structure for technology assessment and plan.

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Advocacy for the School Library Media Profession
Results of a National Survey

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Abstract

As a result of drastic eliminations in school library media specialist (SLMS) positions and funding reductions in schools and school districts across the United States, there is an increased focus on public school library media programs. This study attempts to understand the advocacy behaviors of SLMS, and also why they may not advocate for the profession. A national survey of 381 SLMS sought to discover present advocacy efforts, advocacy needs, obstacles to advocacy, and successful methods of advocacy for the profession. Results indicate that an overwhelming majority of SLMS believe that advocacy for the profession is important. Only half of the respondents, however, reported engaging in advocacy activities. Obstacles to advocacy included lack of time and lack of awareness. National, state, and local library associations are challenged to motivate school library media specialists to engage in the process of advocacy.

Introduction and Review of the Literature

As a result of drastic eliminations in school library media specialist (SLMS) positions and funding reductions in schools and school districts across the United States, there is an increased focus on public school library media programs. These eliminations prompted the American Library Association (ALA) to appoint a special Task Force on the Status of School Libraries. Since the adoption of its report (ALA, 2005) associations have launched several initiatives to advocate for a state-certified SLMS in every public school. For example, the American Association of School Librarians (AASL) created an Advocacy Toolkit (2006), and the ALA's policy-making Council adopted several resolutions on various aspects of school libraries including responses to position and funding elimination. ALA and AASL's most ambitious school library advocacy activity to date is the promotion of the SKILLs Act, which amends the No Child Left Behind Act (2001) to require school districts, to the extent feasible, to employ one certified SLMS in every school library (AASL, 2008a).

Despite the above initiatives attracting much attention in national professional associations, little is understood about how individual SLMS advocate for school

library positions and programs. A review of the literature on SLMS advocacy consists of strategies and techniques for advocacy (e.g., Bush, 2007; Hainer, 2005; Leverett, 2001; Schuckett, 2005; Williams, 2006) using evidence-based practice as an advocacy tool (Asselin, 2006; Braxton, 2003; Loertscher & Todd, 2003; Logan, 2006; Todd, 2003, 2006, 2008a, 2008b) and reports of successful advocacy initiatives (e.g., Burris, 2006; Giambra, 1998; Kenney, 2008; Russell, 2004). The researcher found no empirical studies related to the advocacy behaviors of SLMS.

Research on advocacy in a broader sense, however, can assist in the understanding of the SLMS as advocate. Attaining consensus in grassroots actions in order to promote broader goals is difficult, thus explaining the limited success of some grassroots movements (Couto, 1998). This concept can offer some explanation for the difficulty in achieving high levels of advocacy among SLMS, as most decisions are made at state or local levels. Advocacy groups also experience obstacles in group decision-making. According to Greitemeyer, Schulz-Hardt, Brodbeck, and Frey (2006) group decision-making requires more resources than individual decision-making and thus is expected to produce group-specific benefits. When some members of the group have privileged information that others do not, group goals can be misunderstood and can affect decision quality. Because of the fragmented nature of SLMS associations at the state and local level, attaining consensus can be difficult.

Additionally, social identity is a factor in why some individuals advocate within a group while others do not. Social identification, defined as an individual's self-definition as a member of a group, can lead to that individual advocating for a group. Individuals, however, must have a belief in their ability to represent the group as well as a feeling of responsibility to that group (Harquail, 1996). A school library media specialist's diverse roles — as teacher, reading specialist, technology expert, and promoter of literature, among others — undoubtedly causes conflict at the individual level about group identity. SLMS advocacy is complex when there are so many facets of the profession for which to advocate.

In a study of international human rights advocates, Jennings (1996) found that a key factor in the process of becoming an advocate is the relationship between the advocate's view of society and his or her self-concept. This relationship creates a moral obligation within the advocate to address oppression. Personal actions then reflect the advocate's world view and the need to work for the betterment of others. The process of SLMS' development as advocates may be analogous to these and other advocates; concepts of education being the cornerstone of the betterment of society certainly lend themselves to this idea. Additionally, SLMS' implementation and promotion of the principles embedded in the *Library Bill of Rights* (ALA, 1996) undoubtedly sets the stage for the development of a moral obligation to advocate for the profession.

Research Questions

This study attempts to deepen the understanding of advocacy by discovering how and why individual SLMS advocate, as well as why they may not advocate for the profession. The primary research questions in the study were:
1. What advocacy efforts are being or have been undertaken by certified SLMS?
2. What are the advocacy needs of SLMS?
3. What are the present obstacles to advocacy?
4. What are successful methods of advocacy for the SLMS profession?

Through this study it is hoped that more can be understood about the characteristics, perceptions, and behaviors of ground-level SLMS advocates.

Methods and Procedure

For this study, the researcher adapted a survey from a study of advocacy in the counseling profession (Myers & Sweeney, 2004). This survey was chosen for adaptation because of the content of the instrument as well as the parallels of counseling to the SLMS profession. In both professions, credentialing is required to practice, and a Master's-level terminal degree is recommended for entry into the profession. Additionally, the position of both professions within the structure of K-12 education is somewhat analogous (both professions are frequently targeted for cuts or elimination at the school or school district level).

The survey asked questions in six categories: (1) demographic information, (2) nature and success of advocacy efforts, (3) perception of current advocacy needs for the profession, (4) resources available for advocacy, (5) current obstacles to advocacy, and (6) perceptions about the importance of advocacy to the future of the school library media profession. Sixty-three respondents from the researcher's state school library media association tested a draft of the survey. Survey questions were refined for clarity with this smaller group before collecting responses nationally.

The survey was distributed in an electronic format to two national school library media email discussion lists: *AASL Forum*, the email list of the American Association of School Librarians with 638 subscribers; and *LM_NET*, an email list with over 14,000 subscribers. A cover letter described the nature and importance of the survey, and contained information about institutional review board procedures, including anonymity and the right to end participation at any time. The survey was open for two weeks; a week into the collection of responses, an email reminder sent to the discussion lists encouraged those who had not yet completed the survey to respond.

