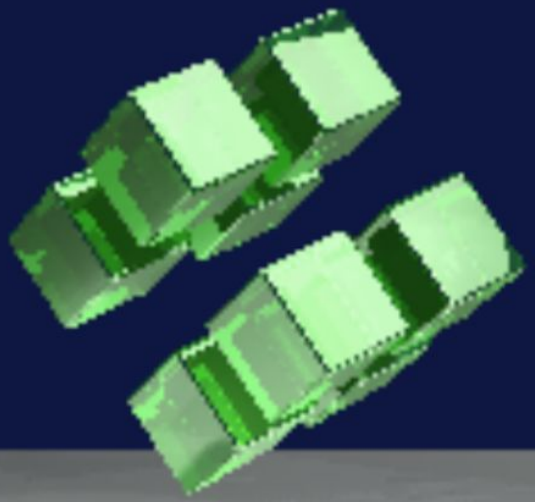
The Library Learning Commons:

Start a Revolution

Edited by David V. Loertscher



Papers of the Treasure Mountain Research Retreat # 22
Columbus, Ohio
November 4–5, 2015

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Learning Commons Press
2015

ISBN: 1-933170-82-4

Created 2015 by Learning Commons Press, a division of Hi Willow Research and Publishing

Learning Commons Press
123 East 2nd Ave. #1106
Salt Lake City UT 84103

Distributed by LMC Source at http://www.lmcsource.com/

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Papers

At the Core of the Commons: A Personal Reflection

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It has been less than a decade since Carol Koechlin, Sandi Zwaan, Valerie Diggs, and David Loertscher introduced us to the exciting possibilities of a school library transformed into a learning commons. While movement toward information commons and learning commons began earlier in academic settings (Heitsch and Holley, 2011), the notion has caught the imagination of K-12 libraries in Australia, Canada, UK as well as the US as evidenced by published narratives and site profiles, most notably in *Teacher Librarian,* that describe how individual school libraries have embraced the concept of a learning commons. The focus has frequently been on re-conceptualizing physical and virtual spaces to accommodate both individuals and groups for projects and professional engagement.

In this Year of the Learning Commons, Loertscher and Koechlin have invited all of us to assume leadership in transfiguring libraries and computer labs into dynamic centers of learning for the digital age. At this Treasure Mountain Retreat, I find myself stepping back for a moment and personally reflecting on what is truly central to the learning commons. In the process, I revisited pieces published by esteemed colleagues in our field and in the larger educational world. I embellished my reflections with descriptions of Hawaii-based projects with which I have been personally engaged in recent years.

There is no question that most professionals begin thinking about a learning commons by considering the physical aspects of it (Loertscher & Marcoux, 2015). In speaking with school groups over the years about the potential of the learning commons, I often heard, "I love the notion of the learning commons, but I really don't have the space or the resources right now to make a change." I have visited sites where the librarians admitted that "we made spaces for different resource people to meet here, but they rarely do…we still operate in silos." These types of responses have made me realize that the learning commons is not just about "space" or "stuff" although both are central elements in creating a commons. It should not be primarily about refurbishing or renovating existing libraries or building new structures.

I believe that at the core of the commons is the importance of building a community. Broadly defined, a community reflects the values and forms of behavior practiced by a group. It consists of people, who interact socially to satisfy their needs or perform

[1] This paper has been peer reviewed and accepted for publication in the Treasure Mt. Research Retreat proceedings, 2915.

special roles. They share a purpose that may be an interest or service that provides reason for the community (Stefl-Mabry & Lynch, 2006). In such a community, there is reciprocity of information and support among its members. So then, what are the values and behaviors that are inherent in a successful "commons community"? Importantly, it begins with asking umbrella or overarching questions like the following and tinkering with concepts that help to address these questions.

- How is LEARNING in a learning commons unique in what it potentially offers our school communities?
- What makes a learning commons, a COMMONS?

In this short reflection piece, I share my thoughts on these two essential questions.

<u>How is LEARNING in a learning commons unique in what it potentially offers our school communities?</u>

Ken Robinson and Lou Aronica do not specifically refer to the learning commons in their book, *Creative Schools: Revolutionizing Education from the Ground Up* (2015); however, the tenets that they put forth as foundational to transforming schools are exactly the beliefs that should drive a learning commons. One belief centers on cultural understandings. As the world becomes more crowded and connected, learning in the commons should help students understand their own cultures, appreciate other cultures, and promote a sense of cultural tolerance and coexistence (Robinson & Aronica, 2015).

A powerful example of cultural connections is Mālama Honua (Hawaiian for "to care for our Earth"), a community-wide initiative currently underway in Hawaii. The project that was launched in 2014 and extends through 2017 involves two voyaging canoes that are sailing across the world's oceans "to join and grow the global movement toward a sustainable world" (http://www.hokulea.com/worldwide-voyage/). The founders from the Polynesian Voyaging Society state the reasons for this enterprise thusly

> *Living on an island chain teaches us that our natural world is a gift with limits and that we must carefully steward this gift if we are to survive together. As we work to protect cultural and environmental resources for our children's future, our Pacific voyaging traditions teach us to venture beyond the horizon to connect and learn with others. The voyage is a means by which we now engage all of Island Earth—bridging traditional and new technologies to live sustainably, while sharing, learning, creating global relationships, and discovering the wonders of this precious place we all call home. (http://www.hokulea.com/worldwide-voyage/)*

Mālama Honua provides a rare opportunity for students to keep in virtual contact with the sailing vessels as the crews, guided by the stars, wind, and currents as well

as by modern day technological tools, sail 47,000 nautical miles and visit 26 countries over three years. Libraries become centers where STEM activities inspired by Mālama Honua take root. Librarians introduce a range of primary resources and online information in disciplines ranging from environmental and ocean sciences to plant biology and engineering design. The libraries frequently become makerspaces for student projects such as tracking the voyage using interactive tools and learning fundamentals of navigation on the open sea, practicing the ancient art of cordage for sailing vessels using fibers from the coconut and *hau* (sea hibiscus) trees, and creating star compasses that are mental constructs for traditional navigation. Past and present come together in these types of learning experiences; they awaken in students an appreciation for their heritage and the importance of assuming responsibility in keeping this legacy alive.

Robinson and Aronica (2015) also make a compelling case for learning that involves personal engagement with the worlds both within and around us. They state that education should enable young people to interact thoughtfully and meaningfully with two worlds: the world around them that deals with events, objects, and other people, and the world within themselves. The latter recognizes that all students are individuals with their own hopes, talents, passions, and fears. By focusing almost entirely on the world around us, the authors contend that traditional schooling results in students being disengaged and bored. Dan Siegel (2010), Director of Mindsight Institute, emphasizes the importance of self-reflection to help us understand our inner lives. His work is based on the confluence of neuroscience and cognitive science in comprehending the internal working of our own minds. I believe that a successful learning commons recognizes the need for constant interactions between these two worlds, particularly the inner world. It's what David Perkins and colleagues refer to as not just doing, but reflecting on the doing (Perkins, Jay, & Tishman, 1993).

In the IMLS-funded PEARL initiative in Hawaii, we focused on high school students creating capstone inquiry projects under the collaborative mentorship of teachers and librarians (Harada & Ogawa, 2013). The libraries served as critical meeting and conferencing centers in the participating schools. Throughout the process of experimentation, drafting, and retooling, critiquing and self-reflection were paramount. Students were constantly examining how their own dispositions toward learning were being impacted by their capstone experiences. From interviews with these teen-agers, it was clear that they discovered not only deeper knowledge of the disciplines involved in the projects they undertook, but equally compelling were their statements about inner growth through the process.

Kevin on being persistent:

> *I was constantly plagued with technical issues every step of the way. This occasionally took a toll on my motivation to complete my work. Enduring the*

challenges taught me about perseverance and I also realized that delaying the need for instant gratification reaped a greater reward at the end.

Jennifer on vulnerability as part of the learning process:

It was all right to be vulnerable and naive. I was exposed to so many new ideas and experiences. I truly felt like I was five years old again in a foreign world. However, with resilience and a desire to learn, I witnessed my personal growth.

Heather on empowerment:

The project gave me the unique opportunity to take charge of my own education. That freedom made it fun to explore. At the same time, the freedom was the most challenging part of the process. At first, I was almost paralyzed with indecision because I wanted to pick the 'right path' for my project. Once I realized that there was no 'right' way, I was able to enjoy trying different things and learning from both my successes and my failures. In short, the most rewarding part was the freedom to learn in a real-world setting.

More than anywhere else in a school setting, the learning commons has the potential of bringing into education the most natural way that people of all ages learn: through play. Peter Gray (2013) takes a biological evolutionary perspective on how play allows us to solve problems, overcome our fears, and take control of our lives. He states, "It is the primary means by which children practice and acquire the physical and intellectual skills that are essential for success in the culture in which they are growing" (referenced in Robinson & Aronson, 2015, 96). Lois Hetland (2013), who has worked with Harvard University's Project Zero, adds that deep understanding is the capacity to use what you know flexibly in response to novel circumstances. She indicates that teaching thinking skills, such as logical approaches to problem solving, are skills frequently taught in isolation and are rarely transferred to new contexts. Her colleagues at Project Zero (Perkins, Jay, & Tishman, 1993) stress the importance of attitudes that motivate and connect thinking to purpose in playful learning. Hetland (2013) elaborates

I've seen kindergartners play with 'how many ways' they can alter cardboard in an art project, high school students play with mirrors and lenses in 'what if' scenarios in science, and middle school students role-playing with a partner, with one speaking as the viewer of the work and the other speaking from the work's point of view. Playful! When we relax, we see novel possibilities to explore and develop. (69)

I believe the learning commons that creates a playground for conversation and experimentation generates the curiosity and zest that are essential for learning through inquiry. The uTEC (Using, Tinkering, Experimenting, and Creating) Maker Model introduced by Loertscher, Leslie Preddy, and Bill Derry (2013) is a construct

that perfectly captures the essence of playful learning. For this reason, the makerspace model fits beautifully in the learning commons. The model visualizes the developmental stages that creative learners experience from tinkering with someone else's creation all the way to innovating something new. It acknowledges that there are no straight paths in doing things, that personal interests, various technologies, and a range of disciplines must merge and blend, and that failures are an indispensable element in true learning. In short, play is a vital way "for children to make sense of the world they will inherit" (Crow & Robbins, 2012, 36) and the learning commons becomes a playground of the mind.

What makes a learning commons, a COMMONS?

Loertscher and Koechlin (2012) state that "if all the adults and students in the school participate in construction of both a personal and collaborative learning environment, the likelihood of exemplary excellence rises exponentially" (49). This notion of participative involvement is central to the commons. With the adoption of new knowledge media and networked learning opportunities, the learning commons provides 24/7 access to digital collections, online tools, and a Web presence making it both a physical and virtual go-to place for information and ideas (Beagle, 2012; Heitsch & Holley, 2011). Joette Stefl-Mabry and Barbara Lynch (2006) agree that these new technologies grow "knowledge communities that defy the constraints of time and distance as they provide access to knowledge that was once difficult, if not impossible, to obtain" (xii).

While technology enables extraordinary opportunities for participatory experiences, the heart of the learning commons relies on establishing relationships. Cooperative and collaborative interactions between teachers and librarians form an essential tier of these relationships. In his Baber-funded research, Loertscher (2014) provided fresh data on the power of coteaching. When teachers and librarians planned and taught as teams, he reported "70% to 100% of the students were likely to meet or exceed the pair's expectations using normal assessment measures" (13). In Project PEARL, we found teacher and librarian teams expressing similar sentiments about the positive effects of working together (Harada & Ogawa, 2013). For teachers, in particular, the contribution of the librarians was eye opening and significant. One PEARL teacher noted

> *Hands down, the BEST part of this project has been the collaboration with our librarian. She was a tremendous support and resource. She was always willing to check out another source or pursue another angle or clarify a difficult idea. Working with her bumped up the quality of the research tremendously. There is no doubt that taking the [PEARL] training as a team made the research process much more productive for all of us. We had a clearer picture of the sequence of the process and definitely had a better handle on how to work with our students on foci of their projects. The*

academic and personal support that I received from our librarian created a vehicle for my own growth as a writer and as a teacher.

Librarians, of course, are not the only "specials" on campus. There are curriculum coordinators, literacy coaches, STEM resource teachers, math tutors, and technology mentors just to suggest the rich powerhouse of human resources available. The learning commons creates a fertile hub for guided inquiry where resource teams can leverage different competencies and knowledge to support students in meeting their learning goals. Importantly, the extended notion of teams embraces the larger community. As Carol Kuhlthau and Leslie Maniotes (2010) point out, "personnel from museums, zoos, historical sites, and nature parks offer a wealth of information that is often overlooked or misused" (19).

A critical facet of the previously mentioned Mālama Honua enterprise is bringing stakeholders from the larger community together. The ideal gathering place for this initiative has been the library. Last fall, for example, an elementary school library hosted a Wa'a (canoe-voyaging) talk that brought together faculty representatives from various public and private schools in Hawaii to share activities and exchange insights resulting from this unique experience. Teachers from Tahiti also participated via Google Hangout. The meeting involved elders from the Hawaiian community with deep knowledge of traditional voyaging as well as scientists from the University of Hawaii's National Oceanic and Atmospheric Administration.

Central to the notion of the commons is facilitating connections that enable students to network and interact in both physical and virtual spaces. In the capstone PEARL projects, we clearly saw walls vanishing between classrooms, labs, and libraries. As students selected personally relevant research dealing with real-world issues, they transcended the boundaries that conventionally separated schools from the rest of the world. The students frequently singled out the school librarian as the "coordinator," "facilitator," and "connector" helping them to identify potential project mentors in the larger community. This vital form of outreach included finding human resources for students from private enterprises, nonprofit agencies, and university research centers. To cite three examples from PEARL:

- For a team project on the topographic data analysis of the Gale Crater (an impact crater on Mars), the librarian connected the three students with scientists at the Hawaii Institute of Geophysics and Planetology and the Hawaii Space Grant Consortium. When the students were invited to present their findings in Japan, she accompanied them on the trip.
- In another school, the students created an Eco Team promoting the use of photovoltaic systems. The two school librarians served as the team's advisors assisting the students in planning a Sustainable Sun Day that would be hosted in the library. The event involved presenters from local companies and

government agencies focusing on a greener and more sustainable energy future.

- In our final example, a student chose to redesign the art classroom in his high school. Working with his project teacher and the librarian, he was able to secure experts from a local architectural firm as well as a retired art professor to provide him with valuable design considerations.

Importantly, the libraries in the PEARL initiative became the display and demonstration centers for final projects. Community members as well as faculty served as judges, and underclassmen attending the event gained valuable exposure to capstone work. In several instances, this led to senior students mentoring their junior colleagues, who were inspired to undertake similar projects.

Leaning into the tension that is the unknown

I borrowed the above phrase from Shannon Hyman (2014, 18) in bringing this reflection to a close. It captures the sense of adventure, risk, and discovery embodied by communities where learning is personal and connected, and where everyone is involved in the business of building knowledge and not simply consuming it (Stefl-Mabry and Lynch, 2006). At the core of the learning commons is the recognition that schools should be leveling fields where we acknowledge and encourage talents in all youngsters and where we fuel their passions. Big Think conversations should be daily occurrences where "what if" and "why not" are the questions driving curious minds that accept failing as a powerful part of learning.

In one his articles, noted systems scientist Peter Senge (2012) described a 12-year-old girl named Anneliese, who spoke before an adult audience in St. Louis about a wind turbine that she and her peers had built. She ended her impressive presentation with an impassioned challenge to her audience

> *We children are often hearing [from adults] that 'You children are the future.' We don't agree with that. We don't have that much time. We need to make changes now. We kids are ready, are you? (49)*

Are we ready?

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The Learning Commons: A Strategic Opportunity for School Librarian Leadership

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Author's Bio

Judi Moreillon is an associate professor in the School of Library and Information Studies at Texas Woman's University. She has served as a school librarian at every instructional level. She has also been a classroom teacher, literacy coach, district-level librarian mentor, and preservice classroom teacher educator. She is the author of two recent professional books for school librarians and classroom teachers: *Coteaching Reading Comprehension Strategies in Elementary School Libraries: Maximizing Your Impact* (ALA, 2013) and *Coteaching Reading Comprehension Strategies in Secondary School Libraries: Maximizing Your Impact* (ALA, 2012). Along with Susan Ballard, she co-edited *The Best of KQ: Instructional Partnerships: A Pathway to Leadership* (ALA, 2013). She is currently coauthoring a book with Deborah Levitov entitled *Building a Culture of Collaboration: School Librarian Leadership and Advocacy* (ALA, 2016).

Abstract

In a time when the number of preK-12 students in U.S. public schools is increasing and school librarian positions are decreasing nationally, practicing school librarians are wise to think strategically about the priorities they set for their work and the activities supported by the school library program. Facilitating a program based on the learning commons (LC) model is a whole-school approach that fosters deep learning for all library stakeholders. This model provides a framework for co-developing a school library program that meets the needs of the learning community while it can help establish the role of the school librarian as central to 21st-century learning and teaching.

[1] This paper has been peer reviewed and accepted for publication in the Treasure Mt. Research Retreat proceedings 2015.

In this thought-piece, I assert that for strategic reasons the LC model offers a best practice in school librarianship. I review this framework and connect various aspects of this model with previous research and innovations in school library practice. I identify the learning commons as the ideal site for engaging in evidence-based practice (EBP) through coteaching. It is within certain features of the LC that school librarians can effectively measure their contributions to increased student learning and to improvements in instructional practices in their schools. Strategic school librarians, who adopt and adapt the LC model to meet the needs of library stakeholders, are perfectly positioned to apply EBP through coteaching and ensure their leadership role in today's educational environment.
Keywords: school librarians, learning commons, evidence-based practice, leadership

The State of the Profession

Librarians in all types of institutions, and school librarians in particular, are often asked why their skills and services are needed in the 21st-century when the Internet and personal devices put information into the hands of users anytime, anywhere. School librarians answer this query by noting that preK-12 students may have access to information but they need to learn how to evaluate and use it to answer their questions, produce and share new knowledge, and improve their lives. Young people need to be taught information and digital literacy. School librarians' responsibilities, which for decades have included teaching students to determine the accuracy of information and authority of authors and sources, should be in even higher demand in the technological age. More than at any previous time in history when information and technologies are changing at an astounding rate, the expertise and guidance of school librarians should be highly valued.

While having a full-time professional school librarian on every school faculty should be a non-negotiable, the number of school librarians in the U.S. is declining. According to the National Center for Education Statistics (NCES), there were 54,246 school librarians serving in U.S. public schools in 2000. In 2011, the last year for which these statistics are available, there were 48,402. At the same time, NCES data shows that the number of students served in U.S. public schools increased from 47,027,143 to 49,521,669 students. Therefore, based on NCES data, in 2000 there was one school librarian for every 867 students. In 2011, there was one school librarian for every 1,023 students (NCES, 2011). This trend is taking 21st-century education and school librarianship in the wrong direction.

Debra Kachel, instructor in the School Library and Information Technologies Program at Mansfield University of Pennsylvania and ardent school library

advocate, authored an article on *The Conversation* in July, 2015. She began her piece in this way: "From coast to coast, elementary and high school libraries are being neglected, defunded, repurposed, abandoned, and closed" (Kachel, 2015). By way of an example, Ms. Kachel noted that Philadelphia public schools had 176 certified librarians in 1991; in 2015, there are just 10. Ninety-five percent of classroom buildings in that district have no librarian. Ninety-two percent do not have a functional library book collection and a majority of schools lack the technology to access necessary electronic resources. In a district in which 85 percent of students live in poverty and lack access to learning resources in their homes, this state of affairs is particularly dire. If situations like those in Philadelphia's public schools continue into the future, more U.S. students, classroom teachers, and administrators will not have access to the knowledge, skills, and support of a school librarian, a school library collection, or school library program.

The Learning Commons

In this uncertain climate, the hue and cry for the LC model for organizing, facilitating, and sustaining the library program as the center of learning and teaching is well timed. Rather than timidly holding onto library "business-as-usual," now is the optimum time for school librarians to take even bigger risks to disrupt the stereotypical image of what a library program is (nice to have but unessential) and what school librarians do (read and checkout books). At this point in the history of the profession, school librarians are called to be learning leaders in their school communities. Co-building the LC as an "our" space with administrators, educator colleagues, students, and community is one way for school librarians to answer that call.

Various features of the learning commons have been described in the literature. Figure 1.1 shows features of this model as described in the second edition of *The New Learning Commons: Where Learners Win!*(Loertscher, Koechlin, and Zwaan, 2011.)

Fig. 1-1: Features of the Learning Commons

Features	***The New Learning Commons* (2011)**
Physical Space: Open Commons	Flexible space shared by entire learning community Changing furniture/resource configurations to meet learners' needs Up-to-date technology Extension of the classroom Collegial social environment for all (11-13)

Virtual Space: Open Commons	Student access to: Resources, tutorials, online courses and clubs Portal to engage in knowledge-building projects (16)
Physical Experimental Learning Center: Collaborative Learning and Teaching	Educator access to: Professional development, resources, exemplars of practice Place to collaborate and engage in experimentation Resources (14)
Virtual Experimental Learning Center: Collaborative Learning and Teaching	Educator access to: Portal for collaborative projects, data, research, resources, grant opportunities, calendars/schedules, and more Communication central for school-wide learning improvement (17)
Inquiry and Project-based/Problem-based Learning	Students actively engaged in inquiry and other problem-based experiences Student ownership in learning process (25, 30)
Technology Integration and Support	Open access Tech-infused Expert Bar Mentor Bar (12)
Faculty Development	Physical and Virtual Experimental Learning Center (14-15, 17)
Team Approach	Multiple leadership teams include principal(s), librarian(s), technologist(s), and all library stakeholders (20-21)

The learning, teaching, and professional development activities in the LC position the school librarian at the center of the school's academic program. This is the ideal position from which to learn and exercise leadership. School librarians who coteach with classroom teachers and specialists not only further the whole-school approach of the LC, they are also able to collect evidence of the impact of their teaching interventions. This provides school librarians with data to demonstrate how their teaching makes a difference in student learning outcomes—evidence *in* practice. It gives them the opportunity to collaborate with classroom teacher colleagues to make subsequent instructional decisions based on evidence *of* practice.