The survey was also disseminated beyond these two email lists, including several state school library association email lists of which the researcher was made aware. Because of the nature of electronic communication, it is difficult to determine how many potential respondents received the survey invitation and therefore impossible to declare an accurate response rate.

Results

A total of 390 respondents initiated the survey with 381 completing (97% completion rate). The following sections present the results of the survey.

Demographic Information

Table 1 provides a summary of demographic descriptions for the 381 respondents. Over three-quarters of the respondents (76.8%) were practicing school library media specialists, almost 10% were school library media supervisors, and roughly 16% were educators of school library media specialists. The majority of the respondents (19.5%) had 6-10 years experience in the profession.

Most respondents (80.1%) possessed a master's degree, with 13.7% holding a bachelor's and 5.7% holding a doctorate. Respondents were also asked if they held a school library media credential as defined by their state. An overwhelming majority (90.2%) replied that possessed a credential.

Survey questions asked about membership in professional library or library-related associations. Over half of the respondents (57.3%) reported membership in the American Library Association and 44.6% belonged to the American Association of School Librarians. Membership in the state library or school media association was more common, with 78.8% of respondents reporting membership.

Finally, the survey asked if in the past three years they had been involved in a situation where school library positions or funding had been reduced, threatened, or eliminated. Over half (51.9%) reported experiencing issues with school library funding or position elimination. About one-quarter (27%) of the respondents provided optional comments regarding funding elimination. These open-ended comments described respondents' experiences with position elimination or reduction and elimination of expenditures in the library media center budget in their schools and school districts.

Table 1. Demographic Description of Participants

Demographic Variable	N	% Total
Employment position		
Building-level SLMS	282	76.2
SLMS Supervisor	35	9.5
SLMS Educator/Professor	59	15.9
Years of Professional Experience		
0-2	55	14.1
3-5	63	16.2
6-10	76	19.5
11-15	55	14.1
16-20	44	11.3
21-30	52	13.4
30+	44	11.3
Highest Degree		
Bachelor's	53	13.7
Master's	310	80.1
Doctorate	22	5.7
Hold a state credential		
Yes	348	90.2
No	37	9.6
Association Membership		
American Library Association	221	57.3
American Association of School	172	44.6
Librarians	86	22.3
Other ALA Division	304	78.8
State library or school media association	138	35.8
Local library or school media association	37	9.6
Do not belong to a library association		
In Past 3 Years Funding or Positions		
Threatened/Reduced/Eliminated	202	51.9
Yes		
No	181	46.5

Nature and Success of Advocacy Efforts

A second set of questions inquired about the nature of advocacy efforts in which the respondents had been involved, and whether or not those efforts were successful. Table 2 provides descriptive information about these responses. Over half of the respondents (52.8%) reported providing comments to decision-makers (school district administrators, school board members, or legislators) through phone calls, emails, faxes or letters. Respondents also reported a high rate (51.2%) of reading and/or distributing literature or information on school library advocacy. Similarly, many respondents (44.4%) reported participation in

committee or volunteer work in their library association or a similar group. Additionally, one-quarter (24.9%) of respondents replied that they had not been involved in school library media advocacy efforts within the past three years.

Table 2. Nature of Advocacy Efforts.

Nature of Advocacy Efforts	N	% Total
Committee/volunteer work in associations or groups	169	44.4
Read/distributed information on school library advocacy	**195**	**51.2**
Attended library legislative days or other organized events	60	15.7
Speaking at a committee or board hearing	**82**	**21.5**
Provided comments to decision makers through phone calls, emails, etc.	201	52.8
Encouraged others to write/speak to decision makers	**158**	**41.5**
Participated in a demonstration/rally	22 **4**	5.8 **1.0**
Organized a demonstration/rally No involvement in advocacy in past three years	95	24.9

About half of the respondents reported moderate success in their advocacy efforts on behalf of the school library media profession. Only 6.1% reported high success, and almost 1 in 5 (18.1%) reported limited or no success in their advocacy efforts over the past three years (Table 3).

Table 3. Success of Advocacy Efforts

Success of Advocacy Efforts	N	% Total
High	22	6.1
Moderate	**183**	**51.0**
Low	65	18.1

Optional comments about the nature and success of school library media advocacy revealed a range of opinions about the success of advocacy outcomes, the arenas in which SLMS can advocate for the profession and the lack of awareness about the role of the school library and SLMS in the curriculum.

Respondents who commented expressed frustration with the time needed for effective advocacy in statements such as: *"I would like to participate in library*

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legislative days, but they are always during the school year and I can't get away" and *"Often there is little time to respond. Often it is difficult to take time off during the school year."*

Additionally, several respondents revealed repercussions experienced or perceived as a result of vocal advocacy was revealed by several respondents. For example: *"Working librarians have little to no time for advocacy and are sometimes fearful that any action will adversely affect their jobs"* and *"I pushed for my former school board to insist that my principal follow... rules which mandate that the elementary school library be on a fully flexible schedule instead of being used to provide teacher prep time. I was successful but had to leave the position as there was no way I could work with that principal after she was forced into the change by the school superintendent."*

Some respondents offered that school library media advocacy could be approached in ways other than lobbying or activity in professional associations. For example: *"I consider advocacy to take many forms, not just involvement in library groups. I feel that I'm an advocate in promoting my program to my customers, students, teachers, and administrators, and in the efforts that I put forth to encourage use of viable informational resources and to encourage a love of reading. I am also forming a reading club this year, so this and other activities that fall outside of my official duties promote libraries."* These responses indicate that SLMS may differ in their definitions of advocacy, with some defining advocacy as political action and others embracing a broader definition that includes effective programming and other practices.

Perception of Current Advocacy Needs for the Profession

The survey asked what respondents perceived as the current advocacy needs for the profession. Listing six possible needs, participants checked the options they considered the most important. The most frequently selected need was "publicize the services school libraries and library media specialists provide" (89.8%) followed by "improve the public and professional image of school library media specialists" (73.5%). "Pursuing legislative action on behalf of jobs for SLMS" (67.7%) was also frequently selected, as was "assure that SLMS have equal access to employment with other education professionals" (50.1%) and "develop a common definition/identity for SLMS" (47%). The least frequently selected option was "hire paid staff/consultants to advocate for SLMS' with 19.7%. Forty respondents (10.4%) provided open-ended comments. Most comments referenced pursuing legislative action (n=15) or improving the image and perceptions of SLMS by various stakeholders (n=14).

Resources Available for Advocacy

Participants were asked to respond to a list of choices concerning the resources for advocacy currently available to them. Table 4 summarizes the responses. The most frequently cited resource was professional associations (53.4%), followed by committees and volunteers (49.1%), advocacy toolkits (36.4%), coalitions with other educational groups (34%), government relations/lobbying staff (24.5%), advocacy training (23.5%), and paid library association staff (20.8%). Resources least available to respondents included consultants (5.1%) and funding (4.6%). 21.3% noted that they were unsure about available resources for advocacy.

Table 4. Resources available for advocacy.

Resources Available for Advocacy	N	% Total
Committees/volunteers	182	49.1
Coalitions with other educational groups	**126**	**34.0**
Government relations/lobbying staff	91	24.5
Paid library association staff	**77**	**20.8**
Funding	17	4.6
Consultants	**19**	**5.1**
Professional associations	198	53.4
Advocacy Training	**87**	**23.5**
Advocacy toolkits	135	36.4
I am unsure/I don't know	**79**	**21.3**

Current Obstacles to Advocacy

The survey asked respondents to indicate the current obstacles to school library advocacy. Respondents identified the following obstacles: lack of time (62.1%), lack of awareness (49.3%), resistance by public decision-makers (38.7%), not enough money (37.6%), not a priority (31.5%), lack of advocacy training (31.7%), lack of collaboration (30.7%), lack of leadership (28.5%), inadequate resources (26.1%), little interest in advocacy (22.9%), not having a toolkit/information packet (8%), and opposition by other organizations (6.1%).

Respondents felt strained by lack of time for advocacy. Examples representative of comments were: *"I have over 800 students, no aide and a budget of $3,000 annually. Do you really think I have time for advocacy?"* and *"We are too busy just doing our many jobs at our local schools."*

Importance of Advocacy to the Future of the School Library Media Profession

The final survey question asked participants to rate the importance of advocacy to the future of the school library media profession. The vast majority of respondents (81.2%) reported that advocacy was very important to the future of

the profession, while 18.5% stated that it was moderately important. Only one respondent (0.3%) reported that advocacy was not important to the future of the school library media profession.

Discussion

Based on the participants' responses, there is a gap between SLMS' perceived importance of advocacy for the profession and their engagement in advocacy activities. With the exception of one respondent, all felt that advocacy was very or moderately important to the future of the profession. The survey reveals that the notion of the importance of advocacy is not necessarily reflected in the actions of school library media specialists. While SLMS generally believe that advocacy is important, only half of the study participants engaged in conversations with decision makers through phone calls, emails, letters, or faxes, and even fewer encouraged others to do the same. One-quarter of the respondents reported not participating in advocacy activities in the past three years.

A possible explanation for the reticence to engage in advocacy on behalf of the profession is a combination of the perceived lack of time for advocacy and the idea that professional associations should be responsible for advocacy. One respondent felt that the burden should be placed on the association: *"Missed opportunities in terms of ALA's actions - you wouldn't find doctors feeling like they individually have to educate the public about what a doctor is!"* Confirming this perception, a low number of participants indicated that advocacy assistance was available in the form of consultants and paid lobbying or association staff.

The main limitation of this study is that the survey captured the responses of self-selected, active participants in SLMS email lists and state/local SLMS associations. In other words the study surveyed those who are engaged at some level beyond their individual schools. The very fact that these SLMS belong to national email lists indicates at least a minimal engagement in the profession, if only in passive involvement in email communication with other SLMS outside of their schools. This study did not include the much larger population of SLMS who do not belong to associations. According to the National Center for Education Statistics (2008) there are 50,553 SLMS in the United States yet fewer than 8,255 belong to the American Association of School Librarians (AASL, 2008). Library associations must mitigate this discrepancy by aggressively recruiting SLMS, offering continuing professional development on advocacy, preparing materials that assist with advocacy efforts and advocating on behalf of the profession.

In the context of the school library media profession, advocacy is a highly personal and local effort. Gary Hartzell, a former school administrator and

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professor of educational administration, states, "if you elect not to engage, you'll probably lose your opportunity to significantly impact the decision-making process (2003, p. 9). While national library associations must motivate school library media specialists to engage in the process of advocacy, the majority of advocacy challenges happen at the local and state levels. State and local library associations, with the assistance of national associations such as ALA and AASL, are in the greatest position to effect advocacy activities. How associations can best motivate their members to engage in advocacy activities is a complex and continuing endeavor.

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Appendix

The following is a draft of the Common Core Standards proposed by the National Governor's Conference working group. This document will change, of course, in 2010 as comments are received and changes made.

The major issue for teacher librarians is to try to figure out what our role and leadership stance we could take if this document becomes a powerful force in American education.

In this reproduction, we have not included the illustrated texts.

College and Career Readiness Standards for Reading, Writing, and Speaking and Listening

Draft for Review and Comment

September 21, 2009

College and Career Readiness Standards for Reading, Writing, and Speaking and Listening

Table of Contents

Core Standards for Reading, Writing, and Speaking and Listening

The Core Standards identify essential college- and career-ready skills and knowledge in reading, writing, and speaking and listening across the disciplines. While the English language arts classroom has often been seen as the proper site for literacy instruction, this document acknowledges that the responsibility for teaching such skills must also extend to the other content areas. Teachers in the social and natural sciences, the humanities, and mathematics need to use their content area expertise to help students acquire the discipline-specific skills necessary to comprehend challenging texts and develop deep knowledge in those fields. At the same time, English language arts teachers not only must engage their students in a rich array of literature but also must help develop their students' ability to read complex works of nonfiction independently.