"Adult learning (and leading) in schools is best implemented at the point of practice" (Moreillon & Ballard, 2012, p. 6). Through classroom-library

coteaching and by providing formal staff development opportunities, school librarians can help the principal diffuse innovations and improvements in teaching and learning throughout the school. When school librarians coteach with classroom teachers and specialists, they support their principals' initiatives for change and improvement; they support their colleagues and their own professional development. School librarians "can increase the expertise of the teaching staff through the collaborative tasks they complete together, from the staff-development workshops they design, and from the modeling they do in the library-classroom" (Zmuda and Harada 2008, p. 43).

Historical Context for the Features of the Learning Commons Model

The history of effective school library practices leads directly to today's LC model. Teaching skills in isolation in the library is not part of school librarians' best practices heritage. For more than a half century, the American Association of School Librarians' publications have suggested that "library skills" instruction should be a cooperative practice between school librarians and classroom teachers. *Standards for School Library Programs* (AASL, 1960) and *Standards for School Media Programs* (AASL, 1969) recommended a team approach to instruction. In *Information Power: Guidelines for School Library Media Programs* (IP1) (AASL & AECT, 1988), the term "instructional consultant" was used to describe the cooperative planning role of school librarians. In *Information Power: Building Partnerships for Learning* (AASL & AECT, 1998), the revision of IP1, the term "instructional partner" was used to further emphasize the school librarian's role as a teaching partner with classroom teacher and specialist colleagues. Most recently, in *Empowering Learners: Guidelines for School Library Programs* (2009), AASL identified the instructional partner as the most critical role for the future of the profession.

During the 1990s, the Dewitt Wallace-Reader's Digest Fund provided $65 million in grant funding to the National Library Power Project (NLPP). The philosophy and practices of the NLPP impacted 700 schools in 19 school districts across the country. The NLPP philosophy was based on a whole-school approach to utilizing the resources of the library and the expertise of the school librarian. At the district level, these grants funded full-time state-certified school librarians in all NLPP schools. All of these school library programs were required to provide access to the resources of the library on a flexible schedule basis. The work of the school librarian centered on classroom-library collaboration for instruction. At the school building level, these grants included funds for renovating the physical space of the library and building new print and electronic collections. The project also stressed professional development for classroom teachers, school librarians, and

principals to increase their understanding of the central role of the school librarian and the library in learning and teaching.

The Strategic Imperative

In the intervening quarter of a century, there have been many changes in the societal and educational landscapes. Technology tools have proliferated and become more sophisticated; the shear amount of information has increased exponentially. Learners have access to devices that put information at their fingertips. The continuous change of the technological age affects how students learn and educators teach. Requirements to base educational decisions on "scientific" research, the reliance on standardized test scores as the most significant measure of teaching effectiveness, and attaching funding dollars to these two criteria are examples of policies that shape education today. Site-based decision-makers, schools districts, state legislators, and federal authorities question the effectiveness of the U.S. educational system and scrutinize how taxpayer dollars are spent.

In this climate, it is essential for school librarians to be strategic. School librarians must provide hard evidence that their contributions to student learning outcomes justify their positions and their salaries. They must be able to demonstrate, measure, and document the impact of their collaborative work in terms of benefits to their colleagues and administrators as well as to students. School librarians must collect and disseminate locally generated evidence of their effectiveness as educators. In short, they must engage in evidence-based practice (EBP).

Based on input from two hundred school library leaders collected at a *School Library Journal* Summit in 2007, Ross Todd's EBP model centers on "three integrated dimensions of evidence: evidence *for* practice, evidence *in* practice, and evidence *of* practice" (Todd, 2009). Evidence *for* practice is the systematic scholarly research base on which school librarians build their practice. This evidence could be research related to flexible scheduling, coplanning and coteaching, inquiry learning, integrating technology tools, or any other aspect of librarianship that has been studied and reported on by researchers in the field.

Using this research-based evidence, school librarians then enact evidence *in* practice in order to test, gather data, and document the effectiveness of a particular research-based practice in their schools. If the results are positive, school librarians share this evidence *of* practice with library program stakeholders and decision-makers and continue to build their practice on a solid foundation of local as well as scholarly research-based evidence. If the evidence *in* practice does not reach the targeted threshold for success, school

librarians further modify, adapt, or completely revise that particular practice until they achieve positive student learning outcomes on which to further build the library program.

Evidence *of* practice also requires that school librarians disseminate the results of their teaching. Doing so along with the coteachers with whom a unit of instruction was cotaught will speak volumes to school administrators who are listening for measurable outcomes and strategies to improve students' learning and teachers' teaching. EBP ensures that advances in teaching and librarianship become part of school librarians' practice. Through coteaching, these improvements can be spread throughout the building.

Making the Case for Coteaching

For school librarians "collaboration is the single professional behavior that most affects student achievement" (Haycock, 2007, p. 32). When classroom teachers or specialists collaborate with school librarians to design, implement, and evaluate instruction, they provide librarians with the opportunity to demonstrate their contributions to student learning. School librarians who develop trusting relationships with colleagues and continually refine their interpersonal and communication skills will be prepared to facilitate collaborative planning, innovative instructional approaches, and implement resource-based learning alongside their classroom teacher colleagues (Shannon, 2009, p. 16).

Debra Kachel and library science master's degree students at Mansfield University (2011) summarized the research findings of the School Library Impact Studies (Library Research Service, 2015) and identified a positive correlation between classroom-library collaboration for instruction and increased student achievement in fifteen out of the twenty-one studies they reviewed. Additional studies have further unpacked the relationship between the collaborative work of the school librarian and the impact of classroom-library coteaching on student learning outcomes. In a study focused on the perceptions of classroom teachers who had experience coteaching with their school librarian, classroom teachers were asked to first reflect on a non-coteaching experience and indicate whether or not students met or went beyond their expectations. Then they were asked to indicate whether or not students met or went beyond their expectations when they cotaught with their school librarian. These teachers reported that when they coteach student learning outcomes improve between twenty- and fifty-percent compared to when they teach alone (Loertscher, 2014, p. 11). The school librarians in this study also reported they are less effective when solo teaching.

In a study of preservice classroom teacher and school librarian educators, Don Latham, Melissa Gross and Shelbie Witte (2013) found that collaboration was more often discussed and practiced in preservice school librarian courses than in education courses. Chances are school librarians will have more collaboration experience before entering the profession and classroom teachers will learn to coteach from their school librarians once they are on the job. Since few classroom teachers truly understand the value of this form of collaboration (Latham, Gross, & Witte, 2013, p. 15), it will be up to school librarians to initiate collaborative work and guide their colleagues through the coteaching process.

A study conducted by the National Commission on Teaching and America's Future describes isolated teaching in stand-alone classrooms as the most persistent norm standing in the way of improving schools (Fulton, Yoon, & Lee, 2005). School librarians can break down this barrier to progress. A school librarian's willingness and ability to coteach with colleagues can help administrators and educators improve their school's academic program. However, many school librarians and classroom teachers alike will need to learn how to coteach effectively.

Marilyn Friend and Lynne Cook, special education researchers, identified five coteaching approaches which are described in Figure 2-1. Except for the first approach, the other four have can be effectively applied in classroom-library collaboration for instruction.

Fig. 2-1: Coteaching Approaches

One Teaching, One Supporting	One educator is responsible for teaching the lesson while the other observes the lesson, monitors particular students, and/or provides assistance as needed. In the library setting, this approach may be best applied with special education teachers.
Station or Center Teaching	After determining curriculum content for multiple learning stations, each educator takes responsibility for facilitating one or more learning centers while in other centers, students work independently of adult support.
Parallel Teaching	After collaborative planning, each educator works with a portion of the class to teach the same or similar content. Groups may switch and/or reconvene as a whole class to share, debrief, and/or reflect.

Alternative Teaching	One educator pre-teaches or re-teaches concepts to a small group while the other educator teaches a different lesson to the larger group. (Pre-teaching vocabulary or other lesson components can be especially valuable for English language learners or special needs students.)
Team Teaching	Educators teach together by assuming different roles during instruction, such as reader or recorder or questioner and responder, modeling partner work, role playing or debating, and more.

Adapted from Friend and Cook (2010)

These coteaching approaches can be practiced without pre-planning but in classroom-library collaboration as described in this paper, educators apply these approaches after joint planning. This model for coteaching provides classroom teachers with support for their teaching from lesson inception to assessment; it offers school librarians the opportunity to be coteachers alongside their colleagues throughout the planning, implementation, and assessment of student learning and of the lesson or unit of instruction. In contrast for example, school librarians who dip into a classroom teacher's unit in progress in order to coteach database searching will not reach the desired level of collaboration and will not have the opportunity to assess the results of their teaching in terms of student achievement for the entire project. In the coteaching model described in this paper, being involved throughout the teaching and learning process is essential. (For examples of these coteaching approaches applied in classroom-library cotaught lessons, see Moreillon 2012a, 2013. These lessons include downloadable graphic organizers, checklists, and rubrics—formative assessments that support educators in gathering data that can be used to measure the student learning outcomes of their coteaching.)

Connecting EBP and Coteaching in the LC

"The best strategy for improving schools and districts is developing the collective capacity of educators to function as members of a professional learning community (PLC)—a concept based on the premise that if students are to learn at higher levels, processes must be in place to ensure the on-going, job-embedded learning of the adults who serve them" (DuFour & Marzano, 2011, p. 21). PLCs are one example in which the entire school faculty organize professional development around collaborative work, and educators enact school improvement based on data and collective decision-making to achieve shared outcomes (DuFour & Eaker, 1998). With an emphasis on co-creating the physical and virtual library as a shared,

participatory learning space, the LC is a natural site for the work of school's PLCs. In schools and districts familiar with the PLC model, embracing the LC as a hub for school improvement efforts can be a logical next step in supporting a culture of learning in the school.

A school-wide team of educators, including the school librarian and the principal, guide the development and use of the LC in order to ensure that the ways students and educators interact with resources and with one another lead to learning. This model for the use of the learning commons and the expertise of the school librarian includes professional learning for adults as well as youth. The LC can be the site of school-wide improvement efforts. Educators collaborate in the learning commons to test innovations in teaching and learning, modify them as needed, and retest until they support students in meeting the target outcomes. This is achieved through "attention to instructional design, using best resources and technologies, and building personal expertise and collaborative knowledge" (Loertscher & Koechlin, 2014, E9.) School librarians who actively seek out instructional partnerships and master collaborative planning and coteaching are able to enact a leadership role in the LC and by extension on the entire school campus.

Together, educators can practice the best kind of professional development—job-embedded—when they "coteach actual students in real time, with the taught curriculum, available resources and tools, and within the supports and constraints of their particular learning environments" (Moreillon, 2012b, p. 142). With a whole-school commitment to the learning commons as the center of school improvement, the school librarian can become the "go-to" partner for individual educators, grade-level or discipline focused teams, or other organized PLCs.

EBP through coteaching involves educators in collecting evidence *of* how to improve instruction and student learning outcomes. This work can also transform curriculum. In this leadership role, the school librarian's work has the greatest potential to impact student learning outcomes while it increases the collaborative culture of the school. As Ross Todd, Carol Gordon, and Ya-Ling Lu found in Phase Two of the New Jersey Study, school librarians working in collaborative school cultures gain the respect of their colleagues. In these schools, classroom teachers reported that "the school library conducts substantial, cost-effective, hands-on professional development through the cooperative design of learning experiences; school librarians have instructional expertise; and the school library offers a learning environment that is based on a complex model of teaching and learning of that is exploratory and highly motivational" (Todd, Gordon, & Lu, 2011, pp. 26-27). This description clearly aligns with the mission, goals, and objectives of the LC.

To summarize this strategy for focusing the school librarian's LC leadership work on EPB through coteaching, see the infographic "Learning Commons + EBP through Coteaching = School Librarian Leadership" (http://tinyurl.com/tmjm2015).

Setting Strategic Priorities

State-certified school librarians are essential members of the educator team in the LC. From a school librarianship perspective, there could not be a library LC without a professional school librarian to facilitate the program. When librarians are struggling to maintain their own professional positions, they must be able to effectively and convincingly answer questions about how their teaching impacts student learning outcomes. For those school librarians fighting to maintain professional positions and for all proactive school librarians, engaging in EBP through coteaching standards-based instruction is the most effective way to document how they impact students' learning and influence teachers' teaching.

Like all leaders, school librarians must make strategic decisions about how to allocate their time. School librarianship as a profession must hone its focus on enacting EBP through coteaching and leading through the LC. Coplanning based on research and evidence, coteaching as equal partners with shared goals and objectives for student learning, and co-assessing student learning outcomes and the instructional intervention itself are essential. EBP through coteaching is the most effective way for school librarians to collect data that is meaningful to colleagues and administrators. EBP through coteaching must become the top priority for all school librarians if the profession is to survive. Doing so through the LC, a collaborative, participatory "our" space for faculty professional development, ensures a 21st-century leadership role for school librarians.

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Coteaching and the Learning Commons: Building A Participatory School Culture

David V. Loertscher
Carol Koechlin[1]

For a decade or more, school improvement seems to have centered on the single teacher in a single classroom. Finding better and better ways for each teacher to push student achievement in their classroom as scores measured on standardized tests has been key. Accountability systems, supervision, and professional development have all combined to focus on strengthening the individual teacher's techniques. The message was strong: "If my students don't score high, it's my fault."

Without totally rejecting these ideas, we would like to put forward an alternative approach to add to the mix of school improvement practices. Collaboration and coteaching by the specialist staff of the school with the classroom teacher just might push not only the practices of adults in the school, but unleash a participatory culture among students as well.

We propose two main strategies that will not only advance school wide improvement but also foster a participatory school culture aiming for excellence: the first being the transformation of the school library into a learning commons, and the second the strategy of coteaching between school specialists and classroom teachers. Our proposal hinges on the belief that teaching and learning are social processes where everyone participates as a teacher and as a learner. While our focus will be upon the benefits of classroom teachers coteaching with teacher librarians, it stands to reason that coteaching between other specialists and teachers would produce similar results.

First, let's define what we mean by coteaching. Coteaching is the art of two or more mentor adults who plan, teach, and assess a learning experience together. Using this definition, Loertscher[2] conducted and recently published a study comparing isolated teaching with coteaching. Briefly, here is what the study concluded.

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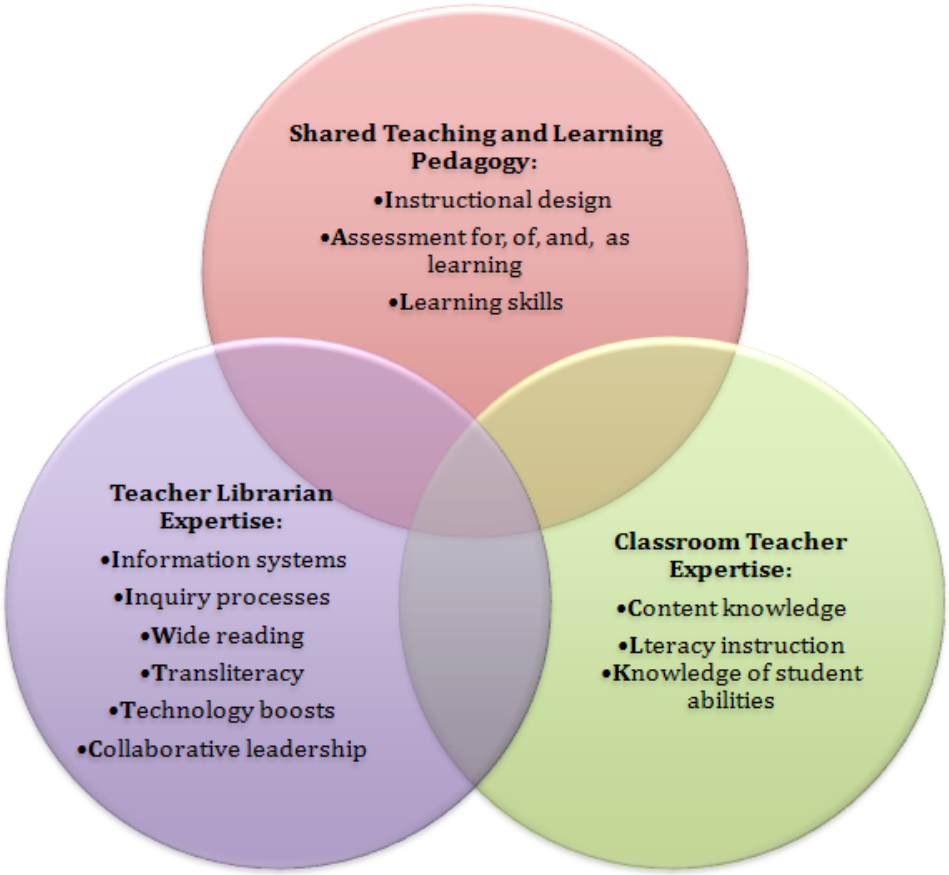
[1] This paper was peer reviewed for inclusion in the Treasure Mt. Research Retreat papers for 2015.

[2] Loertscher, David V. "Collaboration and Coteaching: A New Measure of Impact," *Teacher Librarian*, vol. 42, no. 2, December, 2014, p. 8-18.

Teacher librarians in sixteen schools, grades K-12 who cotaught regularly with classroom teachers were asked to participate. In these schools, teachers who did *not* collaborate with teacher librarians were asked a few short questions: Thinking of a recent unit of instruction you taught alone in the classroom, how many students participated and how many of those students met or exceeded your highest expectations? The answers hovered around 50% with secondary teachers averaging a bit higher and elementary teachers being the most critical of their success.

In these same schools, we asked the same questions of classroom teacher who cotaught alongside the teacher librarian for a recent unit. How many students met or exceeded the expectations of both adults? The answers ranged from 70-100%! Participants were asked to make their judgments based on normal assessment practices they already used rather than upon some standardized test imposed by the researcher. The underlying purpose was to suggest that such a strategy and result could be tested in any school using normal assessments. The concluding question was: "Why can two adults working in tandem from the beginning of the learning experience to the end produce such spectacular results?"

The following diagram illustrates the dynamic partnership of a teacher librarian and a classroom teacher as gleened from the comments section of the research study . Both partners indicated that they share strengths in teaching and learning pedagogy and each bring specific value and expertise to the coteaching experience.



Most schools have specialists on their staff who have as their mission, the job of teaching their specialty to the entire school. As well as teacher librarians, technology integration specialists, art and music teachers, counselors, reading specialists, and instructional coaches to name a few might be on staff. What might the results be if these specialists spent at least half their time each day coteaching rather than involved in isolated practice? Could they as a group affect a greater impact on teaching and learning in the school rather than going it alone? We cannot definitively answer these broad questions, but suspect that what we found with teacher librarians acting as coteachers would not be that different than with any other specialist in the school.[3] Thus the Baber survey and our coteaching suggestions are recommended to the reader as one more arrow in a quiver of best practices.

We now turn to a number of perspectives that would encourage coteaching to become a natural part of the repertoire of classroom teachers everywhere. These approaches have evolved in U.S. and Canadian schools since the publication of our first work in 2008.[4]

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[3] Here is one example from special education: **http://tinyurl.com/o496hw5**

[4] Loertscher, David V.;, Carol Koechlin, and Sandi Zwaan. *The New Learning Commons Where Learners Win*. Hi Willow Research & publishing, 2008. The 2nd edition of this book

Reinvention of library space to a participatory learning commons culture

This responsive learning environment becomes a third coteacher in a super learning experience.[5] The idea of "library" is transformed from a physical space of storage and retrieval functions to flexible learning spaces for individuals, small groups, and large groups working to not only consume knowledge but create knowledge. Books and computers are still there, but they don't get in the way. The space is governed by the immediate needs of students and teachers rather than an imposed layout.

It soon becomes the "go to" place for participatory learning. Teachers and teacher librarians collaborate to design both curriculum based units and projects as well as discovery learning experiences for students who are pursuing their own interests. A group of students entering the learning commons might scatter to do individual work, or conference in small groups, others gather to create various multimedia products, and still others are using the makerspace to work on something they are building or inventing. Yes, there is still the individual doing quiet reading or homework in an environment where both quiet and purposeful noise is being accommodated.[6]

Up on top of this busy and flexible space sits a virtual learning commons that has replaced the traditional one-way information library website. In the cloud, students are participating, building contributing, showcasing, collaborating alongside their teachers and fellow students.[7] This virtual environment is available to everyone 24/7 on any device and from any location. Virtual "rooms" include literacy activities, knowledge building centers, discovery learning rooms, information centers, school culture, and experiential professional development areas.[8]

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was published in 2011. Two other manuals have been recently published by Loertscher and Koechlin: *The Elementary School Learning Commons: A Manual*; and, *The Secondary School Learning Commons: A Manual*. Learning Commons Press, 2015.