What is taught is just as important as how it is taught; the Core Standards should be accompanied by a comprehensive, content-rich curriculum. While this document defines the outcomes all students need to reach to be college and career ready, many important decisions about curriculum will necessarily be left to states, districts, schools, teachers, professional organizations, and parents. For example, while the standards require that students read texts of sufficient complexity, quality, and range, this document does not contain a required reading list. If states and districts choose to develop one, they should look at the Reading exemplars provided here to get a sense of the level of complexity students must be able to handle independently when they read. Educators can also model their efforts on reading lists from around the nation and the world as long as the texts ultimately included meet the range and content standards in this document.

Standards today must ready students for competition and collaboration in a global, media-saturated environment. Colleges and universities have become international meetinghouses where people from across the globe learn with and from one another. At the same time, business today is truly a worldwide enterprise. Media-related technology helps shape what goes on in both college and the workplace; indeed, it has in some important ways reshaped the very nature of communication. Students who meet the Core Standards will have the reading, writing, speaking, and listening skills to flourish in the diverse, rapidly changing environments of college and careers.

Although reading, writing, and speaking and listening are articulated separately in the standards that follow, these divisions are made for the sake of clarity and manageability. In reality, the processes of communication are tightly interrelated and often reciprocal. The act of reading can no more be separated from the written word than the act of listening can be from the spoken word. When reading, students demonstrate their comprehension most commonly through a spoken or written interpretation of the text. As students solve problems, share insights, and build the

knowledge they need for college and career success, they draw simultaneously on their capacities to read, write, speak, and listen.

Student Practices in Reading, Writing, and Speaking and Listening

The following practices in reading, writing, and speaking and listening undergird and help unify the rest of the standards document. They are the "premises"—broad statements about the nature of college and career readiness in reading, writing, and speaking and listening—that underlie the individual standards statements and cut across the various sections of the document. Every idea introduced here is subsequently represented in one or more places within the larger document.

<p style="text-align:center">* * *</p>

Students who are college and career ready exhibit the following capacities in their reading, writing, and speaking and listening:

1. *They demonstrate independence as readers, writers, speakers, and listeners.*

    Students can, without significant scaffolding or support, comprehend and evaluate complex text across a range of types and disciplines, and they can construct effective arguments and clearly convey intricate or multifaceted information. Likewise, students are independently able to discern a speaker's key points as well as ask questions and articulate their own ideas.

2. *They build strong content knowledge.*

    Students build a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They demonstrate their ability to become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and the specific in-depth expertise needed to comprehend subject matter and solve problems in different fields. They refine their knowledge and share it through substantive writing and speaking.

3. *They respond to the varying demands of audience, task, purpose, and discipline.*

    Students consider their reading, writing, and speaking and listening in relation to the contextual factors of audience, task, purpose, and discipline. They appreciate nuances, such as how the composition and familiarity of the audience should affect tone. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in the natural sciences).

4. *They comprehend as well as critique.*

    Students are engaged and open-minded—but skeptical—readers and listeners. They work diligently to understand precisely what an author or speaker is

saying, but they also question an author's or speaker's assumptions and assess the veracity of claims.

5. *They privilege evidence.*

Students cite specific textual evidence when offering an oral or written interpretation of a piece of writing. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

6. *They care about precision.*

Students are mindful of the impact of specific words and details, and they consider what would be achieved by different choices. Students pay especially close attention when precision matters most, such as in the case of reviewing significant data, making important distinctions, or analyzing a key moment in the action of a play or novel.

7. *They craft and look for structure.*

Students attend to structure when organizing their own writing and speaking as well as when seeking to understand the work of others. They understand and make use of the ways of presenting information typical of different disciplines. They observe, for example, how authors of literary works craft the structure to unfold events and depict the setting.

8. *They use technology strategically and capably.*

Students employ technology thoughtfully to enhance their reading, writing, speaking, and listening. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.

Introductory Evidence Statement for Reading, Writing, and Speaking and Listening Standards

To develop college- and career-ready standards for Reading, Writing, and Speaking and Listening that are rigorous, relevant, and internationally benchmarked, the work group consulted evidence from a wide array of sources. These included standards documents from high-performing states and nations; student performance data (including assessment scores and college grades); academic research; frameworks for assessments, such as NAEP; and results of surveys of postsecondary instructors and employers regarding what is most important for college and career readiness.

The evidence strongly suggests that similar reading, writing, speaking, and listening skills are necessary for success in both college and the workplace. A review of the standards of high-performing nations also suggests that many of these skills are already required in secondary schools internationally. The work group has endeavored to articulate these skills in the Core Standards, focusing educators, students, parents, and resources on what matters most.

Given that a set of standards cannot be simplistically "derived" from any body of evidence, the work group sometimes relied on reasoned judgment to interpret where the evidence was most compelling. For example, there is not a consensus among college faculty about the need for incoming students to be able to comprehend graphs, charts, and tables and to integrate information in these data displays with the information in the accompanying text. Although some evidence suggests that this skill is critical in the workplace and in some entry-level courses, college faculties from the various disciplines disagree on its value (with science and economics faculty rating it more highly than English and humanities professors do). The work group ultimately included a standard on the integration of text and data because the preponderance of the evidence suggests the skill's importance in meeting the demands of the twenty-first-century workplace and some college classrooms.

In most cases, the evidence is clearer. In writing, for example, there is unequivocal value placed on the logical progression of ideas. The expectation that high school graduates will be able to produce writing that is logical and coherent is found throughout the standards of top-performing countries and states. This ability is also valued highly by college faculty and employers. In response to such clear evidence, the work group included Writing student performance standard #5: "Create a logical progression of ideas or events, and convey the relationships among them."

A bibliography of some of the sources the work group drew upon most is included at the end of this document. The reader should also refer to the Core Standards Web site (http://www.corestandards.org), which contains a list of standards linked to relevant sources of evidence.

Finally, while the standards reflect the best evidence available to date, the decisions the work group made are necessarily provisional. The core should be reexamined periodically as additional research on college and career readiness emerges. Indeed, this document may serve as an agenda for such research.

How to Read the Document

This document is divided into three main sections: strands, applications, and supporting materials.

Strands

There are three *strands*: Reading, Writing, and Speaking and Listening. Although each strand is presented discretely for ease of understanding, the document should be considered a coherent whole.

The three strands are each in turn divided into two sections: *Standards for Range and Content* and *Standards for Student Performance*.

Standards for Range and Content

The Standards for Range and Content in each strand describe the contexts in which college- and career-ready students must be able to read, write, speak, and listen. Rather than merely supplement or illustrate the numbered list of Standards for Student Performance, the Standards for Range and Content are themselves required and carry equal force.

Standards for Student Performance

The Standards for Student Performance in each strand enumerate the essential skills and understandings that students who are college and career ready in reading, writing, speaking, and listening must have no later than the end of high school.

Applications

The clearest examples of the integrated nature of communication are the *Applications of the Core* for Research and Media. The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks, such as research and media. Rather than having an additional set of standards that would largely duplicate those already in Reading, Writing, and Speaking and Listening, the document includes the Research and Media applications that draw upon standards already in those strands. This both reaffirms the centrality of the core processes of reading, writing, speaking, and listening and shows how those processes can be combined and extended to describe key communicative acts in the classroom and workplace.

In the Research and Media applications, specific Reading, Writing, and Speaking and Listening standards are identified with a letter or letters corresponding to the relevant strand (R for Reading, W for Writing, and S&L for Speaking and Listening) and a number or letter corresponding to the statement within that strand. For example, R-14 refers to the fourteenth statement in the Standards for Student

Performance in Reading, and W-A refers to the first statement of the Standards for Range and Content in Writing.

Supporting Materials: Reading and Writing Exemplars

Reading and Writing exemplars, and their accompanying annotations, are used to lend further specificity to the standards.

Reading Exemplars

The Reading exemplars, representing a range of subject areas, time periods, cultures, and formats, illustrate the level of text complexity students ready for college and careers must be able to handle on their own. The exemplars are mostly excerpts or representations of larger works. To be truly college and career ready, students must be able to handle full texts—poems, short stories, novels, technical manuals, research reports, and the like. Annotations accompanying the exemplars explain how each text meets the criterion of high text complexity. The annotations also provide brief performance examples that further clarify the meaning and application of the standards.

~~Writing Exemplars~~ - Coming in the next draft

~~The Writing exemplars are authentic samples of student writing created across the nation under a variety of conditions and for a variety of purposes and audiences. Annotations accompanying the exemplars indicate how these samples meet the Standards for Student Performance in Writing.~~

Core Standards for Reading Informational and Literary Texts

Standards for the Range and Content of Student Reading

A. **Complexity:** A crucial factor in readiness for college and careers is students' ability to comprehend complex texts independently. In college and careers, students will need to read texts characterized by demanding vocabulary, subtle relationships among ideas or characters, a nuanced rhetorical style and tone, and elaborate structures or formats. These challenging texts require the reader's close attention and often demand rereading in order to be fully understood.

B. **Quality:** The literary and informational texts chosen for study should be rich in content and in a variety of disciplines. All students should have access to and grapple with works of exceptional craft and thought both for the insights those works offer and as models for students' own thinking and writing. These texts should include classic works that have broad resonance and are alluded to and quoted often, such as influential political documents, foundational literary works, and seminal historical and scientific texts. Texts should also be selected from among the best contemporary fiction and nonfiction and from a diverse range of authors and perspectives.

C. **Vocabulary:** To be college and career ready, students must encounter and master a rich vocabulary. Complex texts often use challenging words, phrases, and terms that students typically do not encounter in their daily lives. Specific disciplines and careers have vocabularies of their own. Attentive reading of sophisticated works in a wide range of fields, combined with close attention to vocabulary, is essential to building comprehension and knowledge.

D. **Range:** Students must be able to read a variety of literature, informational texts, and multimedia sources in order to gain the knowledge base they need for college and career readiness.

> *Literature:* Literature enables students to access through imagination a wide range of experiences. By immersing themselves in literature, students enlarge their experiences and deepen their understanding of their own and other cultures. Careful reading of literature entails attentiveness to craft and details of design, which has broad value for students' work in college and career environments.

> *Informational Text:* Because most college and workplace reading is nonfiction, students need to hone their ability to acquire knowledge from informational texts. Workplace and discipline-specific reading will often require students to demonstrate persistence as they encounter a large amount of unfamiliar and often technical vocabulary and concepts. Students must demonstrate facility with the features of texts particular to a variety of disciplines, such as history, science, and mathematics.

> *Multimedia Sources:* Students must be able to integrate what they learn from reading text with what they learn from audio, video, and other digital media. Many of the same critical issues that students face when reading traditional printed texts will arise as they seek to comprehend multimedia, such as determining where the author has chosen to focus, evaluating evidence, and comparing different accounts of similar subjects.

E. **Quantity:** Students must have the capacity to handle independently the quantity of reading material, both in print and online, required in college and workforce training. Studies show that the amount of reading students face in high school is often far lower than that required for typical first-year college courses. Students need to be able to perform a close reading of a much higher volume of texts and to sort efficiently through large amounts of print and online information in search of specific facts or ideas.

Note: *The essential role of independence in college and career readiness:* The significant scaffolding that often accompanies reading in high school usually disappears in college and workforce training environments. Students must therefore have developed their ability to read texts of sufficient complexity, quality, and range on their own. To become independent, students must encounter unfamiliar texts presented without supporting materials.