[5] Consult several titles on this topic: Pigozzi, O'Donnell, *et. al. The Third Teacher*, Abrams, 2010[; Doorley, Scott. *Make Space; how to Set the Stage for Creqtive Collaboration*. Wiley, 2012; Robinson, Sir Ken. *Creative Schools*. Viking, 2015; Zhao, Yong. *World Class Learning*. corwin Press, 2012.

[6] Those interested in learning more about the physical learning commons can take a free collaborative QuickMOOC at: http://quickmooc.com

[7] For those interested in creating a virtual learning commons, free Google templates include a general VLC template at: http://tinyurl.com/pfwco6f; an elementary school VLC template at: http://tinyurl.com/ojpkhny ; a middle school VLC template at: http://tinyurl.com/qc7zelv;; and a high school template at: http://tinyurl.com/p64hg5o

[8] Loertscher, David V., Carol Koechlin, and Sandi Zwaan.*The Virtual Learning Commons*, Learning Commons Press, 2012.

Thus, multiple environments of the learning commons beg for collaborative learning both face to face and virtually not just in a single school but combining students in various classes, across schools and around the world. Best of all, such transformations can evolve with minimal to moderate investments that might lead to substantial architectural redesign or new construction.

Building a responsive and robust technological infrastructure

When the learning commons is equipped with robust wireless, excellent software and tools such as Google Apps for Education, and facilities for multimedia production and a makerspace, the possibilities for exciting learning experiences grow exponentially. As an extension of the classroom, teachers bring their students not only to use the technologies here but to gain the expertise of other specialists who are officed there. Students immediately adopt the space as their own, recognizing the potential available to them. Teachers interested in project based learning seize the opportunities to unleash their students in real world creative experiences and soon discover the benefits of taking on a mentoring role. With fewer worries about technology failing here in the learning commons, more experimentation can take place at the top of the SAMR model as presented by Reuben Puentadora where learning is stimulated by technology in ways not possible without it.[9]

Adoption of higher level instructional designs that make coteaching "a natural"

At the heart of the coteaching experience are learning units designed to drive participatory learning. For many years, the authors have worked to eliminate what we called "bird units." These are library assignments in which students select or are given a topic or issue, go the library and complete worksheets or other required assignments, develop some kind of product, and do a class presentation followed by a grade.

In a cotaught learning experience, much more sophisticated learning designs plus available technologies can integrate both learning how to learn skills with deep understanding of topical knowledge resulting in a superb learning experience. In such units, a broad umbrella essential question is developed by the adult mentors followed by the students developing their own subtopic questions as either individuals or in groups. Then using inquiry skills and

[9] Search Google Images for the SAMR model representations by the author himself and others who have been experimenting with it. You can also view an explanation of the model by its creator at: http://tinyurl.com/ollvd3g Anouther useful resources is the annual Horizon Report for K-12. The 2015 report is at: http://tinyurl.com/neqzvxe

collaborative technologies, the students pursue their own questions and build understanding of their "piece of the pie." Instead of ending such a unit with presentations, the adult mentors develop an activity that asks students to combine the knowledge gained in their puzzle piece with others to develop deeper understanding of the original umbrella question. The object is to develop collaborative intelligence of the whole rather than just an understanding of one part of the original question. This process is often boosted by a powerful collaborative technology. Finally, a metacognitive Big Think activity looks back at what individuals and groups learned, how they learned it, and how they can become better in next learning experience.

To facilitate these more sophisticated designs, the authors built 18 Think Models[10] and the metacognitive Big Think strategies to mark progress in cotaught units. Many experts such as Grant Wiggins and Jay McTighe[11] provide enduring models for higher level teaching and learning. More instructional designs that can be used collaboratatively are collected in this posting: "TeachThought Library: 10 Learning Models & Frameworks" at: http://tinyurl.com/qhglcv6

Traditional assessments usually concentrate on what individuals know and could do. We recommend three aspects of learning be assessed as illustrated in the following poster:

[10] Loertscher, David V., Carol Koechlin, and Sandi Zwaan. *Beyond Bird Units.* Hi Willo9w Research & Publishing, 2011. also: Loertscher, David V., Carol Koechlin, and Sandi Zwaan. *The Big Think*. Hi Willow Research & Publishing, 2009.

[11] Familiar titles by Wiggins and McTighe include: *Understanding by Design, Essential Questions, The Understanding by Design Guidebook,* and, *Solving 25 Problems in Unit Design.*

As pictured, assessments will range from individual work to cooperative success by groups, and finally the deep collaborative intelligence that has developed. Whatever assessments are given, all the adult partners should help design what will be measured.

Example [12] Beginning with an umbrella question: "What's happening in the world of endangered species," students examine case studies such as interventions to save bald eagles, explore ongoing efforts to protect pandas, and uncover problems like the impact of climate change on monarch butterflies and develop their own inquiry questions that they want to pursue. After initial investigations, the students work cooperatively in groups to organize their findings. Now groups are jigsawed with a higher level task to examine the how, and why, of successes and failures and predict what they think is next or take some action. Along the way, the students have received mentoring from teacher librarians interested in wide reading and inquiry skills, counselors interested in STEM careers, reading teachers helping with complex texts, science experts contacted through various technologies, and instructional coaches who have rolled up their sleeves to coteach rather than just observe and give advice.
We recommend that project units such as this example are developed in a virtual collaborative space we call a KBC (Knowledge Building Center)[13]. Here teachers can coplan, teach and assess anywhere anytime thus eliminating the number one inhibitor of coteaching success. No longer is 'time' a problem. The same benefits apply to students who only need good internet access to connect to their project work. The KBC becomes a giant conversation about learning for students and teachers who participate in the journey as a true community of learners.

Infusion of discovery, creativity, making, questioning and other learning strategies that engage learners.

Another central focus is to respond to the growing chorus of creativity, invention and making[14] by transforming coteachers into commentors. Using

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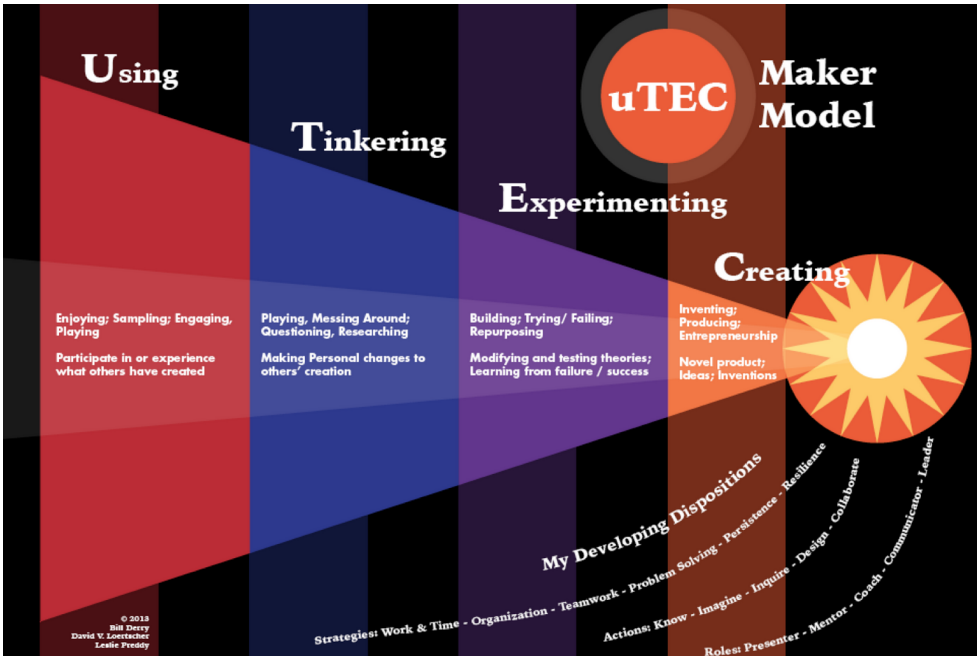
[12] Many other examples of cotaught units are included in: Loertscher, David V. and Kathryn Lewis: *Implementing the Common Core State Standards: The Role of the school Librarian*. Achieve and AASL, Nov., 2013. This white paper can be downloaded at: http://tinyurl.com/mp63aek The experiences of many teacher librarians with coteaching and published in the journal *Teacher Librarian* are available as follows: Loertscher, David V. and Carol Koechlin, eds. *Coteaching and Collaobration: How and Why Two Heads Are Better Than One*. Teacher Librarian Press, 2015.
[13] http://tinyurl.com/qazy8gz
[14] Robinson, Sir Ken. *Creative Schools*. Viking, 2015; and Martinez, Sylvia Libow. *Invent to Learn: Making, Tinkering and Engineering in the Classroom*. Constructing Modern Knowledge Press, 2013.

the Google 80/20 rule as a guide, students encounter the concepts of creation illustrated in the uTEC Maker Model illustrated in this poster.[15]



The learning commons becomes the center of the genius hour, self-directed learning projects, inventions in the makerspace leading to entrepreneurship. Investigation, tinkering, building, experimenting and performance counter the heavy weight of boredom experienced by many children and teens.

Addressing administrative strategies that encourage a participatory culture across the school and across schools.

The question for administrators often is a choice between strategies. Is there room for experimentation and creativity? Two TED talks that discuss organizational approaches are well worth the time:

- Linda Hill looks at structures across many organizations at: http://tinyurl.com/ne2e2jn

- Margaret Heffernan, management consultant, shares ways collaboration can work well in various organizations at: http://tinyurl.com/p999er4

[15] Readers interested in the posters included in this article can see and print them out free of charge at: http://tinyurl.com/q73cclg

Participatory perpetual beta approach to school improvement. Without disturbing what structures are already in place in a school, the learning commons can provide a place where experimentation is happening, successes and failures noted, and judgments made about strategies, technology, software, and a host of other "good ideas." Here is where coteaching could be tried on an experimental bases, results noted, and decisions made about whether the approach could go viral across the school. If administrators participate in the Big Think activities of cotaught units with the adult mentors and the students together in a metacognitive analysis of what went right and what went wrong and how to improve the next time, valuable information could be gleaned, analyzed, and plans for the future made. It would seem that a perpetual beta approach to school improvement might succeed in a rapidly changing world of technology and learner characteristics as school demographics change.

Admittedly, the skills needed by the teacher librarian need to change in order to facilitate the transformation to a learning commons. No matter the credentially in the state or provence, astute teacher librarians will need expertise in curriculum, technology alongside library and information science. Administrators are urged to find such professionals and assist with the professional development needs of those who want to embrace a changing role.

Leadership for coteaching and learning commons. Transformation to a learning commons with coteaching as a driver of school improvement requires the leadership and expertise of a qualified teacher librarian trained in curriculum and technology for learning, alongside library and information science, to be most successful. Administrators are urged to assist with the professional development needs of teacher librarians who want to embrace this challenging role.

Inclusion of a variety of specialists on the learning commons staff. To reiterate, any specialist with a whole-school responsibility becomes a part of the cadre alongside the teacher librarian and offices either physically or virtually in the learning commons. They form a team anxious, willing, and able to coteach with classroom teachers and they learn how to coteach effectively by tracking their work individually and as a group, and demonstrating their impact on teaching and learning across the school. If each specialist has a goal to spend half their time coteaching, the impact can be substantial as a healthy mix of collaboration and mentoring emerge. Their contribution to R&D experimentation can change school culture from a tight sense of delivery and performance to a focus on student choice, creativity, and excellence in a healthy effort to reach every learner.

Adjust schedules to support coteaching. In elementary schools, students are often scheduled through the various specialists. Take a look at this free participatory webinar for ideas not only for the teacher librarian but adapted for the other specialists as well: https://www.youtube.com

Conclusion

The learning commons serves a unique purpose in the school as bridge between educational philosophy and practice, curriculum goals and demands and the real world. As such it is a natural environment to incubate and nurture coteaching. The mantra of the learning commons is to drive excellence in teaching and learning through high level instructional design, as well as sparking experimentation, innovation, creativity, discovery and play. The physical and virtual learning commons spaces are deliberately designed for flexibility always responsive to the needs of users. Here rich digital and print resources and technologies support all learners and all curriculum needs. No other space in the school can provide the same wealth of opportunities for differentiation. The teacher librarian has expertise in processes and skills needed for students to navigate successfully in our networked world and become active participants in their learning communities. In combination the ingredients and collaborative chemistry of the learning commons fuel successful coteaching experiences for both adults and students.

Many schools are already reinventing their school library facilities and programs as a Learning Commons to provide a whole school approach to learning for the future. We invite our readers to consider the undeniable benefits and proven results[16] gained for student achievement and teacher efficacy when coteaching with teacher librarians. Add coteaching with other specialists and learning commons approaches and specialists to drive participatory teaching and learning cultures. The entire school becomes a learning force when everyone works, plays and learns together.

[16] http://tinyurl.com/on4e4k7

Creativity, Critical Thinking, Communication, and Collaboration: Built on Information Literacy

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Abstract

There are multiple frameworks and standards for addressing modern learning environments. Among these is Partnership for 21st Century Learning's Framework. This framework is significant for it's inclusion of the 4Cs: Creativity, Critical Thinking, Collaboration, and Communication. It also includes a multiple literacies including information literacy. This paper looks at the relationship between information literacy and the 4Cs in order to suggest information literacy should be conceptualized as situated and transformative, and that assumptions regarding the definition of information literacy should be addressed in developing critical approaches to instruction in the 4Cs.

Schools have a responsibility for creating literate citizens. Therefore curriculum is developed to teach and enhance the necessary skills and practices necessary to be literate in the modern world. However there is a lack of agreement on what skills and practices are necessary to the modern world, and how those apply to both the disciplines of the academy and the reality of daily life. This has resulted in a multi-literacy approach to learning, in which we have any number of curriculum standards guiding classroom practices, including the Common Core State Standards, as well as state standards in those states that have not adopted CCSS, NextGen Science Standards, state content standards in Social Science, and so on. Additionally we have organizations that have produced documents that guide teaching curriculum such as ISTE's standards for teachers, students, coaches, and administrators and AASL's Student Learning Standards. In each of these areas experts are defining what it means to be literate in their discipline, what the skills are that are necessary to succeed in learning within their understanding of their content and process areas. This paper focuses on the Partnership for 21st Century Learning framework and specifically the four Cs: Creativity, Critical Thinking, Collaboration, and Communication as literacy practices that are necessary to develop as a modern learner and citizen and how they relate to the school library discipline of information literacy.

[1] This paper was peer reviewed and accepted for the papers of the Treasure Mt. Research Retreat proceedings, 2015.

What are literacy practices?

If we are going to look at literacy practices in an effort to identify what specific practices are important to modern learners then we need to consider the definitions of literacy. Literacy is typically concerned with the "possession of general and necessary skills" (Williams, 1976). A broader approach to conceptualizing literacy and being literate would embrace the notion that in order to be considered literate one must thoughtfully engage in a variety of what Gee refers to as discourses: "ways of behaving, interacting, valuing, thinking, believing, speaking, and often reading and writing, that are accepted as instantiations of particular identities" (Gee, 1996, location 160). What Gee recognizes is the social and located nature of literacy, that the general skills that are necessary in one context, for instance school, may differ from the general skills in a different context, for instance social life. Additionally literacy is more than language, it is in how we perform in those spaces. Even though literacy practices may be used in multiple discourses; contexts are not independent of one another, and therefore there is overlap between practices and skills may be transferable. As Wenger (1998) suggests one has memberships in many communities of practices, and these communities overlap and interact.

It is also important to consider what *practice* means in this definition. By using the word *practice* I am signaling a belief that actions (or performances) are socially situated, that they mediated both by the community and the tools that are used, that they are embodied and represented through performance, and that they are built on negotiated communal knowledge (Kemmis, 2011; Rouse, 2006; Schatzki, Knorr Cetina, & von Savigny, 2001). Therefore literacy practices are performed within a specific context, they are negotiated in determining what a literate performance looks like in that context, they are constrained and enabled by the tools (both body capacity, and technological capacity), and they shift through negotiation within the contexts over time. Skills are merely one component of practice, how a performance is enabled. Understanding what it means to be literate in the modern world difficult and an ongoing endeavor, as practices are negotiated, new knowledge emerges, and new tools are developed. This is why P21's framework is significant, in that it a) focuses on practices and b) incorporates the 4Cs as schools responsibility as well as the older notion of the 3Rs (Reading, Writing, and Arithmetic).

P21 Framework for 21st Century Learning

The P21 Framework is a rich framework that considers not just core academic subjects but also 21st Century themes such as global awareness and literacy practices related to economic, civic, health and environmental

concerns (" Partnership for 21st century skills: P21 framework definitions," 2009). They include learning and innovation skills related to the "4 Cs": Creativity, Critical Thinking, Communication and Collaboration. And they do not ignore the Information, Media, and Technology skills necessary to the modern world. This document is focused particularly on the 4Cs as they relate to information literacy practices. In this section we examine the 4Cs briefly.

P21 makes the argument that creativity has been defined and that we should attend to the established definitions and models (Plucker, Kaufman, & Beghetto, 2015). The definition includes concepts of novelty and usefulness, but most importantly that these concepts are influenced by the context. For instance, what is novel to novice learners and therefore creative, may not be novel to experts. Similarly, critical thinking has commonalities in a myriad of definitions, including reflective, analytical, and evaluative cognitive skills (Dilley, Kaufman, Kennedy, & Plucker, 2015). P21 positions suggest that there are dispositions involved in applying the cognitive skills as related to critical thinking. Differing from the definitions of creativity and critical thinking in which they considered commonalities P21 points to a need for communities to develop their own definitions of communication. However they emphasize the role of communication in sharing information, and the ability to do so for multiple purposes within diverse contexts. Finally the Framework emphasizes collaboration, stressing that it is not a skill students learn without instruction, scaffolding, and support. While there are different theories related to social learning and collaboration, issues related to working with diverse teams in different environments, sharing responsibility and valuing individual contributions are stressed in regard to the learning opportunities that should be provided to students (Plucker, Kennedy, & Dilley, 2015).

Information Literacy – Situated and Transformative

Information literacy as a concept has evolved since the ALA President's report defined it as the ability " to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" and the information literate person is one who has "learned how to learn" (American Library Association). While the former definition was dominant for many years, research, practice, and codification through standards such as ACRL and AASL learning standards conceptualizations of information literacy has become more complex (AASL & AECT, 1998; Bruce, 2000; "Framework for information literacy for higher education,"). The latter definition, information literacy as learning, is broad enough to be the new foundation of understanding a definition of information literacy. As new standards and research emerges the ways information literacy is

conceptualized has been categorized. While Whitworth reminds us we must be sensitive to the contexts of information literacy "without collapsing into relativism" (2014, p. 71). It is helpful to consider frames of information literacy. This paper refers to a GeST model of viewing information literacy.

In her research Lupton (2008) examines literacy models to develop the GeST model of information literacy. The GeST model comprises three 'windows' through which to view Information Literacy perspectives - generic (Ge), situated (S), and transformative (T) (p. 23). Early standards such as Information Power, and the older ACRL standards build on a generic understanding of information literacy, delineating skills necessary to do academic research (ACRL). AASL most recent standards have expanded on these skills including Dispositions (AASL). And the new ACRL standards have taken the approach of identifying threshold concepts. In both cases the organizations recognize learning (or the information literacy involved in learning) is more than skill based or a generic set of cognitive capacities. However, it is the situated and transformative window that are of interest and more relevant to relationships to the 4Cs.

Lupton (2008) defines the situated window of information literacy as "a range of contextualized information practices" (p. 33). Information in the situated window has a more subjective nature, and while it can be discovered through purposeful searching it can also be encountered in a more serendipitous fashion (p. 33). Information is encountered from "the world around" us, from walking down the street to overheard conversations (Harlan, Bruce, & Lupton, 2014). Knowledge is constructed through engagement with encountered information, and situated within a particular context. This includes conversation with the world, shaped by our own experiences (Savolainen, 2008). The concept of situated information literacy shares similarities with Lave and Wenger's (1991) conceptualization of situated learning and legitimate peripheral participation. Lloyd argues information literacy is "not constituted by a single way of knowing but is a product of many ways of knowing" (2010, p. 253), and suggests that information literacy practices are situated within a specific site or context. Lloyd (2010) suggests IL as more than a way of learning, but rather a constellation of practices.

The transformative window contains elements of both the generic and situated window, and positions itself in both a critical and an expressive position. In the critical transformative window, information literacy is seen as a "range of practices used to transform one's self and society" (Lupton, 2008, p. 33). It adopts a more critical position towards information, examining the assumptions inherent within the information. It also adopts a position of advocacy, it is more than learning, in that it views using information and learning as a political act, leading to social action (p. 34).

This is consistent with the implicit notion embedded in definitions of information literacy and in instruction that development of information skills has a democratic objective of developing citizens of the world (O'Conner, 2009) and is consistent with Frierian approaches to education. In the expressive transformative window information literacy is seen as "using information to express and understand oneself" (Lupton, 2008, p.29). The expressive window is focused more on creative representations of personal knowledge, in which information consists of "thoughts, feelings…life experiences, intuitions, and imaginings" (p. 229). Information use and creation is not necessarily always an academic or personal endeavor related to developing knowledge, but it is also used in developing an aesthetic (Harlan, 2014; Hughes- Hassell & Agosto, 2007).

If information literacy is situated and transformative, then the capacities necessary to be considered literate in a community are constituted of more than cognitive skills. They include the social skills of learning how to communicate using the language of the community, the development of aesthetic knowledge that recognizes the values of emotion in developing knowledge, a capacity for enacting performances using the information of the community, and experiencing information in a variety of ways For the remainder of this paper this constellation of information skills will be referred to as information literacy practices.