Core Standards for Reading Informational and Literary Texts

Standards for Student Performance

1. Determine both what the text says explicitly and what can be inferred logically from the text.

2. Support or challenge assertions about the text by citing evidence in the text explicitly and accurately.

3. Discern the most important ideas, events, or information, and summarize them accurately and concisely.

4. Delineate the main ideas or themes in the text and the details that elaborate and support them.

5. Determine when, where, and why events unfold in the text, and explain how they relate to one another.

6. Analyze the traits, motivations, and thoughts of individuals in fiction and nonfiction based on how they are described, what they say and do, and how they interact.

7. Determine what is meant by words and phrases in context, including connotative meanings and figurative language.

8. Analyze how specific word choices shape the meaning and tone of the text.

9. Analyze how the text's organizational structure presents the argument, explanation, or narrative.

10. Analyze how specific details and larger portions of the text contribute to the meaning of the text.

11. Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension.

12. Extract key information efficiently in print and online using text features and search techniques.

13. Ascertain the origin, credibility, and accuracy of print and online sources.

14. Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient.

15. Analyze how two or more texts with different styles, points of view, or arguments address similar topics or themes.

16. Draw upon relevant prior knowledge to enhance comprehension, and note when the text expands on or challenges that knowledge.

17. Apply knowledge and concepts gained through reading to build a more coherent understanding of a subject, inform reading of additional texts, and solve problems.

18. Demonstrate facility with the specific reading demands of texts drawn from different disciplines, including history, literature, science, and mathematics.

Note: *These Standards for Student Performance, as is the case for every strand, must be demonstrated across the range and content from the preceding page.* They are meant to apply to fiction and nonfiction. For example:
- "Determine when, where, and why events unfold" applies to plot and setting in literature as well as the sequence of a scientific procedure.
- "Analyze the traits, motivations, and thoughts of individuals" applies to studying characters in fiction and figures in historical texts.

Core Standards for Writing

Standards for the Range and Content of Student Writing

A. **Purpose:**

Make an Argument: While many high school students have experience presenting their opinions, they need to be able to make arguments supported by evidence in order to be ready for careers and college. Students must be able to frame the debate over a claim, present the reasoning and evidence for the argument, and acknowledge and address its limitations. In some cases, students will make arguments to gain entry to college or to obtain a job, laying out their qualifications or experience. In college, students might defend an interpretation of a work of literature or of history; in the workplace, employees might write to recommend a course of action.

Inform or Explain: In college and in workforce training, writing is a key means for students to show what they know and to share what they have seen. Writing to inform or explain often requires students to integrate complex information from multiple sources in a lucid fashion. Explanations can take the form of laying out facts about a new technology or documenting findings from historical research; well-crafted explanations often make fresh connections and express ideas creatively.

B. **Audience:** Students must adapt their writing so that it is appropriate to the audience by choosing words, information, structures, and formats that conform to the conventions of the discipline in which they are writing. The form and use of evidence in literary analysis, for example, are likely to be quite different from those in geology or business. Students must also be able to consider their audience's background knowledge and potential objections to an argument.

C. **Situation:**

On-demand Writing: Students must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline. College and career readiness requires that students be able to write effectively to a prompt on an exam or respond quickly yet thoughtfully to a supervisor's urgent request for information.

Writing over Time: Students must be able to revisit and make improvements to a piece of their writing over multiple drafts when circumstances encourage or require it. To improve writing through revision, students must be capable of distinguishing good changes from ones that would weaken the writing.

D. **Technology and Collaboration:** Technology offers students powerful tools for producing, editing, and distributing writing as well as for collaboration. Especially in the workplace, writers often use technology to produce documents and to provide feedback.

E. **Quantity:** The evidence is clear that, in order to become better writers, students must devote significant time to producing writing. Students must practice writing several analytical pieces each term if they are to achieve the deep analysis and interpretation of content expected for college and careers.

Note on narrative writing:

Narrative writing is an important mode of writing; it is also a component of making an argument and writing to inform or explain. Telling an interesting story effectively or providing an accurate account of a historical incident requires the skillful use of narrative techniques. Narrative writing requires that students present vivid, relevant details to situate events in a time and place and also craft a structure that lends a larger shape and significance to those details. As an easily grasped and widely used way to share information and ideas with others, narrative writing is a principal stepping-stone to writing forms directly relevant to college and career readiness.

Core Standards for Writing

Standards for Student Performance

1. Establish and refine a topic or thesis that addresses the specific task and audience.

2. Gather the information needed to build an argument, provide an explanation, or address a research question.

3. Sustain focus on a specific topic or argument.

4. Support and illustrate arguments and explanations with relevant details, examples, and evidence.

5. Create a logical progression of ideas or events, and convey the relationships among them.

6. Choose words and phrases to express ideas precisely and concisely.

7. Use varied sentence structures to engage the reader and achieve cohesion between sentences.

8. Develop and maintain a style and tone appropriate to the task, purpose, and audience.

9. Demonstrate command of the conventions of standard written English, including grammar, usage, and mechanics.

10. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.

11. Assess the quality of one's own writing, and, when necessary, strengthen it through revision.

12. Use technology as a tool to produce, edit, and distribute writing.

When **writing to inform or explain**, students must also do the following:

13. Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information.

14. Convey complex information clearly and coherently to the audience through purposeful selection and organization of content.

15. Demonstrate understanding of content by reporting facts accurately and anticipating reader misconceptions.

When **writing arguments**, students must also do the following:

16. Establish a substantive claim, distinguishing it from alternate or opposing claims.

17. Link claims and evidence with clear reasons, and ensure that the evidence is relevant and sufficient to support the claims.

18. Acknowledge competing arguments or information, defending or qualifying the initial claim as appropriate.

Note: "The conventions of standard written English" encompass a range of commonly accepted language practices designed to make writing clear and widely understood. When formal writing contains errors in grammar, usage, and mechanics, its meaning is obscured, its message is too easily dismissed, and its author is often judged negatively. Proper sentence structure, correct verb formation, careful use of verb tense, clear subject-verb and pronoun-antecedent agreement, conventional usage, and appropriate punctuation are of particular importance to formal writing.