Information Literacy Practices in the 4Cs

The definitions of the 4Cs in the Framework for 21st Century skills echo the constructions of information literacy as situated and transformative. The connections are related to context, community, and the role of the cognitive and the social. However, while the P21 Framework suggests that Information, Media and Technology literacies are a component of learning this paper is predicated on the notion that information literacy practices are the foundation of the framework.

Communication

Communication is a key component to developing an understanding of a community. While the Framework does not explicitly suggest that communication is necessary to learning, this is due to the Framework's focus on the capacity of students to communicate in the modern world. The Framework is focused on outcomes, rather than the concept of communication as fundamental to literacy practices, as well as a literacy practice itself. The relationship between information literacy practices and communication is more interrelated than a focus on outcomes implies. Students need to understand the language of the community to make use of

information in the community to develop their own knowledge. In subject areas, we refer to this as the language of the discipline. But it is not only language; it is how it presented through performance, a way of thinking and being. What is the body language? How is identity presented? What are the formats of language?

While the cognitive skills required in communication related to information include the ability to understand the language of the discipline, social skills are required to understand what is appropriate for communication in the context and the ability to produce this language in an appropriate format for the specific audience. Communication may look different in a classroom where there is an academic performance than it will look in social context where slang, or text language may be more appropriate. Communication is an embodied practice requiring performance. In face-to-face environments this includes physical action (e.g. raising a hand in a classroom); in virtual environments other etiquette awareness is needed (e.g. don't use all capital letters). In establishing communication capacities information literacy practices should include helping students identify the discourses of the community. Who is in the community? How do they communicate? What language (physical and verbal) is appropriate? And what skills might work in other contexts? In other words, information literacy practices must be seen as situated in how we approach developing communication skills.

As ICT literacies are embedded in the Framework it is worthwhile noting that the skills necessary to recognize and engage in communication particularly in a virtual context, can be found in basic instruction of digital literacy and citizenship. For instance, Common Sense Media a popular digital citizenship curriculum address respect online in a variety of ways – punctuation and grammar in email, handling cyberbullying, and romantic relationships in online environments. While basic skills may apply to all of these contexts complicate the communication practices as they are enacted. School librarians can highlight the skills that transfer while helping students develop understandings of communication practices in context.

Collaboration

In defining collaboration P21 reminds us that there are differing theoretical approaches to studying collaboration that impact models and definitions of effective collaboration. The definition P21 uses includes

> (a) demonstrating the ability to work effectively and respectfully with diverse teams; (b) exercising flexibility and the willingness to be helpful in making the necessary compromises to accomplish a common goal; (c) assuming shared responsibility for collaborative work; and (d)

> valuing the individual contributions of individual team members. (Plucker, Kennedy, et al., 2015)

It should be noted that without communication collaboration is not possible. Therefore, these 2 areas overlap. In collaborating towards shared goals, information literacy practices include sharing information to develop a shared understanding and common knowledge. Shared understandings are different than distributed cognition or collective intelligence in that negotiation leads to agreed upon common knowledge. Individuals need know how to communicate their understandings of information and to negotiate their own understandings to come to a common understanding.

Collaboration requires an explicit shared understanding of information. Cognitively this can be defining common understandings, or exploring conflict in knowledge. However, it also requires that those involved share understandings of the rules and roles of individuals involved in the context of collaboration that are related to working "respectfully". The outcome of the collaboration is not the only shared understanding; the process must also be agreed upon. This requires that there are common ways of being, and dispositions towards creating knowledge such as compromise and willingness to change positions that make collaboration effective. In this instance, information literacy practices are not only situated, they are transformative. Information literacy practices that we engage in during collaboration require us to examine assumptions inherent in our own information and share how that information changes and can be applied to the process. This should be explicit for students.

If the focus on collaboration is on outcomes rather than information practices collaboration reflects information sharing practices that are related to distributed cognition (Hutchins, 1995) or collective intelligence. In distributed cognition experts bring their talents and knowledge to work towards a common goal but not every member of the group has the same information base. Collaboration in this sense may not mean that knowledge is extended, although an outcome may be reached.

Schools have found themselves needing to provide instruction in digital citizenship practices that support learning. Teacher librarians have taken the lead in many schools in providing instruction and integrating digital tools and software into instruction. However now is the time to truly investigate and establish an understanding of digital citizenship that is a collaborative approach to building a community. Citizenship can be based in shared understandings of the rules and norms of a community, developed in negotiation within members of the community. In considering digital citizenship understanding how the process of collaboration relies on the rules and roles of a community and a respectful engagement with the community

will help build a construction of digital communities and how the citizens of those communities enact forms of citizenship. It encourages the possibility of developing the communities we want, rather than reacting to those we have.

Critical Thinking

In examining definitions and models of critical thinking, P21 takes a historical approach from Dewey to more modern conceptualizations. The conclusion they draw is that common features include reflection, analysis, and evaluation used to solve problems and reach conclusions (Dilley et al., 2015). As information is needed to reflect, analyze, and evaluate a problem or argument, this connection is most clearly seen in the traditional definition of information literacy: the ability to find, evaluate, and use information. However information literacy practices that are both situated and transformative require us to examine information, what it is, how it is created, and what is its value, in order to truly engage in critical thinking. For instance, the type of information (e.g. textual, embodied, or visual) may vary depending on what is needed for critical thinking. Assumptions embedded in the information are sociohistorical and approaches to the cognitive skills used in reflection, evaluation, and analysis should include a critical approach to information. Rather than approach critical thinking only through an academic context and presuming that the skills necessary for critical thinking in a work context or social context (such as participating as a citizen) are the same, it becomes more important to suggest information literacy practices that approach information critically within the particular context. For example, examining printed information requires a different set of skills when reviewing research for a research paper as opposed to reading research for practical implementation. We should also not exclude body information as Lloyd (2006) points out. For example, in her work from firefighters they learned from fighting fires, more than from the printed word. In considering approaches to critical thinking, principles related to transformative information literacy understandings of information should be taken into account.

Teacher librarians take responsibility for research, and specifically information seeking and use as it relates to academic practices. Critical approaches to information as situated and transformative are aligned with current trends in education. For instance, as delineated by a crosswalk between Common Core Standards and existing AASL standards for student learning teacher librarians have a role in explicit instruction in using information in argumentation. The two anchor standards of interest directly relate to the core standard two “Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge” (AASL & AECT). Drilling down into the two sets of standards demonstrates deeper

connections. Connecting the driving force of CCSS with the recommendations of P21 present further connections between information practices and critical thinking. The focus on being analytical and evaluative relies on understanding how information is created, including the purpose and structures that impact information. Instruction in understanding the differences in visual, textual, multimedia and experiential forms of information in impacting an argument is foundational to critical thinking instruction.

> *CCSS.ELA-LITERACY.CCRA.W.8*
> *Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.*
> *CCSS.ELA-LITERACY.CCRA.W.9*
> *Draw evidence from literary or informational texts to support analysis, reflection, and research. ("Common Core State Standards Initiative," 2010)*

The use of information in critical thinking requires a close reading. How information is created, the purpose of the information may not be explicit. In engaging in transformative information literacy closely "reading" or engaging with text is required. In answering problems, creating solutions, inquiring about the world within which one encounters the information one is engaged in dialogue with the information and therefore most consider carefully the information. Teacher librarians have a unique understanding of how information is created, how one might evaluate the information, and how one might enter in a conversation in using that information. Working with teachers who have content to deliver, to structure inquiry of that content, allows the information skills to be embedded in critical thinking – challenging traditional "sit and get" approaches to delivering content information. A model in practice of this type of approach to writing for argument, reading closely, interrogating information to be a critical thinker might be Design Thinking in Education (IDEO).

Creativity

While creativity is often listed as the first C, the other three Cs enable creativity. (Although it can be argued that creativity enables critical thinking and does so in some models.) In defining creativity, P21 points to the common threads of definitions that include novelty and usefulness. They carefully point out "judgments of creativity do not happen in a vacuum, and that the context in which behaviors occur strongly influence evaluations of behavior" (Plucker, Kaufman, et al., 2015, p. 1). Again we are returned to the idea that context matters, that information literacy practices are situated, even when

related to notions of novelty, or perhaps most explicitly. Whether the use of information can be considered creative in developing new knowledge is related to purpose and community, and the existing knowledge of the community. A community may judge a performance as creative, and another may dismiss it. For example, a video appropriate for YouTube may not be well received on a different platform, one that is more focused with specific purpose. Of import is how information literacy practices that are expressive underlie creativity. In developing aesthetics, information is used, reflected on, and emotionally responded to. In this sense the practices are embodied through emotion. We should not ignore the aesthetic implications of information. However, creativity has some significance in critical thinking as well, the ability to take a novel approach to problem solving. Divergent thinking in design being one example of how cognitive skills can be considered creative. Again we return to information literacy practices that are transformative, that approach information in a critical manner designed to consider how information could be challenged, taken apart, and put back together. The understanding of how and why to do this is key to enhancing creative thinking.

What is significant regarding the connection between the Creativity component of the four Cs and information literacy practice is that it is most obviously a focus on information use for information creation. While this occurs in communication in order to facilitate collaboration, and is enabled by critical thinking if one were to attempt to separate an iterative process – creativity would closely align with information use and creation. It is most clearly transformative, particularly as it lends itself to the expressive nature of information literacy. Current education trends related to inquiry based learning – particularly project and problem based learning, as well as hands-on education represented by the maker movement, are closely connected to information creation, and expressive information literacy.

Conclusions

One of the challenges every teacher faces is how to *make learning relevant.* It is a truism that teachers are often faced with the question "am I going to use this in real life". An argument embedded in the Partnership for 21st Century Learning's Framework is that by addressing global themes, including the 4Cs, and the inclusion of multiple literacies is that learning will be more relevant. This paper argues that a more explicit approach to understanding information literacy as situated can also address relevance. For instance, students begin to understand how information is used in different contexts, to recognize this and to understand how different communities contribute to their learning. And to consider how information literacy practices are transformative in both a critical and expressive manner expands our notions

of what competencies we need to encourage, as well as laying groundwork for the explicit transfer of skills to practices in different communities. By understanding information use and creation as contributing to a variety of communities, and the shared knowledge within students are less recipients of facts and more creators of knowledge. In other words establishing that yes, you are going to use this in "real life".

It is easy to suggest this, however it is difficult to implement. Embedding explicit instruction in communication and collaboration, developing dispositions for critical thinking, and enhancing creativity have not been the standard for current teaching. Driven first by No Child Left Behind's reliance on high stakes standardized test the focus for instruction has been on basic literacy skills related to purely cognitive skills applied in an academic community of practice. Recent school reform narratives similar to *Waiting for Superman*, exacerbated by Common Core standards and Race to the Top requirements for funding current educational paradigms have not been amenable to pedagogical approaches that include the type of learning opportunities that enable using information to engage in the 4Cs in transformative ways. This is potentially shifting through opt out movements, recent reports on the failures of school reforms, and a greater awareness of the value of inquiry in classrooms. Taking advantage of the slowing swinging pendulum to address information literacy practices as just that – practices that are contextual, embodied, and negotiated is an ongoing challenge. A starting point is to closely examine and expand the assumptions regarding information literacy in current standards when developing new standards. What does information literacy mean to schools and students? How do we define it now that we recognize it as entangled and complex concept? And what is our common knowledge regarding the complexity of learning how to learn? It is from there that we can develop critical pedagogies that address information literacy practices in regard to creativity, critical thinking, communication, and collaboration.

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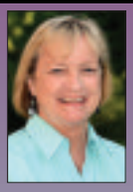


"The administrators and teachers who participated in the SCASL impact study consistently endorsed instructional collaboration between librarians and teachers."

Everybody's Teacher

Administrators' and Teachers' Perceptions of School Librarians

Findings from the South Carolina Association of School Librarians Impact Study

KAREN GAVIGAN AND KEITH CURRY LANCE

Peer reviewed for publication, October 1, 2015

ABSTRACT

In late 2013, the South Carolina Association of School Librarians (SCASL) commissioned a study on the impact of school libraries and librarians in South Carolina. The purpose was to assess the extent to which school libraries transform schools by contributing to student success. The SCASL study, completed in 2014, was conducted by Dr. Keith Curry Lance and his associates at the RSL Research Group. Phase two of this study analyzed data collected in surveys of South Carolina school administrators, teachers, and librarians. This article presents the views of 273 administrators and 917 teachers who responded to the surveys. Among other findings, this article describes administrators' and teachers' perceptions of the school librarian's role in collaborative teaching and leadership activities. Included are quotes from district- and school-level administrators. Findings indicate that administrators value the policies and practices of school library programs, as well as the collaborative teaching and leadership roles that librarians play in schools.

In late 2013, the South Carolina Association of School Librarian's (SCASL) commissioned a study on the impact of school libraries and librarians in South Carolina. The SCASL study was conducted by Dr. Keith Curry Lance and his associates at the RSL**[Q: spell out?]** Research Group. The second phase of the study was an analysis of data collected in surveys of South Carolina school administrators, teachers, and librarians, as well as test results from the state's Palmetto Assessment of State Standards (PASS) for elementary and middle school students. This article examines the perceptions of school administrators and teachers who responded to the survey. Seven hundred forty seven (747) administrators were nominated for the survey, and 273 (36.5%) responded. One thousand ninety four (1094) teachers were nominated for the survey, and 917 (83.8%) responded.

The surveys began with a few demographic questions. They were then asked to respond to questions regarding school library-related issues. The issues that will be featured in this article are:

- How highly administrators valued selected policies and practices of library programs
- Roles played by school librarians and how they were desired by administrators and perceived by teachers

The survey respondents were also given an opportunity to share their thoughts about their school library programs. More than 430 administrators, teachers, and librarians responded with success stories from their schools. An overview of the findings from the surveys, as well as some of the comments from the administrators and teachers, is provided below.

ADMINISTRATORS' PERCEPTIONS OF SCHOOL LIBRARY POLICIES AND PRACTICES

The administrators who participated in this study were asked to rate the importance of various policies and practices of school library programs. Were those policies and practices considered essential, highly desirable, desirable, or unnecessary? The findings revealed that five policies and practices were deemed essential or highly desirable by the large majority of responding administrators. In descending order of importance, they were:

1. Librarians and teachers designing and teaching instructional units together
2. Librarians providing in-service professional development to faculty
3. Librarians and principals meeting regularly
4. Access to the school library being scheduled on the basis of instructional needs rather than on a regular or required fixed schedule

(see figure 1).

The responding principals and other administrators consistently endorsed instructional collaboration between librarians and teachers. Furthermore, the following quotes from principals and vice principals suggest that they consider collaboration and coteaching best practices for a success-

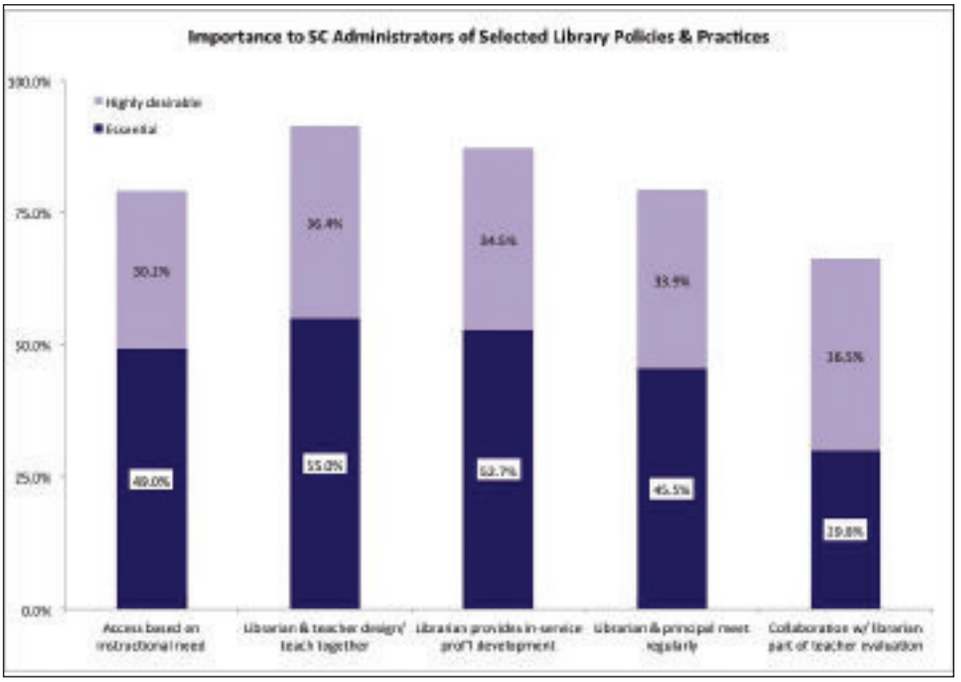

Figure 1. Principals addressing teacher collaboration with librarians in annual teacher evaluations

ful school library program.

- "The library/media center is truly the hub of our school. All content areas plan and coteach with our librarian/media specialist."—Middle school vice principal
- "Our media specialist encourages collaboration, reflection, and discussion on all topics addressed in the state curriculum among our students and staff."—Elementary school vice principal

It was also apparent, in the following success stories, that administrators valued professional development practices through which librarians taught instructional technology skills to classroom teachers.

Our two media specialists, along with our technology learning coordinator, work together as one incredible team. Most recently, they pitched an idea to me about redesigning the way we do in-service and professional development in our school. I loved their idea. . . . I'm excited to see where this goes and happy to know that two media specialists are helping lead the charge.—High school vice principal

Providing instructional technology support for our district—which includes eight schools—would be very difficult without the support and collaboration of our media specialists. They are always great to work with, providing excellent help for teachers and working with students on technology projects.—District technology support administrator

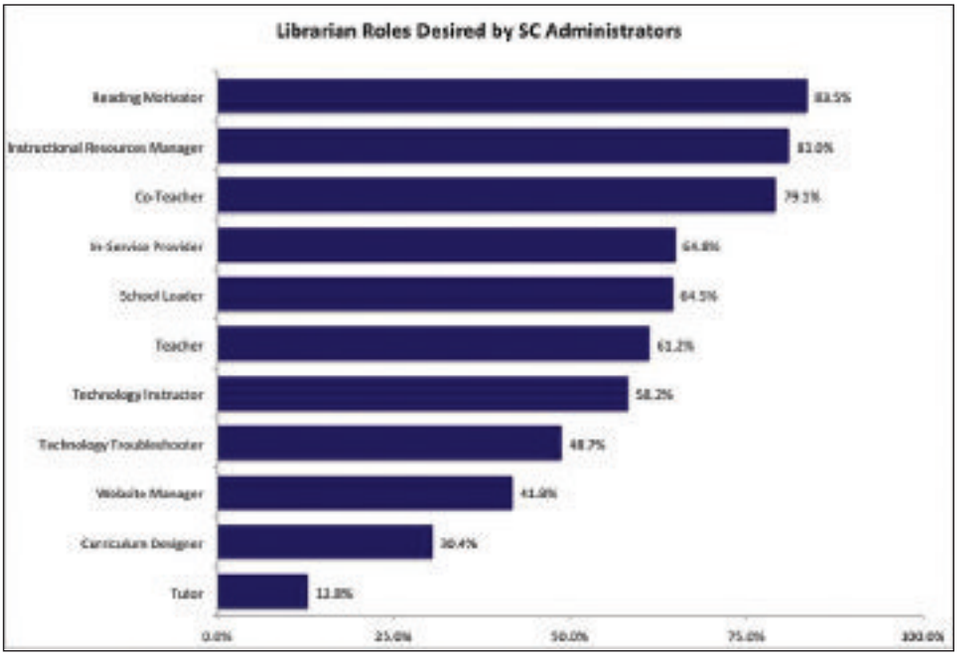

Figure 2

ADMINISTRATORS' PERCEPTIONS OF THE ROLES OF SCHOOL LIBRARIANS

When asked to rank the most "desired" roles they wanted school librarians to play in their schools, the majority of administrators listed them in the following order, from most important to least important: reading motivator, instructional resources manager, and coteacher. A smaller majority of administrators wanted their librarians to be an in-service professional development provider, school leader, teacher, and technology instructor. The least desired librarian roles included tutor of at-risk students, curriculum designer, and website manager (see figure 2).