Core Standards for Speaking and Listening

Standards for the Range and Content of Student Speaking and Listening

A. **Group and One-to-One Situations:** Students are expected to be able to speak and listen effectively in both groups and one-to-one. Success in credit-bearing college coursework, whether in the humanities, mathematics, or the sciences, depends heavily on being able to take in and respond to the concepts and information conveyed in lectures and class discussions. Success in the workplace is similarly dependent on listening attentively to colleagues and customers and expressing ideas clearly and persuasively.

These speaking and listening skills may need to be applied differently in different settings. The immediate communication between two people might be replaced by formal turn taking in large-group discussions. When working in classroom or workplace teams, students should be able to ask questions that initiate thoughtful discussions, gain the floor in respectful ways, and build on the contributions of others to complete tasks or reach consensus.

B. **Varied Disciplinary Content:** Students must adapt their speaking and listening to a range of disciplines to communicate effectively. Each academic discipline and industry has its own vocabulary and conventions; for instance, evidence is handled and discussed differently in literary analysis than in history or medicine or the sciences. College- and career-ready students must develop a foundation of disciplinary knowledge and conventions in order not only to comprehend the complexity of information and ideas but also to present and explain them.

C. **Multimedia Comprehension:** New technologies expand the role that speaking and listening skills will play in acquiring and sharing knowledge. Students will need to view and listen to diverse media to gain knowledge and also must integrate this information with what they learn through reading text online as well as in print. When speaking, students can draw on media to illustrate their points, make data and evidence vivid, and engage their audience. Multimedia accelerates the speed at which connections between reading, writing, speaking, and listening can be made, requiring students to be ready to use these skills nearly simultaneously.

Core Standards for Speaking and Listening

Standards for Student Performance

1. Select and use a format, organization, and style appropriate to the topic, purpose, and audience.

2. Present information, findings, and supporting evidence clearly and concisely.

3. Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding.

4. Demonstrate command of formal Standard English when appropriate to task and audience.

5. Listen to complex information, and discern the main ideas, the significant details, and the relationships among them.

6. Follow the progression of the speaker's message, and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric.

7. Ask relevant questions to clarify points and challenge ideas.

8. Respond constructively to advance a discussion and build on the input of others.

Note: "Style appropriate to the topic, purpose, and audience" includes word choice specific to the demands of the discipline as well as delivery techniques such as gestures and eye contact that contribute to effective message delivery.

"Evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric" includes distinguishing facts from opinions and determining whether the speaker is biased and evidence has been distorted.

Application of the Core: Research

The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks such as research. This section shows how standards in the core incorporate the skills of research.

To be college and career ready, students must engage in research and present their findings in writing and orally, in print and online. The ability to conduct research independently and effectively plays a fundamental role in gaining knowledge and insight in college and the workplace.

Research as described here is not limited to the formal, extended research paper nor simply to gathering information from books; rather, research encompasses a flexible yet systematic approach to resolving questions and investigating issues through the careful collection, analysis, synthesis, and presentation of information from a wide range of print and digital sources, such as historical archives and online interviews. With well-developed research skills, students have the tools to engage in sustained inquiry as well as the sort of short, focused research projects that typify many assignments in college and the workplace.

Research in the digital age offers new possibilities as well as new or heightened challenges. While the Internet provides ready access to unprecedented amounts of primary and secondary source material (such as oral histories, historical documents, maps, and scientific reports), students sorting through this wealth of data must be skilled at and vigilant in determining the origin and credibility of these sources.

The following Core Standards pertain to elements of the research process and particular research skills required for college and career readiness:

Formulate research questions:
- ❖ Establish and refine a topic or thesis that addresses the specific task and audience. (W-1)
- ❖ Establish a substantive claim, distinguishing it from alternate or opposing claims. (W-16)

Gather and evaluate relevant information from a range of sources:
- ❖ Gather the information needed to build an argument, provide an explanation or address a research question. (W-2)
- ❖ Extract key information efficiently in print and online using text features and search techniques. (R-12)
- ❖ Ascertain the origin, credibility, and accuracy of print and online sources. (R-13)
- ❖ Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient. (R-14)
- ❖ Follow the progression of the speaker's message and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric. (S&L-6)

Analyze research sources:
- ❖ Delineate the main ideas or themes in the text and the details that elaborate and support them. (R-4)
- ❖ Listen to complex information and discern the main ideas, the significant details, and the relationships among them. (S&L-5)
- ❖ Discern the most important ideas, events, or information and summarize them accurately and concisely. (R-3)
- ❖ Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension. (R-11)
- ❖ Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information. (W-13)
- ❖ Analyze how two or more texts with different styles, points of view, or arguments address similar topics or themes. (R-15)
- ❖ Acknowledge competing arguments or information, defending or qualifying the initial claim as appropriate. (W-18)

Report findings:
- ❖ Link claims and evidence with clear reasons and ensure that the evidence is relevant and sufficient to support the claims. (W-17)
- ❖ Convey complex information clearly and coherently to the audience through purposeful selection and organization of the content. (W-14)
- ❖ Demonstrate understanding of the content by reporting the facts accurately and anticipating reader misconceptions. (W-15)
- ❖ Present information, findings, and supporting evidence, clearly and concisely. (S&L-2)
- ❖ Support and illustrate arguments and explanations with relevant details, examples, and evidence. (W-4)
- ❖ Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism. (W-10)

Application of the Core: Media

The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks such as media analysis and creation. This section shows how standards in the core apply to media.

Rapidly evolving technologies are powerful tools—but only for those who have the skills to put them to work. As the capability of the technology grows, students' command of these skills must only increase.

At the core of media mastery are the same fundamental capacities as are required offline in traditional print forms: an ability to access, understand, and evaluate complex materials and messages and to produce clear, effective communications. Media mastery does, however, call upon students to apply these core skills in new ways and contexts. Media enable students to communicate quickly with a large, often unknown, and broadly diverse audience. Whereas in the past, students may have had days or weeks to digest new information and formulate a response, the online environment pushes students to exercise judgment and present their responses in a matter of minutes.