Leadership is a top workplace skill that employers seek; therefore, it is not surprising that, among the most potentially desirable librarian roles administrators were asked about, the one with the most consistent findings was school leader. In fact, school leader was ranked as a desirable librarian role by 64.5% of respondents. In addition to wanting their librarians to play key leadership roles in their schools, administrators were also likely to wish them to play each of the other roles. In rank order, these roles included

1. curriculum designer
2. tutor of at-risk students
3. in-service professional development provider
4. teacher
5. technology instructor

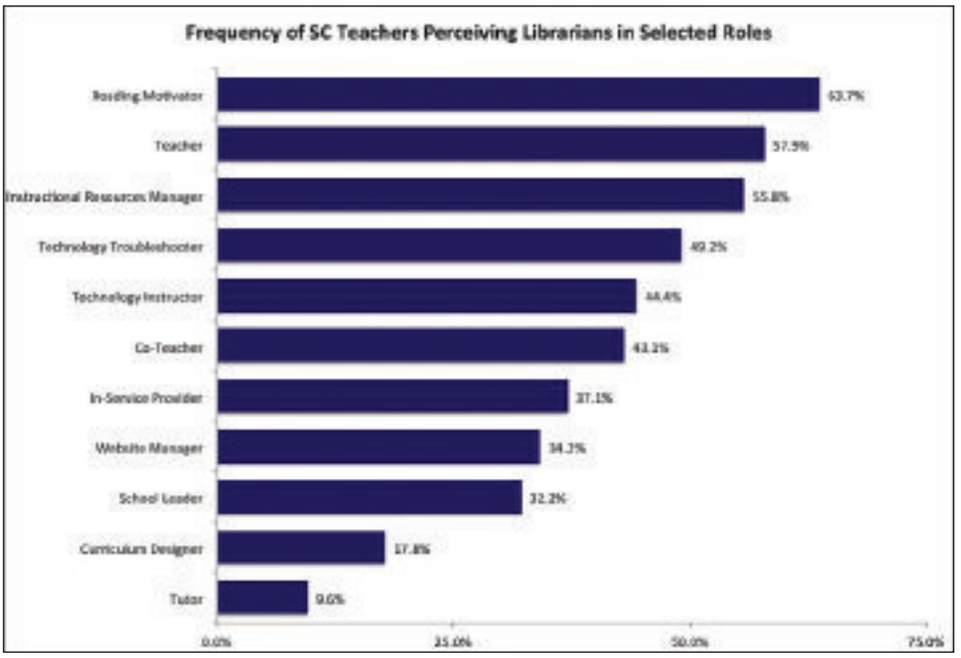

Figure 3

6. coteacher
7. instructional resources manager
8. reading motivator
9. instructional support
10. technology trouble shooter (see figure 4)

The following quotes from administrators provide examples of how administrators value the leadership role of their school librarians:

• "Our librarians are leaders in our district. . . . It is so wonderful to see [them] share their passion for reading and learning not only with our students but with our teachers!"—District director of planning and development

• "My librarian is an instructional leader on our faculty. Teachers gravitate to her for assistance."—Elementary school principal

• "Our media specialist provides a love of reading for our students while also being a leader in technology."—Elementary school vice principal

It is apparent from the findings that school administrators' perceptions of the value of librarians' roles tend to coincide with administrators' assessments that library programs contribute to student success.

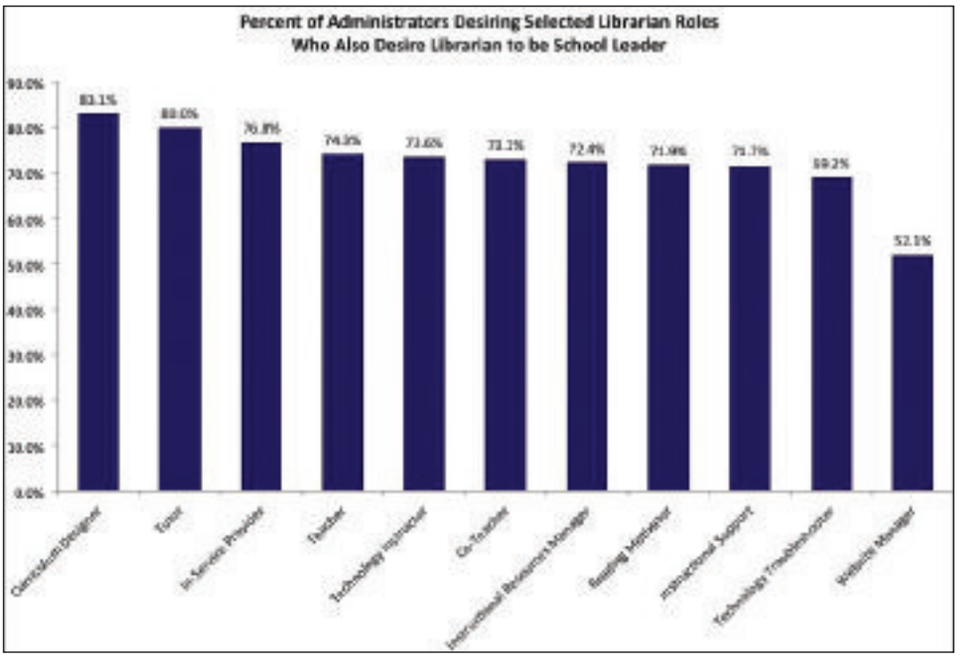

Figure 4

TEACHERS' PERCEPTIONS OF THE ROLES OF SCHOOL LIBRARIANS

Findings from the SCASL study revealed that teachers' perceptions of the roles played by their librarians tended to favor more traditional ones, such as reading motivator and instructional resources manager. However, teachers also ranked the teacher role of librarians highly and in two different categories. The teacher role ranked second, at 57.9%, while the coteacher role was ranked sixth, with 43.1%. This suggests that most classroom teachers acknowledge their librarians as fellow teachers and colleagues. Other librarian roles perceived by substantial minorities, between a third and half, were, in rank order: technology troubleshooter, technology instructor, coteacher, in-service provider, website manager, and school leader. The least frequently reported roles were curriculum designer and tutor of at-risk students (see figure 3).

Much like the administrators in this study, the responses from classroom teachers imply that they had positive perceptions of librarians as coteachers and partners, across all grade levels. Three teachers' comments about partnering with their librarians follow.

> Our media specialist always encourages others to come to the media center, or [we] allow her to come to classrooms to teach a technology lesson on a topic/unit that the teacher provides. The children are paired together and given an iPad to research . . . a given topic. The students are . . . asked to answer written questions by reading and researching topics.—Primary school teacher

> One of the most challenging standards that I teach deals with research, and I have received immense support from my media specialist every year I have been at this school. She spends nine weeks helping me with every step of the research project: note cards, outlines, rough drafts, bibliographies . . . everything.—Middle school teacher

> I teach American Literature to several

classes. Our unit on Hawthorne's *The Scarlet Letter* requires deep analysis of the novel. Without my asking, our librarian offered a myriad of resources to help me get ready for teaching the unit. . . . I will be well prepared because of the support of my librarian.—High school teacher

These comments, describing librarians as supportive teaching partners, promote the perception of librarians as colleagues in the instruction of students, as well as colleagues who share their expertise with classroom teachers, to the benefit of the teachers and their students.

COLLABORATION

Both administrators and teachers consistently commented on the value of instructional collaboration between librarians and teachers. They frequently referred to collaborative activities, such as classes visiting the library, teacher-initiated collaboration with librarians in classrooms and the library, and librarians teaching new skills to teachers. Librarians were often recognized as model teachers when they collaborated with teachers, both when students were present and when they were not.

Many administrators and teachers who participated in the study felt that their librarians provided quality instruction within the walls of the library and beyond. Librarians were also recognized for collaborating in other ways. For example, one principal touted his librarian's success as a grant writer, as well as her work creating a collaborative learning commons environment at their school:

> Our media specialist is a coteacher in our school. She has written and been funded on several grants to provide materials for a . . . unit of study that supported our school's STEM program. Our media center is a learning commons with updated furniture that can be rearranged by students to fit the collaboration we stress.—Middle school principal

Some of the participating teachers believed that learning was "made more powerful" when they collaborated with their school librarians. The effectiveness of some of these instructional partnerships is described below by three classroom teachers.

> [Our LMS] was excited to share a program with me that would allow each student in my class to create a book about the states of matter using an iPad. She came into the classroom to demonstrate the program to the students and helped me get everyone started. . . . We had some great books about the states of matter!—Elementary school teacher

> My media specialist helped me plan and execute an activity where students were "stranded on a desert island." They had to create pleas requesting that food be sent to them . . . [and] had to research various minerals and the importance of these minerals to the human body. . . . My media specialist helped organize the informational texts students would use for research, helped film the students as they made their pleas, and helped organize and assist during the research process.—Middle school teacher

> During the last school term, I taught physical science and had a new idea [so] I approached the librarians [about] presenting the lesson with me. The ideas, resources, and instruction they provided enhanced both the activity outcome and the learning. I think the instruction was made more powerful because of the collaborative effort.—High school teacher

CONCLUSION

The administrators and teachers who participated in the SCASL impact study consistently endorsed instructional collaboration between librarians and teachers. They also valued the leadership roles that librarians played in their schools. In addition, the importance of the teaching and coteaching roles of the school librarian was apparent throughout the survey responses and the participants' comments. Whether librarians were recognized for teaching an information literacy lesson to students, providing professional development sessions to teachers, or coteaching the curriculum, many of the teachers and administrators viewed school librarians as "everybody's teacher." Finally, and perhaps most importantly, the findings from this study suggest that participants were united in their belief that librarians and library programs contribute to student success.

For a full edition of the two-part SCASL impact study, as well as an infographic and video, please go to http://www.scasl.net/the-south-carolina-impact-study.

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Collaborative Leadership in School Library Learning Commons: New Canadian Standards and New Possibilities
IASL 2015: The School Library Rocks

Anita Brooks Kirkland
Carol Koechlin[1]

We have a brand new school library standards document in Canada to assist schools with transitioning to futures oriented teaching and learning. *Leading Learning: Standards of Practice for School Library Learning Commons in Canada* was officially released to the world in June 2014 and is now finding its way into strategic planning around the country. The publication of *Leading Learning* is an event of true historic significance. As the document says, "Learners have a right to expect good school libraries in every school in Canada." Standards can indeed help measure practice, but *Leading Learning* does much more. By focusing on the needs of the learner, *Leading Learning* provides a framework for growth. Every school, no matter the status of its library program, can find itself in this framework and decide on tangible steps for improvement. The development of *Leading Learning* brought together input from every province and territory in the country, and successfully developed standards for growth that are meaningful within this very disparate context. This is a remarkable achievement.

Vision Meets Reality

The release of *Leading Learning* could not have been more timely. While learning commons thinking has captured the imagination of educators across the country, the reality is that its implementation remains somewhat elusive. Seminal and visionary documents such as the Ontario School Library Association's *Together for Learning: School Libraries and the Emergence of the Learning Commons* (2010) have inspired a wave of innovation, action research, and deeper professional learning; this is within a highly fragmented policy landscape across the country. Policy-makers in jurisdictions with library programs compromised by years of funding cuts need to understand the vision, but they also need to know that it is not out of reach.

While some education authorities have gone so far as to formulate policy about school library learning commons (i.e., Alberta Education, n.d., *Learning Commons/School Libraries*) and certainly the larger goals of

[1] This paper has been peer reviewed and accepted for publication in the proceedings of the Treasure Mt. Research Retreat, 2015.

education in Canadian schools focus on shifts in learning culture (Fullan, 2013); at the time of this project few provinces acknowledged the potential for leveraging the new school library learning commons for school success.

> Shifts in education driven by global realities open up opportunities for school libraries to play a significant role in school improvement through the learning commons transformation. This capacity is growing in some schools across Canada and the standards will help all schools advance. The role and potential of the school library learning commons is rarely covered in teacher pre-service programs or principal preparation training. There are few universities in Canada offering education degrees that have school library related research capabilities. This situation has been documented in a research report ***The crisis in school libraries in Canada*** (Haycock, 2003). Over twenty years of research shows that student achievement and literacy scores advance where professionally staffed and resourced school libraries are thriving. **School libraries make a difference in student achievement** (International Association of School Librarianship, 2008). (CLA, 2014)

From Measuring Outputs to Measuring Outcomes and Impact

The whole notion of standards for Canada's school libraries has been transformed with this document. It is not the first set of standards published by the Canadian Library Association. *Achieving Information Literacy: Standards for School Libraries in Canada* was published in 2003 and updated in 2006. A landmark document in its time, *Achieving Information Literacy* provided measures for collections, budgets, staffing, facilities, etc., and included associated rubrics that have been useful in assessing these concrete aspects of school libraries. The publication of *Achieving Information Literacy* was an accomplishment in school library advocacy at the time, providing standards to which school library champions could point in their efforts to mitigate against the emerging trend in K-12 education towards marginalization of the program.

Problems with the kinds of output measures that *Achieving Information Literacy* represented have gradually emerged. A large body of international research into the efficacy of school library programs demonstrates that while collections, hours of operation, facilities etc. do influence the quality of the library, the impact of school library programs on student success is derived from the actions of the teacher-librarian. After all, a great collection alone does not mean that learning is taking place. Teacher-librarians who teach

information literacy skills, collaboratively plan with their teaching colleagues and facilitate professional learning have a direct impact on student success (LRS, 2013). New Canadian research also corroborated these findings, as summarized by the Ontario Library Association (OLA, 2015). Assessment practices in education were in a period of radical change. Research and practice in education demanded that clearer connections be made between actual instructional practices and student achievement (Marzano, 2003). Dr. Ross Todd was imploring practitioners to use evidence-based practice to gather information on the school library program's impact on student learning (Todd, 2008). Certainly his call to action, "If school librarians can't prove they make a difference, they may cease to exist" had a profound and rather jolting impact on school library leaders in Canada, and thus were planted the seeds for a shift in focus.

Add to this shift the realities of school libraries in Canada. Education is a provincial jurisdiction, which means that there are ten provincial education systems, plus the schools administered by the federal government in Canada's three territories, Yukon, Nunavut and the Northwest Territories. The place of the library in schools has always varied from jurisdiction to jurisdiction, and of course the general decline in funding has fragmented the situation even further.

Standards as a Framework for Growth

The importance of establishing new national standards in this context was very clear, however many challenges remained in getting there. Reorganization of the Canadian Library Association which dissolved the divisions meant that there was no national body to lead the process. The broad range of program and staffing models across the country and even within single jurisdictions made it seemingly impossible to set standards that everyone could identify with and use.

The challenge was huge. How could we express standards in today's evolving educational context? How do we deal with the broad range of understandings of the school library across the country, and even within provincial jurisdictions? How do we use the standards to unite rather than divide in this context?

The answers to these questions emerged from a series of research symposia, Treasure Mountain Canada (TMC). Modeled on Dr. David Loertscher's Treasure Mountain symposia in the United States, and with Dr. Loertscher's support, Canadian school library leaders have organized three TMC symposia so far, in 2010, 2012 and 2014. Part of the TMC objectives was to collaboratively move forward to reinvent school libraries and ignite interest

from the education community in the potential of the learning commons model. Planning for new standards emerged from the 2012 symposium. *Voices for School Libraries*, an informal network of the CLA, along with the CLA's School Library Issues Advisory Committee helped organize committees from every province and territory. This was an extraordinary process, with local input from educators and education leaders, teacher-librarians and other school library practitioners, parents and community members, often organized by local school library or teachers' associations. Online collaboration was essential in this process, especially considering Canada's vast geography. The online collaborative space remains available (Voices for School Libraries, n.d.) and provides a window into this process. The project focus group and national steering committee worked to refine themes, address concerns and build consensus.

The *Leading Learning* project builds on several important precedents of collaboration, with a history of important guidelines and resources for school libraries. As early as 1982 Canada was receiving international attention with the publication of *Partners in Action: The Library Resource Centre in the School Curriculum* by the Ontario Ministry of Education (1982). The document set partnership and collaboration as foundations of resource-based learning. More recently *Together for Learning: School Libraries and the Emergence of the Learning Commons* was published by the Ontario School Library Association (2010), with funding and support from the Ministry of Education. Envisioned as a living document, the *Together for Learning* project continues to collect ideas for implementation, shared on its website. Important projects have emerged from other jurisdictions, most notably the British Columbia Teacher-Librarians' Association's *Points of Inquiry: Inquiry-based Learning for Classroom and School Libraries* (2011), and the Saskatchewan School Library Association's *Teacher-librarians Constructing Understanding through Inquiry* (n.d.), better known as the Inquiry Project, which was created in collaboration with the Saskatchewan Teachers Federation and the Saskatchewan Ministry of Education. *Leading Learning* also draws on exemplars from other jurisdictions, particularly the American Association of School Librarians' *Standards for the 21st Century Learner* (2007) and associated publications.

There is no question that Canada's community of teacher-librarians has taken considerable inspiration from the work of Dr. David Loertscher and Carol Koechlin, writing coordinator for the *Leading Learning* project and co-author of this paper. Their vision for conceptualizing the school library program as the catalyst for transforming learning for the 21st century inspired Together for Learning and other landmark documents, and has captured the imagination of the wider education community.

> Thus, we have proposed that the learning commons serve a unique purpose in the school as a bridge between educational philosophy being practiced and the real world. As such, the learning commons serves school curriculum but also is known as a place for experimenting, playing, making, doing, thinking, collaborating, and growing. For example, it may be the only place in the school where the networks are open; it may be the place where clients are experimenting with the latest 3-D printer; it may be the virtual hub of school activities. Although the learning commons will look and feel different in every school, it must be the center of inquiry, digital citizenship, project-based learning, collaborative intelligence, advanced literacy as well as the center of creating, performing, and sharing. It will sometimes take on a role as "third space," neither home nor school. It is the place young people love—their space. (Loertscher & Koechlin, 2014)

As a standards document, *Leading Learning* sets itself apart. The strong conviction that emerged from the massive collaborative process was that an arbitrary and inflexible set of standards, no matter if they were based on the latest thinking and best research, would not be useful in the Canadian context. Expectations of seemingly unattainable program and staffing models would disenfranchise many dedicated people who were nevertheless devoted library employees or volunteers. Standards that did not acknowledge and build on the compelling international research that indicates that the value of the school library is derived from the teacher-librarian (LRC, 2013) would, on the other hand, disenfranchise this dedicated profession and defeat the overall purpose.

Rather than setting an arbitrary assessment rubric, then, *Leading Learning* focuses on growth and a culture of learning and continuous improvement. The standards themselves are expressions of the core actions that effective school library learning commons programs take to have an impact on student learning. Progress in achieving effectiveness for each standard is expressed in terms of growth. The growth indicators help schools to identify strengths and areas of need, and steps that they can take to address those needs. Every school can find its place, and be empowered to move forward.

> Evaluation of practice is an essential aspect of implementing the new Standards of Practice for School Libraries in Canada. School libraries and school librarians are rarely evaluated in a consistent and systematic way, but evaluations help to ensure that the library's programs and services are 'relentlessly focused on learning.' Evaluations

> can indicate the extent to which students and teachers perceive that they benefit from those programs and services, but they can also help to shape those programs and services and enhance the understanding of and commitment to those programs and services for both library staff and library users. Evaluations can enhance both accountability and transformation, addressing decision-making or problem solving concerns (accountability) and also influencing people's thinking about and developing support for the school library (transformation). (Oberg, 2014)

The document models formative assessment, and the indicators are expressed as impacts on learning, not as arbitrary outputs that are not expressly connected to student learning.

Overview of Standards

The learning commons concepts for school libraries have roots in many districts in Canada and this approach to reinvention is cast in the document as a solution for developing a new culture of learning and leading us into designing for the future.

> A learning commons is a whole school approach to building a participatory learning community. The library learning commons is the physical and virtual collaborative learning hub of the school. It is designed to engineer and drive future-oriented learning and teaching throughout the entire school. Inquiry, project/problem-based learning experiences are designed as catalysts for intellectual engagement with information, ideas, thinking, and dialogue. Reading thrives, learning literacies and technology competencies evolve, and critical thinking, creativity, innovation and playing to learn are nourished. Everyone is a learner; everyone is a teacher working collaboratively toward excellence. (CLA, 2014)

The framework for school library transitions consists of five bold standards of practice broken down into specific themes. The work of an effective School Library Learning Commons (SLLC) is most powerful when the core standards of practice weave together to generate dynamic learning.

The five core standards of practice from *Leading Learning: Standards Of Practice For School Library Learning Commons In Canada.* (CLA 2014)

Facilitating Collaborative Engagement to Cultivate/Empower a Community of Learners: Local, regional and global connections are a vital part of the 21st Century learning environment. The learning commons plays a key role in cultivating and facilitating collaboration to provide rich experiential learning opportunities. It provides not only a physical space to develop skills and engage learners, but also is a portal to virtual connections, both local and global. It is important to acknowledge the diverse needs of all stakeholders within the school learning commons community, both in terms of resource formats and access to information and collaboration opportunities.

Leading the Learning Community to Achieve School Goals: Strong leadership for the learning commons is vital to ensure sustainability and attainment of school, jurisdiction and provincial student learning goals and outcomes. Forming a team to lead the learning commons is an effective way to intentionally plan for and assess the success of the goals of this learning space. The ultimate goal is improved student achievement and the refining of essential literacy, information management and communication skills. As such, it is also key to build in opportunities for student learning and innovation to be demonstrated, shared and showcased.

Cultivating Effective Instructional Design to Co-plan, Teach and Assess Learning: Knowledge-building, creativity and innovation, and honing of information management and literacy skills are key goals of the learning commons. The intentional teaching of these skills, as well as opportunities to utilize a variety of resources, technologies and spaces to support learning require collaboration and planning and thoughtful

instructional design, as does the effective assessment of learning. Learners also need to 'learn how to learn' though deliberate design of opportunities to build metacognition of learning skills, process and content. It is essential to support both student and teacher growth and success in these areas.

Fostering Literacy to Empower Life-Long Learners: With the explosion of new technologies and methods of communication come expanding understandings of literacy which have made the refinement and demonstration of strong literacy skills ever more important for learners. Exploring and connecting various ways of knowing and learning is part of the process of personalizing learning and involves embracing new ideas and skills. The School Library Learning Commons has a leading role in assisting learners to hone and apply an expanded notion of literacy.

Designing Learning Environments to Support Participatory Learning: Active and knowledgeable involvement in participatory learning is a necessary skill for today's learners. Learners are moving from being only consumers of information to active producers and participants. Recent advances in technology have enabled individuals to actively and quickly comment on the work of others, as well as produce and share their own work. Inherent in these activities is the importance of security, privacy and good citizenship practices as well as effective collaboration skills and ensuring accessibility for all. Working together in groups, both virtually and in person is the new norm. A learning commons can provide both the physical and virtual learning environments as well as support necessary to be an active participatory learner. Learning commons spaces, collections and tools are changing in response to this paradigm shift.

A Catalyst for Igniting Change

"Learners have a right to expect good school libraries in every school in Canada." (CLA, 2014). The new standards call for a reinvestment in school library facilities, programs and staffing based on learner needs and the future of learning. With a deliberate focus on inclusion of every school regardless of the state of their school library this document provides points of entry for everyone and a framework for growth.

Leading Learning has the potential to transform school libraries in many ways. As a catalyst for igniting the design of futures oriented learning the document also can be viewed as an approach to building a new culture of learning (Thomas & Seely Brown, 2011) in a school. The standards are designed to foster teaching partnerships and build a community of learners. To be successful and sustainable these transformations need to grow from collaborative leadership. Administration, teachers, specialist, support staff,

students and parents are all partners and leaders in this quest to provide the best learning environments and programs possible. *Leading Learning* calls for thoughtful action grounded in success indicators and based on best practice over a continuum of experience levels. Consequently the document can be used in many ways to meet the needs of each school community: as an implementation guide for transition to a school library learning commons, as a measurement tool and framework for growth, as professional development for teacher-librarians, administrators and school library learning commons teams and as a support for teacher action research.

Implementation Guide

The document is deliberately designed to provide many points of entry for schools planning on transitioning the school library to better address the teaching and learning needs of the school. The standards are not aligned hierarchically because they are very dependent on one another and overlap to drive synergy and sustainability of this approach. Consequently trying to start with implementation as a step-by-step process through each standard is not recommended.

Key steps for implementation are provided in the Moving Forward section. The first key understanding is to establish right from the start that this is a whole school approach not just a library upgrade. The second concept to establish is that this is not the isolated work of the teacher-librarian or library support staff. A team effort is required if any lasting transformation is to be achieved. Implementation of the standards is more than changing the appearance of the library, although that may be a needed outcome to enable desired program. The standards of practice are designed to transition teaching and learning in concert with building collaborative physical and virtual learning environments. Best results will be achieved when the learning commons work is woven into addressing school goals through school improvement plans.

Renowned researcher and champion of the work of teacher- librarians and school libraries, Dr. Ross Todd, supports pedagogical function as the future of effective and sustainable school libraries. He outlines key principles that mirror the potential and possibilities overarching *Leading Learning*. "These principles center on the school library as a center for pedagogical development, innovation, and experimentation; the pervasive visibility of the school librarian as a teacher and coteacher; an inquiry-centered pedagogy; a content knowledge–outcomes orientation; and the advancement of social justice and learning for life capabilities." (Todd, 2013)

Seven steps to success are outlined and expanded upon in the document and supported by worksheets and strategies and tips for achieving needed physical changes as well as building a virtual learning commons to provide support and learning spaces for students and teachers from any place any time they need it. The very first step is to establish a Learning Commons Leadership team committed to the long-term transition and implementation. This team should be as representative as possible of the school community and not appointed, but invited to lead. Then the team moves forward with study, analysis and action oriented stages of progress interwoven with constant review and evidence based growth. The final reminder is to know that there is no definitive destination point other than providing the best learning environment and program possible for learners. The learning commons is always in a state of beta, constantly evolving to address shifting needs. This is the strength and the promise for sustainable school improvement.

The writing team also recognized that support and inspiration is not limited to the school community. Indicators for needed actions by central support staff, consultants and administration are woven into the standards growth continuums. With commitment from regional and provincial leaders to futures oriented learning commons the potential of the standards can be recognized. Key recommendations are outlined with examples to support continued growth at the local, regional and provincial and territorial level.

Measurement / Growth Tool

The standards are broken down into themes and then indicators of progress across a continuum of levels. Each level builds on the next from early 'Exploration' and progressing to 'Leading into the Future.'

***Leading Learning* Growth Stages** (CLA, 2014)

Each indicator is then illustrated with a 'See it in Action' experience from schools all over Canada. These real examples of library learning commons standards in practice will make it easy for schools to assess where they are in terms of each standard and theme. They will discover that they may be 'Established' in their practice in some indicators but 'Exploring' in others. This framework will help schools establish where their strengths are and also assist them to set goals for growth. With the focus on the learner the assessments schools and district will conduct will not be about the number of resources or technology tools available to students but how those resources

and technologies enable learning and knowledge building. The indicators will help measure how the library learning commons program and facilities meet school goals by supporting inquiry, building reading capacity, enabling collaborations, igniting creativity, and so much more. The bottom line and the real strength of the standards framework is to invite and encourage continued growth for students, teachers and the entire school community.

Professional Learning

The introduction of *Leading Learning* gives a good overview of the vision of a library learning commons and goals of the document. The entire document is rich with live links to illustrations of the document in action from almost every corner of Canada. These illustrations provide hundreds of authentic learning opportunities for administrators, teachers and parents new to the learning commons approach as well as extended learning for those already seasoned in this movement. In the Moving Forward section a page of illustrated suggestions for professional growth, reflection and renewal provide a practical entry point for professional learning. A glossary of terms and an extensive bibliography provide in depth support for further study. Training programs for teacher librarians and school library support personnel welcome a national set of standards to provide continuity of training from district to district. The online PDF and embedded links ensure that course instructors can easily embed elements of the standards into course work. The document itself is structured in such a way as to make it easy for professional learning communities in districts and schools to embark on studies of the learning commons approach.

Teacher Action Research

Implementation and sustainability of the learning commons model like any pedagogical movement depends on continuous gathering of evidence and research to support growth. "Teacher-librarians can study issues pertinent to their own professional growth and the school's student learning goals through action research as a professional development tool in order to take action that facilitates a desired change or answers significant questions related to learning, teaching, and professional growth." (Sykes, 2013). Teacher-led action research is key to moving forward the Canadian standards of practice for the school library learning commons within the context of each school. Principals, teacher-librarians, library support personnel and classroom teachers will approach the research from their respective perspectives and all are needed to ensure desired results. Collaborative teacher inquiry is another approach and fits so well with the co-teaching and collaboration goals of the learning commons.

> *Engaging in inquiry by oneself does not have the same impact as collaborative inquiry. Research suggests that teachers make and sustain valued changes to their practice when they collaboratively construct, monitor and adapt context-specific approaches to address their goals. In collaborative inquiry teachers work together to define problems, co-plan, co-teach, co-monitor and interpret outcomes, and then consider together "what's next." When teachers collaboratively develop and test their own conceptions, they can better grapple with new theories and practices.* (Schnellert, 2015).

Researchers can target specific indicators from the standards to focus their research. What's working well? What needs to change? What would you like to experiment with? What are you doing now that you can stop? How will you know you are making progress? These and many more questions will guide each inquiry in order to improve pedagogy and practice in the school library. The challenge remains to aggregate and share learning with the broader education community and for the benefit of overall program growth. This has been and remains at the core of Treasure Mountain Canada's vision, the incubator for *Leading Learning*.

Collaborative Leadership Opportunities

A successful school library learning commons has an impact across the school community and its learning culture. It is critical then, that the entire school community collaborate in building success. "It is to be emphasized that the transformation from school library to the learning commons perspective is a 'whole school' transformation. Thus this integral work around learning and teaching should not be viewed as 'extra work' or needing 'extra time' but inherent and vital to the support and growth of the whole school development plan." (CLA, 2014)

Collaboration can exist on many levels, and indeed successful growth depends on the extent of that collaboration, and the extent to which it is perceived as being essential to overall school improvement planning.

Moving Forward (CLA, 2014)

Leading Learning describes opportunities for collaborative leadership on multiple levels:

Learning Commons Leadership Team: Collaborative teams leading whole school ownership of learning commons development and responsibilities will propel transitions, implementation, experimentation and sustainability. Everyone needs to be welcomed to the process and do their part - principals and other school administrators, teachers, teacher-librarians, library technicians, community librarians, parents and students. Transitioning to effective learning commons practice is a continuous journey that will take different amounts of time for schools. It is a whole school effort with a team approach and varied roles and responsibilities. The important part is to begin, set goals, achieve, celebrate and keep getting better!

Principal and Teacher-Librarian: Working together toward school goals the principal and teacher-librarian can develop action plans, align budget needs, plan for professional learning, foster dispositions and create learning environments to enable collaborations in the learning commons. "At the school level, the principal is key in establishing and encouraging working partnerships among staff and students. The principal must provide the climate for cooperation, experimentation and growth. The Learning Commons has great potential, but only when everyone participates." (OSLA 2010)

Teacher-Librarian and Teachers: Teachers and teacher-librarians work together in many ways to implement curriculum enabled by literacies instruction and best technologies for learning. They not only co-plan, teach

and assess learning experiences but they also partner on literacy initiatives and cultural events.

Teacher-Librarians and Specialists: Other specialists in the school such as technology and reading coaches, guidance teachers and special needs teachers can all benefit from the opportunities to partner with the teacher-librarian and other teachers in the learning commons. The learning commons provides common spaces and resources both physical and virtual to make working together more efficient and productive.

Teacher-Librarian and Students: Students experience the library learning commons in many ways, as part of a whole class visit, individually as they pursue their own learning or explore their reading options, through participation in events and clubs, in every aspect of their development as learners and as responsible and caring citizens. Teacher-librarians cultivate relationships with students built on a culture of learning. Including student voice in program renewal keeps the focus on their needs.

Students and Students: Collaborative learning is at the heart of the learning commons vision. "The library learning commons plays a key role in cultivating and facilitating collaboration to provide rich experiential learning opportunities. It provides not only a physical space to develop skills and engage learners, but is also a portal to virtual connections, both local and global." (CLA, 2014). Most importantly, the instructional approach should intentionally help students realize the power of collaborative knowledge building, where "the smartest person in the room is the room itself." (Weinberger, 2012)

Teacher-Librarian / Learning Commons Team with Parents and Community: As the learning commons team builds capacity and connections, outreach to the broader community through the learning program and in school initiatives will build understanding of the school library at the core of the school and student success.

District Level: Schools can accomplish significant improvement, but efforts may be significantly compromised if the value of the school library learning commons is not understood at the district level. At the most basic level, district administration provide efficient and effective technological infrastructure for library systems and networks. School districts where administration and program consultants work collaboratively with teacher-librarians for professional learning, and facilitating teacher research and experimentation with new technologies and learning strategies and support collaboration between teacher-librarians and teachers across the district build greater capacity for system and for school improvement.

If the transition to a learning commons is understood as only being the teacher-librarian's responsibility, then it is doomed to failure. Collaborative leadership on multiple levels is essential for realizing the strength of the collaborative learning culture of a true learning commons approach. When the goals and strategies for improving the school library are an integral part of school improvement planning.

Making a Difference

CLA Executive Council representative Jane Schmidt cuts the ribbon, held by project steering committee members Linda Shantz-Kerestezes and Judith Sykes at the release of Leading Learning at the CLA National Conference 2014 in Victoria, British Columbia.

Barely a year old, the new standards have received recognition nationally and internationally. Provincial library associations and regional school districts have embraced *Leading Learning: Standards of Practice for School Library Learning Commons in Canada* as a framework for school libraries to move forward with pedagogical shifts and information and technology realities. Conferences, workshops, webinars and professional articles and blogs feature implementation of *Leading Learning* and the learning commons approach. Work to implement the Alberta Ministry of Education Learning Commons Policy turns to *Leading Learning* for robust standards and indicators of success in a webinar series developed by Judith Sykes and Linda Shantz-Kerestezes (2015).

Ellen Goldfinch from the Quebec Ministry of Education (MELS) has been hired for a special project funded by the Canada Quebec Entente for Minority Language Education. Part of her role is to help school libraries implement the national school library standards within the English sector in Quebec. The Quebec School Librarians Network (QSLiN) has developed a digital badging learning incentive program (QSLiN, 2015) based on the five CLA national standards to lead transition of English school libraries in Quebec.

School library leaders from the four school districts in Winnipeg, Manitoba organized a full day of professional learning for their teacher-librarians centred around the implementation of *Leading Learning* (Brooks Kirkland, 2014). Jo-Anne Gibson, teacher-librarian at Acadia Junior High reports that the school administration included this statement in this year's school plan. "21st Century Learning: Library team will be evaluating where Acadia is currently on the library learning commons continuum as articulated in the document, *Leading Learning: Standards of Practice for School Library Learning Commons in Canada* (2014). Administration and the learning commons leadership team will meet to develop a 3-5 year plan to move Acadia forward along the continuum towards the highest level, *Leading into the Future*, as identified in the standards document" (Gibson, 2014).

In British Columbia the learning commons approach is gaining solid momentum. A group of dedicated elementary and secondary teacher-librarians conducted teacher inquiry on their transitions and have prepared a report of their findings transformed into action ideas and extensive narratives from each teacher-librarian project, in a document called *From Library to Learning Commons: A Proactive Model for Educational Change*, published by the British Columbia Teacher-Librarians' Association (Ekdahl & Zubke, 2014).

Chris Kennedy, Superintendent of Schools / CIO at the West Vancouver School District has embraced the learning commons approach for West Vancouver schools. "I walk into almost all of our schools in West Vancouver and very often the first thing people want to show me or talk to me about is the changes happening around the library. Or more specifically, schools are taking great pride in their learning commons spaces that are developing. While the physical spaces are exciting, the changes to our mindsets are far more powerful. We are not destined for new schools in West Vancouver anytime soon but the rethink of the library has been both a symbolic and concrete shift in how we think about space and how we think about learning. The school library – a centre piece in schools – is now the modern hub for learning." (Kennedy, 2015)

The Royal Society of Canada's recently released expert panel report on the status and future of Canada's libraries and archives (Demers, Beaudry et al, 2014) made recommendations for improving standards for school library programs across the country. It cited *Leading Learning* and the Ontario guideline document *Together for Learning* as models for moving forward, and called for a national policy consensus on the most appropriate model for school library learning commons "to maximize their contribution to the K-12 experience and its learning outcomes". The Ontario Library Association

awarded *Leading Learning* the very prestigious President's Award for Exceptional Achievement at OLA Super Conference in January 2015.

Internationally the standards document has been well received as a fresh approach. Lynn Hay, Head of Professional Learning at Syba Academy, Adjunct Lecturer, School of Information Studies, Faculty of Education Charles Sturt University and a noted champion of school libraries in Australia proclaims, "This is an important and timely document for teacher librarians worldwide. This document presents a vision-building blueprint for school communities to transform their school library into a 21C learning centre. Strengths of this document include the standards framework for building a vision, and the transitional growth continuum of indicators of success from Exploring through to Leading – this is brilliant! This is a must read for all school library professionals and principals." (Hay, 2014). Dianne Oberg shared *Leading Learning* at IASL Regional Conference this spring in Austin Texas. Judith Sykes and Carol Koechlin have co-authored a chapter on the development of the Canadian standards for a new IFLA publication, *Global Action on School Library Guidelines*.

We celebrate this opportunity to further the vision and goals of our Canadian standards document with this international audience. One of the goals of this conference is to "arouse bustle and an atmosphere of 'revitalisation' of the school library." (IASL, 2015). We hope readers of this paper are indeed excited by the possibilities we have shared. We are cognizant that not only every nation but every school will have different wants and needs for school libraries so no set model will work for everyone and so it should be. The very essence of a learning commons is responsiveness to evolving needs. Regardless of difference every school has a common desire to provide the best education possible for students and empower them with skills, dispositions and attitudes that prepare them for a lifetime of work, play and learning in our complex world. Nations invest in education because it matters. School libraries matter. *Leading Learning: Standards of Practice for school Library Learning Commons* offers a timely path for learning and growing today and into the future. It is time to reinvest in school libraries as learning commons.

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Impact of Shifting to a Learning Commons Model

Nancy A. Chiara

Introduction

This report outlines an action based research project focused on studying the transformation of an urban high school media center to a learning commons model. The study included a descriptive account as well as the impact of steps taken to match the media center to the needs of the 21st century learner. The research focused on shifting policies from traditional practices to those that better serve the needs of the students and staff. The research used a combination of qualitative and quantitative data to determine if changing specific library media center policies and procedures would result in higher rates of circulation and increase positive attitudes toward the library media center. The shift in policies and procedures were based on the library learning commons model with special attention given to accessibility and learning climate.

The learning commons concept is a movement that shifts libraries from the quiet, study hall where individuals worked alone and in silence to an environment that accommodates the personality and needs of the current student (Bentheim, 2010; Cicchetti, 2010; Diggs & Loertscher, 2009; Harland, 2011; Hart, 2005; Koechlin, Zwaan & Loertscher, 2008; Loertscher & Koechlin, 2011, 2012; Waskow, 2011; White, 2011). A learning commons space requires some physical adjustments to the space as well as a shift in attitudes for all concerned. Students need space for collaboration and access to computers, cameras, print and electronic sources, and areas for building products that reflect their work; therefore, library staff must relinquish some level of control on the space. This is not to imply that rules and procedures are eliminated; only that students are put in the position to guide their learning and that the environment is student-centered rather than teacher-centered.

The intent of this study was to answer the research question, "Will altering several library policies, procedures and the physical environment of the library result in changes in the number of library visits and circulation?" The data were disaggregated to see if there were any differences between ethnic groups, gender, and age groups. In order to answer these questions, a student survey based on one suggested by the American Library Association was conducted before and after changes in the library program were made. Some minor adjustments were made to some of the questions such as adding more choices under the race category and asking specifically about online databases available in the school library rather than generic research

questions. The project required surveying the students early in the 2013-2014 school year to gather baseline data about library usage and attitudes, spend the next 3 months instituting a number changes in the library policies and procedures then resurveying to measure any changes in responses. A focus group was used to generate ideas for possible changes in addition to any changes selected by the researcher and library authority. These changes were made with the approval of the school administration. In addition to measuring changes in attitude and library usage, the survey was also used to identify any demographic category that may be under represented. The goal was to provide a library media program that meets the needs of all students, regardless of race, gender, grade or age and where all students feel comfortable.

Statement of the Problem

A foundational goal of this project was to transform the media center into a fully functional learning center in which students, teachers, and administrators view the media center as a critical component of helping ensure student learning and support the school's mission of ensuring that "all students become responsible citizens who are college or career ready when they graduate" (Mission Statement, 2012). The researcher selected areas for improvement such as the physical layout in the media center, the hours opening for student access, and adjustments in the circulation policy as initial areas for study.

As the researcher was both a teacher and librarian, the conceptual framework for the research project was based on guidelines and policies specific to both fields. The American Library Association's (2009) *Empowering Learners: Guidelines for School Library Media Programs* and the Kentucky Department of Education (2012) *Library Media Characteristics of Highly Effective Teaching and Learning* provided the basis for the four areas of focus at the center of the study:

1. Learning climate is inclusive, welcoming, and encourages participation.
2. Reflection and assessment is continual; always intended to meet the ever changing needs of the students and staff.
3. Instructional strategies and activities are relevant, rigorous, and appropriate for 21st century learner.
4. The media center staff is knowledgeable and approachable, delivering a variety of services based on the needs of the media center patron.

Methodology

This was an action research project conducted at the researcher's home school, specifically the library media center. This research followed Schmuck's (1997) step-by-step process for the Proactive Action Based research model. Data were collected using student surveys and focus groups. The surveys and questions from the surveys are taken from the text, *Power Tools: Forms and Presentations,* published by the American Library Association.

It is necessary to outline the policies and procedures in place before any changes were instituted. The following policies, which were adjusted and studied, included:

1. Hours 7:30-2:30 - Students were allowed to visit without a pass from 7:30-7:40 & 2:20-2:30. The remaining hours reflect the formal school day and students are in scheduled classes during this time. Students visiting individually during the school day must have written permission from their classroom teacher. Students may also be visiting with the entire class with their teacher as a collaborative activity with the media specialist.

Changes to this policy were opening at 7:15 for students with a morning pass. These passes were made by the media center staff and allowed the student to move to the library before the usual 7:30 bell. (Students were required to stay in either the main lobby or cafeteria upon arrival until the 7:30 bell. This is a security issue.) Open lunch was instituted to allow students to spend their lunch time in the library. Students were offered the opportunity to either come directly to the library at the beginning of the lunch period or go to the cafeteria and sign-out to go the library after eating. There were color coded passes for each lunch period which students used in the hallway. Again, security concerns preclude any free movement about the school unsupervised or without a pass. Students were not supposed to eat in the library because of the carpet and computers. However, students were allowed to eat snacks in the seating area near the front door. After school hours were also added as part of the school-wide Extended School Year program. This program was initiated simultaneously with the beginning of the study. The media specialist stayed until 5pm Monday, Wednesday, and Thursday. Initially, the media center was only open on Mondays, but in response to student requests, additional days were added. In order to calculate the number of students visiting the library, a sign-in sheet was used.

2. Circulation – Students were permitted to check out no more than 2 items for 2 weeks. Items could be renewed for additional time but must

be physically in the library to be renewed. Students were not allowed to check out an item if they have an overdue item even if the item limit had not been reached.

Changes to these policies allowed students to check-out items without an ID. Students who were regular patrons visiting at least weekly were allowed additional items beyond the 2 item limit. Items were renewed without the student bringing the item to the media center.

3. Materials available for circulation – Students were only permitted to check out books. Only staff and faculty members were permitted to check out audio-visual materials and equipment.

The only change to this policy was to allow flip cameras and certain movies for student check-out.

The following Figures 1 and 2 illustrate the layout of the media center before and after rearranging. The initial set-up blocked off one complete corner for a teacher work space that was rarely used. Both the library media specialist and the library clerk worked mainly at the circulation desk by the entrance door. This made it difficult for the media specialist to supervise students as the line of sight was blocked by interior walls. The area for large groups was directly in the middle of the room which made it difficult for multiple classes to visit the media center simultaneously. The close proximity to the individual work stations made it difficult for students to work without distractions when surrounded by students moving about browsing for books or working at a desktop.