Speed is not the only new factor. In the electronic world, reading, writing, speaking, and listening are uniquely intertwined. Multimedia forms force students to engage with constantly changing combinations of elements, such as graphics, images, hyperlinks, and embedded video and audio. The technology itself is changing quickly, creating new urgency for adaptation and flexibility on the part of students.

The following Core Standards describe the particular reading, writing, speaking, and listening skills that students will need in order to use media effectively in college and careers:

Standards for Range and Content drawn from each strand

Multimedia Sources: Students must be able to integrate what they learn from reading text with what they learn from audio, video, and other digital media. Many of the same critical issues that students face when reading traditional printed texts will arise as they seek to comprehend multimedia, such as determining where the author has chosen to focus, evaluating evidence, and comparing different accounts of similar subjects. [R-D]

Technology and Collaboration: Technology offers students powerful tools for producing, editing, and distributing writing as well as for collaboration. Especially in the workplace, writers often use technology to produce documents and to provide feedback. [W-D]

Multimedia Comprehension: New technologies expand the role that speaking and listening skills will play in acquiring and sharing knowledge. Students will need to view and listen to diverse media to gain knowledge and integrate this information with what they learn through reading text online as well as in print. When speaking, students can draw on media to illustrate their points, make data and evidence vivid, and engage their audiences. Multimedia accelerates the speed at which connections between reading, writing, and speaking and listening can be made, requiring students to be ready to use these skills nearly simultaneously. [S&L-C]

Standards for Student Performance drawn from each strand

Gather information from a wide array of electronic sources and multimedia:
- ❖ Extract key information efficiently in print and online using text features and search techniques. (R-12)
- ❖ Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension. (R-11)
- ❖ Listen to complex information and discern the main ideas, the significant details, and the relationships among them. (S&L-5)

Evaluate information from digital media:
- ❖ Ascertain the origin, credibility, and accuracy of print and online sources. (R-13)
- ❖ Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient. (R-14)
- ❖ Follow the progression of the speaker's message and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric. (S&L-6)

Create and distribute media communications:
- ❖ Use technology as a tool to produce, edit, and distribute writing. (W-12)
- ❖ Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information. (W-13)
- ❖ Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding. (S&L-3)

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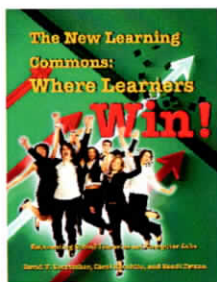
The New Learning Commons Where Learners Win! Reinventing School Libraries and Computer Labs

David V. Loertscher, Carol Koechlin and Sandi Zwaan; ISBN: 978-1-933170-40-4; Hi Willow Research and Publsihing; 2008; $25.00

It is time to reinvent the entire concept of the school library! For 50 years, we have been guided by a great conceptual base; however our students have changed their information habits totally in the explosion of the Internet. They Google around us. They network socially. Web 2.0 tools change the face of ICT literacy. It is just a different world.

Loertscher, Koechlin, and Zwaan team up in this book to rethink everything about the function and role of school libraries and computer labs. It is often a case of 180 degree reconsideration. What does this mean? The profession has been on a command and control model: If we build it, they will come. We build a website and expect students and teachers to use it on our terms. They Google, instead. We expect teachers to appreciate the collections we build. They want classroom collections. We open our doors during the school day. Our patrons want 24/7-365 service.

The turn-around suggested is to think about and construct a client-side organization built around the idea that: If THEY build it, THEY will use it. This means competing with Google. It means collaboratively constructing a virtual learning commons that replaces the library web site. It means incorporating Web 2.0 tools that really boost teaching and learning. But we get ahead of ourselves.

The authors recommend that the school library be converted into a learning commons. What is that? It is both a physical and virtual place consisting of two major spaces: the Open Commons and the Experimental Learning Center each governed by its own calendar. The Open Commons is not only a flexible access space; it is a flexible physical and virtual space where exemplary teaching and learning is demonstrated for all to see. The Experimental Learning Center is the center of professional development for the entire school. This physical and virtual space is where students and teachers work to improve the quality of teaching and learning. It is the place for all new educational initiatives, professional learning communities, experimental technology, action research. It is the hub of school improvement.

Chapters in the book first justify the reasons for a change in foundational thinking. This is followed by a tour of the new learning commons with its Open Commons and Experimental Learning Center in full operation. We then take a look at knowledge building where learners are using their social networking skills linked to inquiry to build world-class excellence. Then we look at the range of new literacies required with reading as one central element. How do learners turn from struggling to meet required minimums to wanting

to develop world-class abilities? We then turn to the world of technology and away from the concrete walls of administrative computing into the world of instructional computing where technology becomes the slave of the learners and teachers, not the other way around.

Next, we look at the role of collaboration, not just from the point of view of the librarian, but from the point of view of all the specialists in the school such as literacy coaches, technology specialists, nurses, counselors, Physical education teachers, art, music, etc. who have wonderful dreams about change but are locked out of the classroom.

We examine the elements of the learning commons organizational structure that turns the physical and virtual spaces from kingdoms into a personal extension of each learner and teacher. Finally, we make connections to major ideas and leaders across education that push us toward the reinvention of the school library.

You are sure to have an opinion about this re-conceptualization; It is controversial. And, you will be invited to lodge comments and discuss new directions on the book's companion wiki. It is a major shift in ideas about who we are and what we do. We are already being reinvented in the educational literature. Isn't the best defense a strong offence? Come with us on a journey of new ideas.

Treasure Mountain Treasury: Using Online Resources

Edited by Jennifer Robbins; Hi Willow Research and Publishing; ISBN: 978-1-933170-51-0; $40.00

Jennifer Robbins, a professor at Central Missouri State University has collected the best articles from previous collections of the Treasure Mountain Research Retreat papers on the topic of using online resources with children and teens. Several of the papers are new to this collection. Wit funding under attack for databases and their use, this collection re-establishes the foundational arguments for creating a high quality information environment in theera of the Google search. Readers will appreciate the excellent advice by prominent names in the school library profession.