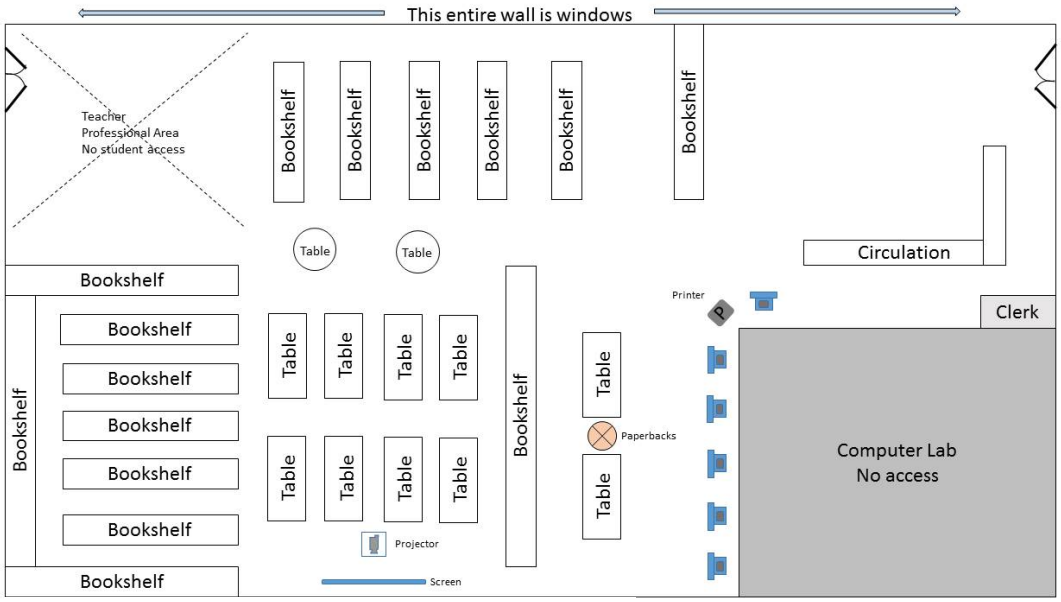

Figure 1. Library layout before changes

The new arrangement moved the media specialist to the center of the media center which facilitates easy supervision of students and access for students. The class area is off in one corner where there is ample room and enough separation for students to work without distractions and noise. It was possible to shift the class area because the media center has 2 laptop carts with 15 computers in each. The school is set-up for wireless internet service throughout and the printer is networked for all the computer stations, desktop and laptop, in the media center. Although the additional door is accessible, students were not allowed to enter through the classroom area door because of security concerns. Classes visiting the library with their teacher may use this access point if it is more convenient than the main entrance in the lounge area. The area near the entrance is a lounge area for students to relax and talk quietly. All English classes were scheduled media center visits for a brief overview of the new policies and to give the students a chance to look around and familiarize themselves with the new arrangements. Students indicated their approval of the new arrangement in informal circumstances such as conversation with the library staff. The survey and focus group also indicated their approval of the new arrangement.

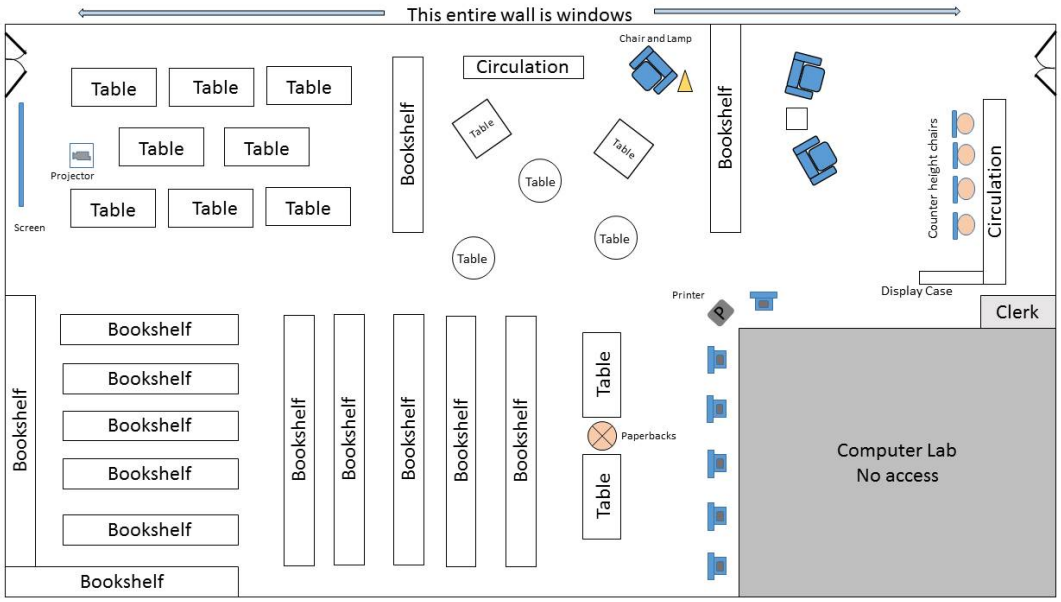

Figure 2. Library layout after changes

A record of classes scheduled to visit the library was documented with a brief description of the activity. In order to measure individual student use and attitudes, an initial student survey was conducted early in the school year. The surveys included demographic data as well as attitudinal responses using a Likert-like scale. Changes to the circulation policies and the physical environment were made based on student input via the focus group,

responses on the initial survey, and researcher observations. A second survey was conducted after changes had been implemented and any change was identified and measured using a variety of statistical measurements.

Survey Description

Two school wide surveys were conducted as a pretest- posttest. The surveys were based on an American Library Association publication and included 20 questions containing demographics, self-reported frequencies of typical library behaviors and several questions on opinions and attitudes. The opinion questions were presented using a 4-point Likert type format ranging from Strongly Disagree to Strongly Agree and opened-ended responses. An even number of possible responses was used to force respondents to select an Agree or Disagree rather than selecting a neutral response. The surveys were anonymous and the data were not paired. It was not possible to gather the data electronically as there were not enough computers for everyone to complete the survey at one time. Administering the survey over a number of days or periods would have caused too much disruption to the school day and learning environment. Both surveys were conducted by 65 classroom teachers in their rooms. The initial survey was administered to all students in attendance at school on the Friday, September 6, 2013 during the Advisory class period from 8:48-9:23 and included 694 submitted surveys. The second survey was conducted on January 30, 2014 by classroom teachers during an intervention/enrichment period from 9:51-10:31and included 726 submitted surveys. Responses from all surveys were coded (including missing data) and analyzed by the researcher using *Statistical Package for the Social Sciences* (SPSS). The results of the two surveys were compared to measure the level of change and the corresponding effectiveness of the program adjustments. Descriptive statistics including gender, age, and race were tabulated and reported. Because the data collected from the survey was categorical, nominal, and ordinal in nature non-parametric tests (Leedy & Ormrod, 2013; Cohen, Manion & Morrison, 2003) such as the Mann Whitney U test, the Kruskal-Wallis H, and Chi-square test and were used to analyze the data and measure the significance of the findings. A significance level of 0.05 was used.

Student focus groups

The purpose of this research was to improve the media center at a specific school. It therefore seemed appropriate to gather information from the students who attend the school. Part of the process was to assess student satisfaction and allow the students to have a voice in developing new practices. The proactive-action research process (Schmuck, 1997) was a continual cycle of trying new ideas and evaluating the outcome through observation, student feedback, circulation data and the frequency of student

visits. Student input offered those new ideas. The focus group process used was based on methods specific to libraries and described in several research journals (Hughes-Hassel & Bishop, 2004; Shoaf, 2003; Wilson-Matusky, 2006). The focus group was a cross section of the student population, but participants were all members of the school library book club including approximately 40 students.

While not randomly selected, the students represented all grades, ethnic groups, genders, and academic achievement. The selection process used purposive and convenience sampling methods. Because this group already met regularly during the school day, there was no requirement to pull other students out of classes or include individuals that are not willing to participate in a meaningful, productive manner. Because the objective of this study was to improve the library media center program, the focus group was comprised of students who are familiar with the library media center and its staff (Wilson-Matusky, 2006). Additionally, because of the relationship between the researcher and the members of the book club, an outside facilitator was used for some of the focus group meetings. The inclusion of an outside interviewer was intended to provide an objective report of the focus groups' attitudes and opinions (Hughes-Hassell & Bishop, 2004).

Out-measures data collection

Circulation data were gathered for the last three school years, months August through January, using the media center's library management software, Library World. This data was compared to identify any changes in circulation during the period of the study. This database allowed for a variety of reporting tools such as circulation data by day, month, year; top patrons, top items circulating and number of searches performed. It was possible to identify which materials were circulating the most and when were time ranges of the highest-lowest circulation. Additionally, data were organized and assessed based on Frances Bryant Bradburn's (1999) guidance.

Internal validity was addressed by gathering data from multiple sources. This triangulation of data was designed to limit internal validity concerns. For instance, the focus group was asked to offer opinions on favorite titles and genres. Circulation data were gathered to compare most frequently checked-out items to see if this supported the focus group opinions. The survey responses and results were compared with the library sign-in sheet to determine if the number of students visiting the library matched the actual number. The data included subjective, qualitative information. The students know the researcher and that relationship may have affected their responses on the survey questions. This was a preliminary study carried out by an

individual researcher. Because of the nature of action research, generalizability cannot be assumed.

Conclusion

Overview of the Findings

The school in which the study took place was a Title I school with 79% of the students eligible for free/reduced lunch. The total enrollment for the school during 2013-2014 school year was 1029 with 58.1% males and 41.9% females. The racial make-up of the school was reported by the district as 47.9% black, 39.7% white and 12.4% other. The first student survey labeled Group 1 was conducted in September 2013 before any library changes and included 694 respondents. The second survey, or Group 2, was conducted in January 2014 after the library changes and included 723 respondents. The majority of respondents on both surveys were male with 386 (55.6%) on Survey 1 and 407 (56.1%) on Survey 2.

Summary of the Findings

This research project was intended to answer the question, "Will altering several library policies, procedures and the physical environment of the library result in changes in the number of library visits and circulation?" The resulting data indicated that this was indeed the case and also demonstrated the possibilities of making changes in student attitudes with very little effort on the part of the media specialist. Students reported an increase in their ability to find materials and also their willingness to ask for help. Students were asked similar questions such as "How often do you find what you are looking for in the school library?" and also asked to provide a rating of "I feel very comfortable finding materials in the library." Results to both of these questions showed significant increases indicating at least the students' perceptions of their competence increased. Similarly, the students were asked to rate their feelings about the helpfulness and friendliness of the library staff and also the sense of welcome felt regarding the library space. The results of both of these questions showed a significant increase in the feeling of welcome the students felt. A similar increase in positive feelings was shown regarding the question of the fairness of library policy and rules. While these questions do not measure a level of competence performing information literacy skills, the increase level of comfort and confidence are an indication of a stronger relationship between students and the library media center. The possible cause for these increases may be the accessibility and thus the familiarity with the library media center. Students were allowed to visit more often throughout the day including before and school. This allowed the library staff the opportunity to talk with students outside the classroom

environment. Students regularly stopped by to chat with the library staff or share about a success or a problem. While these are not necessarily academic pursuits, this connection was important in building relationships with students and encouraging them to ask for help. It is important to note that these changes involved all demographic groups. A sense of community is essential in the learning commons model and determining what steps could be taken cultivate that sense was a goal of this study. The results of the study indicate that the changes made, at least in this instance, are moving the library media program closer to a learning commons model.

The area that did not show any significant increase was confidence with collecting online information. It is interesting that the results for the question pertaining to confidence level with online databases increased while general online information decreased. It is possible this may be a result of students discovering they did not know as much about online searching as they might have thought. Searching online databases requires less attention to evaluating the credibility of the sources because articles were published in journals and magazines. Searching online requires the searcher to evaluate the source and the students may not feel completely comfortable with this process. This area of information literacy will be an area of focus for future library media activities in order to address students' needs. It is somewhat encouraging the students already recognized a need for furthering their online searching expertise. Overall, the survey provided a quick glimpse into the students' views regarding the library media center and provided a basis for comparison on those views. Table 1 provides the statistical data for each survey question.

Table 1
Overview of Statistical Results

Question	p-value	Difference
How often do you go to the school library?	$p \leq 0.01$	frequency of visits increased
How often do you find the materials you are looking for in school library?	p=0.00	frequency finding materials increased
How often do you ask the school library staff for help?	p=0.00	frequency asking for help increased

I feel very comfortable finding materials in the library.	p=0.00	level of comfort increased
I feel the library staff is very helpful and friendly.	p=0.00	positive feeling toward staff increased
I feel comfortable asking for help.	p=0.011	comfort level asking for help increased
I feel the library is a welcoming and friendly place.	p=0.00	positive feeling toward library atmosphere increased
I feel confident about using electronic databases, such as Kentucky Virtual Library.	p=0.008	confidence level using electronic databases increased
I feel confident about finding information online.	p=0.207	confidence level finding information online decreased
I feel the library rules and policies are fair.	p=0.00	feeling library rules are fair increased

The number of visits to the school library increased as did the positive comfort level with finding material and friendliness of the library staff.

Table 2

Circulation data showed an increase from the same period the previous school year (see Table 3). The increase in October 2013 corresponds with the implementation of morning hours and increasing the number of items allowed for check-out. The following months continue the trend of higher circulation except for December 2013. During this month, school was canceled two days and because of inclement weather.

The circulation rate was calculated as based on data from Library World library management software. The number of items circulating from 8/20/2012-2/17/2013 was 2666. The number of students enrolled during that time period was 913. Following Bradburn's method of calculating the circulation rate, the number of items was divided by the number of students resulting in 2.92 items circulating per student.

The circulation rate for 8/20/2013-2/17/2014 was calculated based on 3460 items circulating with a student enrollment of 1026. The circulation rate increased to 3.37. The turnover rate measures the average number of times an item circulates. The media center catalog lists 10899 books. Following Bradburn's method of calculating the turnover was calculated by dividing that total number of items in the media center by the number of items circulating results in 3.12. Data for troubleshooting and curriculum support requests were not included in this study as the numbers recorded were very small.

Table 3
Circulation Activity Report Comparing School Years 2011-2014

	2011-2012	2012-2013	2013-2014
August	17	230	122
September	601	595	617
October	324	396	1048
November	200	485	622
December	298	510	509
January	261	476	679
TOTAL	1701	2692	3597

The focus group discussions brought out an area of interest while discussing their individual views of what a library media center should look, sound, and feel like. While there was some disagreement on the desired sound and activity level, the group as a whole preferred an area free of classroom dictates and any specific learning goal. This part of the discussion reflected the desire for an opportunity to relax and read for pleasure rather than always for an assignment or measured goal. This sentiment matches some of the studies mentioned earlier that focused on reading enjoyment such as the Book Bistro model (Kasten & Wilfong, 2005) and the Cavazos-Kottle (2005) report on self- selected reading and student engagement of secondary students.

Circulation and library use data supported the findings of the survey and the general points brought out in the focus group discussion. Circulation increased corresponding to the frequency increase reported in the survey. While data reporting the specific activity of students were not collected formally during the before and after school library hours, the researcher can

add anecdotally that the five computer stations in the library were in use every morning and also in the afternoon. While some students relaxed, talked, and looked for books, about half of the morning group visited the library to use the computer to play games. This was not discouraged as it was before school. The students visiting in the afternoon also gravitated to computer stations although frequently for more academic pursuits such as homework, college application paperwork. Some of these students started visiting during the day for academic reasons and checking out books although the initial contact with the library was for recreational purposes. This concept matches the library learning commons model were students visit the library media center for a number of reasons.

Although the results of this study were encouraging, there were still areas for improvement. Even with the increase number of visits, there were still over 200 students that reported never visiting the school library (about 1 in every 5 students in the school). The other areas studied that showed improvement were still reporting means no higher than low 3s. Based on these results, it is evident that there are still significant numbers of students who do not visit the library or if they do, they do not feel comfortable in the place or with the staff. Some of this may just be a result of unfamiliarity. Having more of a presence in classrooms and taking part in orientation activities and a summer reading program may have a positive effect as well as more collaboration with teachers.

Recommendations for Media Specialists

The students expressed a desire for more accessibility to the library and for an increase in the print collection. While the students are comfortable with technology, there was a stated interest in printed books. It might be possible to include a media center orientation and discussion session during summer freshman orientation as a way to get new students involved with the media center. If a summer orientation is not feasible, a library visit during the beginning of the school year would be helpful although considering everything freshmen face in the first few weeks of high school, it may require multiple visits in order for students to begin to feel a connection to the library.

A parent's night or some type of parent orientation would also be helpful. This is an instance when technology may be useful. Many of our parents and guardians are not able to travel to the school, but it might be possible to provide some interaction through the school's LibGuides page. Including a series of videos might be a method for providing at least some type of introduction to the media specialist and the media program. A particular

software product such as the LibGuides might also be useful for increasing the library's presence in the school.

A student focus group or book club can act as informal spokesmen for the library by spreading the word and inviting friends to visit the library. Organizing exciting and engaging field trips for the book club may generate interest and prompt more students to visit the media to ask how they might get involved in the media center activities. Offering opportunities for fun is a way to entice students to the library media center.

Library media specialists may need to reevaluate their image of what a library media center should be in order to fit the needs of the 21st century learner. This is similar to the divergent views brought out by students and their opinions of the perfect library media center and leads to a realization that there needs to be some consensus throughout the school as regards to expectations in the media center. The students' displeasure with the occasional increased volume level in the library reflects the variety of expectations and management of the various teachers bringing their class to the library. There needs to be a balance between the expectations of the library media specialist and the classroom teacher who is also supervising the students during a library visit. The differing student opinions regarding the optimal atmosphere and environment illustrate the need for the school faculty to work in collaboration with the media specialist when scheduling library visits. It might be advisable to create a library learning commons working group within the school. This would be a team of teachers, the media specialist and maybe an administrator who would work together to create lessons, decide on policies and procedures and collection development. It can be a delicate matter for the library media specialist to address student behavior that may be acceptable in other situations but may not be appropriate when sharing the space with other classes working on a variety of assignments. Using a group to develop and agree on a set of expectations removes the media specialist from the position of disciplinarian for those occasional classes that may be behaving in inappropriate ways.

The learning commons allows for more flexibility in activities because the model is adaptable to the particular schools' needs. This flexibility should be capitalized. Depending on the size of the school, it might be necessary to add additional clerk positions to assist with technology projects and other activities that may require more individualized instruction. Above all, there needs to be a certain willingness to experiment and possibly fail. Educators ask students to try new things on a daily basis. We tell our students that they need to try and even if they are not completely successful. We need to be willing to follow that advice as well.

Conclusion

Ultimately, the goal of school library media center is to enhance learning and support the students and staff in the learning process. As reading has such a connection to so many educational activities, it is important to develop a school culture that embraces reading as both an educational and recreational activity regardless of the medium used to access the text. The Learning Commons model provides a welcoming, friendly space in the library media center that offers accessibility and choice to the students. Considering the pressure on schools with testing and accountability, it can be difficult to find the time to allow students to relax and read for pleasure although there is data which suggests there would be achievement gains if students had the opportunity and resources for more authentic, in context reading.

Finally, it should be mentioned that this type of study and library media program requires the cooperation of the faculty, staff, and administration. In order to regulate student movement and provide adequate supervision, a set of policies were put into place for students wishing to visit the library. Morning and lunch passes were made and a set of guidelines were developed. The staff monitoring the hall in the morning and during lunches was briefed and readily followed the guidelines. It would have been simpler for the faculty and administration to require the students to remain in the cafeteria and main lobby before school and not allow movement to library media center during lunch. However, the benefits of allowing students a certain level of freedom were considered and the result was more students visiting the library and an increase in the general sense of comfort with the library. This provides a foundation for taking the next step in building a library learning commons for all students.

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Focusing on Maker Education in SD57

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The Makered Mindset
"The central thesis is that students should engage in tinkering and making because they are powerful ways to learn"
Sylvia Libow Martinez and Gary Stager (2013)

"Making has been part of education but it is now gaining momentum as it becomes more focused, dedicated and intentional. It fosters blending creativity, inquiry, and kinesthetic learning. At all levels learners are developing skills and dispositions that contribute to success and personal expertise. The growth of creative thinking and independence is difficult to thoroughly define in a manner that fits all because we are unique, our learning paths distinct, and success for the individual varies greatly."

David V Loertscher, Leslie Preddy, and Bill Derry (2013)

Like any change within a system, new adopters ask, "Who started this *Revolution*?" Well, there were no angry farmers with pitchforks or burning torches parading into the night in School District 57. Instead, there were pockets of hunches and innovation that collided with the maker mindset to support learning that became focused and intentional. (Johnson 2010)

The 2013–2014 question of the year after four administrators, Nevio Rossi - Harwin Elementary, Deb Kaban - Van Bien Elementary, Kirk Czechmeister - Heather Park Elementary and Monica Berra – District Learning Commons, introduced maker education and the uTEC Maker Model (Loertscher, Preddy and Derry 2013) was "What is maker education again?" The "again" was proof that principals and teachers had been walking around with the "hunch". So how do you describe maker education while walking to the car in twenty below? You don't have the most ideal circumstances. The idea of maker education was going to require vision that would need to be introduced, modeled, and encouraged by school leaders. Who better to bring woodwork, glue, paper airplanes, cooking, coding and all things maker into the school learning environment than learning commons teacher librarians and school principals? Our question became how do we support the culture of making and connect it to the BC Curriculum?

We knew that if this was going to be a shift in our school culture we would have to create an opportunity for teachers to participate in a plan that was collaborative and growth oriented. Teachers in our district have been supporting collaborative learning through a district initiated opportunity that encourages teachers to apply as a team to answer an inquiry question. The Learning Team Grants (LTGs) are designed to release teachers to collaborate; a simple concept with wide spread results. In September 2014, three very unique learning team grants focusing on maker education fostered

the messy collaborative educational environments to experiment and reflect to support personalized learning. Two of the LTGs were district wide and included learning commons teacher librarians and teachers from eleven schools. The third LTG engaged 15 educators from a single school. These three LTGs were teacher driven and provided ownership and resources necessary to create strong, trusting relationships that supported a dynamic learning culture. The LTGs created a learning environment where ideas and reflective practice could collide and reassemble. The unsure thinking became the catalyst for building and adoption. The lessons that were designed to empower learning by making were shared and adapted. The thinking was always moving and could not be harnessed in one direction, but the focus of learning by doing held the teams together. As the teams met, the borrowing and tinkering of ideas and lessons became the key to the collaborative growth plan. Barriers were looked at from different perspectives and the opportunity to problem solve allowed for greater collaboration. Just knowing that another member of your LTG team was experiencing the same frustration moved it from a barrier to a problem in progress. At the same time, the LTGs became a safe place to share success and build partnerships that enhanced each others' professional development. The LTGs supported challenge seekers in a cycle of thinking, learning, and making.

The three LTGs expanded on the ideas and framework of the uTEC Maker Model. The following is an example letter sent to parents of École Heather Park introducing the thinking behind the team's inquiry and key elements of maker education. This learning team included twelve teachers, the principal Kelly Johansen and the maker of all makers vice principal Kirk Czechmeister.

EXPLORATIONS

École Heather Park is once again offering an Explorations Program for all students in grades 4-7. This program will run on Thursday afternoons from April 2nd –June 4th 2015.

The Explorations program offers students targeted personalized learning opportunities based on their interests, and is framed around a

> "…trend that is pushing its way into more schools, the Maker Movement. The shift to "making" represents the perfect storm of new technological materials, expanded opportunities, learning through firsthand experience, and the basic human impulse to create. It offers the potential to make classrooms more child-centered: relevant and more sensitive to each child's remarkable capacity for intensity".

Source: http://www.scholastic.com/browse/article.jsp?id=3758336

At Heather Park, staff is specifically focusing the Explorations program on the uTEC Maker Model. This is a model that promotes…

1) Using (enjoying, sampling, engaging, playing)
2) Tinkering (playing, messing around, questioning, researching)
3) Experimenting (building, trying, failing, repurposing)
4) Creating (inventing, producing, entrepreneurship)

I invite parents/Guardians to read further on what Maker Ed and the uTEC Maker Model are all about at:
https://sites.google.com/site/utecmakermodel/
http://makered.org/

Here is a list of the Explorations students get to choose from.
Each student will be enrolled in 1 Exploration class.

1) Digital Photography and Video Editing, Mrs. Weisgarber
   - Grades 4-7
   - Learn how to create a video. We will be filming other Explorations Activities and interviewing students in those activities as one of the sources for our projects.

2) Model Airplanes, Mr. Czechmeister
   - Grades 4-7
   - Learn to build and paint a plastic model airplane. Reading and following instructions step by step is a key aspect of this workshop. Later, you will fly .049 gas String controlled airplanes on the big field and we will review the components of a Radio Control Airplane and an RC helicopter.

3) Computer Programming, Mr. Earle
   - Grades 4-7
   - Learn the basics of programming computers. Design your own computer game and challenge your friends.

4) Soapbox Cars, Mr. Pineault and Mrs. McCannon
   - Grades 6-7
   - Build a real Soapbox car out of wood and materials! You will work in teams of 4 and build a car that you can race on Heather Road when everyone is done.

5) "Transformers", Mr. Laupitz.
   - Grades 4-5
   - Tear down machines and make your own creations out of machines. See the samples from last year in the hallways upstairs. Students will also be involved in challenging others in designing and exploring real working machines with a variety of materials. Sure to be a lot of imaginative, educational, inventive FUN!

6) Baking, Mrs. Harms
   - Grades 4-7
   - Learn some of the basics of baking and enjoy eating what you make.

7) Hands On Engineering Projects, Mr. Edge
   - Grades 4-7
   - Build it, break it, float it, sink it, drop it, fix it, and improve it! Simple hands on projects to test your imagination.

8) Mars Colony, Mrs. Moulder
   - Grades 4-7
   - Have you heard that volunteers are being sought for a one way trip to Mars? What will the proposed Mars Colony look like? What will

they need to survive? What are the challenges to life on Mars? Will you be a volunteer to go? Build a replica of the Mars Colony with your classmates and discover wonderful things about space travel and Mars.

9) Knitting, Mrs. Bracey
- Grades 4-7
- Learn how to knit using a round knitting loom. It's fun, easy, and faster than knitting with needles. Come create a project with us.

10) Band, Mr. Mulligan
- Grades 6-7
- Learn to play an instrument. Students will learn from scratch to play instruments like clarinet, trumpet, flute, bass guitar, percussion, or saxophone. No musical experience necessary. Last year the Heather Park Band presented a thrilling final performance to "This too shall pass" by the band OK Go. Students will learn the basics of their instrument and learn to play together as a group

11) Tuff Little Mudders, Mrs. Attree & Mr. Millar
- Grades 4-7
- Fun games, activities and challenges designed to have students work cooperatively and use collaborative intelligence to solve problems in a competitive setting. This exploration course will help students build resiliency and a capacity for healthy competition. Games include Survivor, Mantracker in the woods, Greek Olympics, Roman Sentry Games and Heather Park's Tough Mudder Course. Come out, get active, work together, and get dirty!

12) Boot Camp, Mrs. Baltus
- Grades 4-7
- If you are interested in fitness or in maintaining your current level of fitness, then sign up for Boot Camp. There will be a variety of station activities... such as, lunges, tricep dips, squats, push-ups etc. This fast paced workout will be set to music and we will be using equipment such as, steppers, mats, and small weights. Materials needed: water bottle, gym strip, and runners.

13) Cardboard Creations, Mrs. Haugland
- Grades 4-7
- You would not believe what can be done with simple Cardboard! Create the most unusual items out of cardboard with your classmates. Examples include Play houses, garages for toys, boxes, doll-houses, and more.

14) Art Using Natural Media, Mrs. Pomeroy
- Grades 4-7
- In this Explorations course, students will be encouraged to take the time to enjoy what nature has to offer and become aware of their surroundings. They will use this awareness to find and use natural materials to create artwork. Students will go on a nature scavenger hunt, explore trails surrounding Heather Park, create outdoor mandalas, research outdoor artists, create, and photograph their own unique outdoor art pieces. Let's reconnect with the natural world!

The second LTG, Social Emotional Learning and Self-Regulation Supported by MakerEd, included four learning commons teacher librarians Leanne Berry (Heritage Elementary), Michelle Labonte (Quinson Elementary), Jessica Bonin (Spruceland Traditional), Andrea Brown (College Heights Elementary) and teacher Jennifer Waughtal Goldstein (Harwin Elementary). Jennifer's teaching position was to infuse making into social and emotional learning.

The third LTG, *Programming: MakerEd*, brought together learning commons teacher librarian Joseph Jeffery (Polaris Montessori), French immersion classroom teacher Cliff Waldie, high school teacher Jerry Bleecker, and a member of the SETBC team, Scott McKay. All three teams presented their work at a planned celebration of learning organized by our Learning Innovations Department. The repeated message was that *making is engaging, and creating requires thinking and constructivism by teachers and students*. Those attending the session encouraged the teams to share their journey so that others could build on their ideas and momentum. Beginning in May 2015, the learning commons teacher librarians made the professional step out of their school spaces and began to share what they had learned with others in their LTGs.

Presentations by SD57 Learning Common Teacher Librarians to Support Maker Education

May 2015 Beyond Hope (The Prince George Public Library & North Central Library Federation)

- Jessica Bonin MINECRAFT: Digging into a world of creativity
- Looking for a fun and interactive way to get students hooked? Minecraft has taken over young minds, and we need to embrace this amazing opportunity for learning! In this hands on workshop, you will take home ideas and lessons that incorporate Minecraft into various parts of the curriculum, using digital media, as well as crafts and projects. There will also be information provided to run a successful after school program with ideas for large-scale events. Let's have fun learning about creepers, zombies, and how to mine for a "diamond "of ideas.

August 2015

- Monica Berra, Jessica Bonin, Leanne Berry, Michelle Labonte, Maria Weisgarber, Joseph Jeffery and Keynote Lisa Domeier De Suarez (SD36 Surrey)
- In Prince George, Lisa Domeier De Suarez and Monica Berra led us through an exciting and varied sharing session about makerspaces. They were joined by five SD57 Prince George teacher-librarians, Jessica Bonin, Leanne Berry, Michelle Labonte, Maria Weisgarber and Joseph Jeffery, who presented on their makerspace learning. In the afternoon, we were introduced to the Two Rivers Gallery MakerLab space and tools, and had a demonstration and Q&A of their laser cutter/engraver and 3D printed. Next, we got "hands-on" and tried out a maker activity involving gears and simple mechanical assembly and explored the Makey-Makey platform.
- Materials: Lisa's slides (.key) | Monica's slides (.pptx) | Joseph's slides + coding lesson plans Jessica's Minecraft Prezi + handout | Leanne and Michelle's lesson ideas handout | Maria's Maker Education Explorations slides (ppt) + text + handouts 1 2 3 | Art Gallery materials

September 2015 Prince George Mini Maker Faire

- The District Learning Commons joined the Prince George Mini Maker Faire steering committee in October 2014.
- Monica Berra and Beth Wilcox (Southridge Elementary), Karen Frederisckson (SD59 - Pease River South), and Felisha Martin (Future Goals - EverFi) hosted a booth “Not A Stick”. #PGMakerFaire

October 2015 British Columbia Teacher Librarian Association Conference

- Jessica Bonin – Minecraft: Building Your Own Path
- Looking for a fun and interactive way to get students hooked? Minecraft has taken over young minds, and we need to embrace this amazing opportunity for learning! In this hands on workshop, you will take home ideas and lessons that incorporate Minecraft into various parts of the curriculum, using digital media, as well as crafts and projects. There will also be information provided to run a successful after school program with ideas for large-scale events. Let's have fun learning about creepers, zombies, and how to mine for a “diamond “of ideas.
- Leanne Berry and Michelle Labonte – LowTech/No Tech Maker Education in the Library
- Our session is designed to help teachers bring maker education into their classrooms and learning commons with a connection to literature. Our lessons involve recycled or dollar store materials so are low cost lessons.
- Maria Weisgarber - Getting Started with Digital Photography and Video Creation
- Introduce your students to the basics of digital photography – picture format and size, flash, colour, distance, angle, panning, horizon and rule of thirds. Create short video clips. Use Windows MovieMaker to make a simple video

November 2015 IT4K12 ERAC

- Joseph Jeffery (Polaris Montessori) From Tweeters to Team: Our Coding Journey
- This presentation is focused on how our team went from a group of like-minded tweeters in our district to a team focused on creating a maker education curriculum around coding for use within our district. Our journey also included the use of Google Docs and other online apps to collaborate and run the curriculum in two parallel schools, reflecting and sharing with each other the results of our lessons.
- Jessica Bonin – Minecraft: Building Your Own Path
- Looking for a fun and interactive way to get students hooked? Minecraft has taken over young minds, and we need to embrace this amazing opportunity for learning! In this hands on workshop, you will take home ideas and lessons that incorporate Minecraft into various parts of the curriculum, using digital media, as well as crafts and projects. There will also be information provided to run a successful after school program with ideas for large-scale events. Let's have fun learning about creepers, zombies, and how to mine for a “diamond “of ideas.

After two years, SD57 is building on the cycle of small, successful experiments that has resulted in very specific school programs. Harwin Elementary has created a position for a maker teacher to support social and emotional learning for high risk students. Heather Park Elementary is celebrating making in a 10 week cycle of maker education. Kirk Czchmeister is bringing his experience from Heather Park to Buckhorn and Hixon. Kelly Road Secondary has created a grade 8 course entitled Maker Education.

Schools are in the process of creating space and opportunities for maker education. Kelly Road Secondary, Edgewood, Quinson Blackburn, Glenview, Hart Highlands, Harwin, Heather Park, Heritage, Morfeee, Nusdeh Yoh, Pineview, Polaris, Southridge, Spruceland have identified specific actions as a school to support making in the learning commons. In the maker mindset we are embracing the opportunity to give students ownership of their own learning as they problem solve and explore possibility thinking. It is with a constructivist approach that we are actively and intentionally creating flexible, learner centered learning spaces to support maker education with purpose and relevance.

Website: Building Student Success – BC's New Curriculum
Learner at the center: BC's renewed provincial curriculum places learners at the center of the learning landscape, and encourage motivation, curiosity and active engagement. Renewed provincial curriculum is inclusive of all learners – it addresses the needs of diverse learners in various contexts, allow for personalization and creative approaches and enables student to take increased responsibility for their learning.

Flexible: A goal of the renewed provincial curriculum is to provide teachers and schools with greater opportunity to exercise professional judgement in creating flexible learning environments and in using creative approaches to teaching, learning and assessment. Such approaches take into account the place and cultures of the students as well as the great variety of technology available to them.

Habits of Mind "Habits of mind" are characteristics of intelligence or sets of behaviours people engage in when they are confronted with problems.
Constructivism: Constructivism is a theory of learning that posits the learning occurs as students are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information. Constructivism views learners as actively constructing their own knowledge and understanding of the world through experience and reflection. Constructivist approaches to instruction include experiential, inquiry-based, project based and other form of active learning.

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The INFOhio ILibrarian Pilot: An Innovative Approach to Integrating Statewide Instructional and Digital Initiatives

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INFOhio

Two years ago INFOhio began the ILibrarian ("Integration" librarian) program to ensure that school librarians—already stretched too thin across multiple responsibilities and buildings because of budget cuts—could support Ohio's updated learning standards and the new emphasis on rigorous research. The ILibrarians were not envisioned as a substitute for a building librarian but as a resource to:

- Compile best practices for integrating digital research tools in the classroom.
- Open channels of communication between groups around the state—such as school librarians and university librarians or school librarians and public librarians—that have the same goals for student reading and research.
- Investigate the possibilities for virtual library service.

The results of that two-year pilot have been promising. For example, statewide database use is up by 53 percent, and INFOhio has incorporated the digital tools in new lesson plans for teachers and activity ideas for parents. But there is still much more work to be done and new projects for ILibrarians to explore.

ILibrarians: The Genesis of the Idea

The nonprofit INFOhio began in the early 1990s as a buying and technical support consortium for library management system software. Today 86 percent of the public school districts and many private schools in Ohio license their school library software through INFOhio. By the late 1990s, INFOhio was applying that same group purchase idea—which Ohio calls a "shared service"—to digital resources, such as online research databases,

encyclopedias, and literacy tools. INFOhio works with public libraries, university libraries, and the State Library of Ohio to license a core collection of digital resources for all libraries in Ohio. The licenses are paid for with a combination of state money and LSTA funding. In addition, with support from the Ohio Department of Education, INFOhio licenses additional early literacy tools and educational videos for PreK-12 use.

All of this digital content is offered at no charge to all public and private schools in Ohio. Educators, students, and their parents are free to use the resources at school and at home to research school projects and personal interests. While usage statistics were respectable, INFOhio wanted those numbers to grow. They aimed for statewide saturation.

Promoting awareness, let alone saturation, is challenging in any environment, but nationwide and statewide trends made the task even more difficult. First, budget cuts during the Great Recession greatly reduced the number of librarians available to support teachers and students. In addition, the librarians who remained found themselves working part time in the classroom and part time in the library or suddenly in charge of multiple buildings. For INFOhio this meant that not only were there fewer librarians in the schools to give face-to-face instruction in digital resources but those that were left had less time to promote them.

At the same time, Ohio adopted new learning standards that emphasized research and inquiry, skills traditionally taught by a school librarian and now suddenly the responsibility of classroom teachers. This change affected not only English and social studies teachers—subject areas that traditionally assign research papers and projects—but math and science teachers as well.

And Ohio's students were not performing as well as hoped on research skills to start with, according to the Kent State School of Library and Information Science's Tool for Real-Time Assessment of Information Literacy Skills (TRAILS) program. The assessments measured student understanding of developing a research strategy, evaluating sources, and using online technology wisely in 3rd, 6th, 9th, and 12th grades. "Benchmarks for the 2011-12 school year showed that overall the students at grade level who took the 3rd, 6th, 9th, or 12 grade assessments (nearly 58,000 in total), had a mean score of about 50 percent" (Schwelik, Geitgey, & Higgs-Horwell, 2013).

In addition, the move to online standardized testing required students to know not only content but the technology skills to navigate the tests. Students and teachers needed help using digital content and tools more than ever.

To do that, INFOhio staff created many innovative, freely available tools and programs to support them. These tools incorporated the digital content with instructional support:

IMatrix (imatrix.infohio.org)—A tool that aligns inquiry skills with Ohio's Learning Standards, including College & Career Readiness. Teachers can search by grade level, subject area, and inquiry skill for articles, digital resources, lesson plans, and cross-curricular connections to help students master the skills of forming questions, finding information, evaluating it, and presenting their findings.

GO! Ask, Act, Achieve (go.infohio.org)—A website that helps students in 4th-10th grade learn to complete a major research project, from developing a research question to evaluating the results, step by step.

Research 4 Success (r4s.infohio.org)—A blended learning course for 11th and 12th graders to help them develop the sophisticated research skills needed in college and on the job.

Regional ICoaches—A group of 18 educators affiliated with regional Instructional Technology Centers, Educational Service Centers, and Educational Technology Agencies that provide hands on training to teachers for integrating INFOhio's digital resources into the classroom.

District/Building ICoaches—School librarians, classroom teachers, school administrators, and educational support staff who receive special training in INFOhio tools and resources. This year, 242 D/B ICoaches are in Ohio's districts and schools to help their colleagues integrate digital content into their classrooms.

Response to all of these initiatives was good, but still INFOhio saw even greater needs. From their close association with the Ohio Educational Library Media Association (OELMA), INFOhio staff members daily heard the negative impact eliminating school librarian positions—or in some of the hardest hit schools, closing the library altogether—was having on student reading and research. And not only were the students suffering, but the librarians left were stretched beyond their limits trying to meet increasing needs with fewer hours and smaller budgets.

From that crisis arose the idea of the ILibrarian, a virtual librarian working not at a school level but at a statewide level to help fill the gap.

The concept of the librarian as a leader in integrating information literacy (Zurkowski, 1974) and subscription electronic resources into the curriculum (Krueger, 2012) was not new, nor was the idea that the school librarian could be the school leader in technology integration (Cravey, 2013; Everhart, Mardis, Johnston, 2011; Johnston, 2012). What was novel about the ILibrarian pilot was the idea that librarians could work at a statewide level to effect real change for students and educators in schools that lack sufficient support in these areas.

The initial goals of the program were ambitious and included the following:

- Create and execute a plan demonstrating INFOhio's digital instructional presence.
- Work with Technical Services to build the INFOhio virtual instructional area.
- Create digital pathfinders and social networking content that can be delivered virtually.
- Create content management plans for student-produced content.
- Align curriculum content work to Ohio Learning Standards and next generation assessments for both face-to-face services and digital delivery.
- Target low-wealth schools to provide and model digital library services.
- Model virtual instruction and library services for PreK-12 students and faculty.
- Promote INFOhio digital products and services to other agencies.
- Assist INFOhio Executive Director with digital needs assessments and recommendations for maximizing communications and trainings.
- Collaborate with state virtual reference and eLearning services groups.

In short, the ILibrarians would identify areas of need and increase the audience for INFOhio's statewide initiatives, delivering student- and educator-centered resources and support, often virtually. If the ILibrarian pilot were a success, it could serve as a model to ensure that all Ohio students had access to the tools and the support to learn to use them to develop the reading literacy, information literacy, digital literacy, and college and career readiness skills needed to be successful in an information economy.

In December 2013, INFOhio began a pilot project and hired three Integration Librarians—ILibrarians—who would design and deliver instructional resources that could be used by school librarians and classroom teachers.

The ILibrarian Pilot in Action

Early Literacy, Digital Literacy, and College and Career Readiness were the prevailing themes in the new Ohio Learning Standards. INFOhio's Governing Advisory Board specified that supporting those themes was INFOhio's most important work for the remainder of 2013 and into the 2014-15 school year. Therefore, INFOhio carefully selected three professionals whose experience and backgrounds were strong in those areas.

College and Career Readiness
Erica Clay, with more than 10 years in education as a teacher and an academic librarian, spearheaded the work with college and career readiness. Some of the projects she initiated were:

- Revitalizing INFOhio's College and Career Readiness Task Force of academic librarians, school librarians, public librarians, and other P20 educators. These professionals work together to increase Ohio students' readiness for college, career, and citizenship in a technological society.
- Providing implementation direction and instructional support for ISearch, INFOhio's statewide discovery tool. ISearch is similar to discovery searching used in most Ohio universities. Therefore, not only does ISearch make searching INFOhio's digital content easier, but it does so in a way that prepares students for research after they graduate high school.
- Developing online pathfinders, "INFOhio Guides," that help students and educators prepare for college admissions and advanced placement tests, manage Ohio's new College Credit Plus program, and use INFOhio electronic resources to meet Ohio Learning Standards.

Early Literacy
Emily Rozmus, a 20-year classroom veteran and certified PreK-12 library media specialist, focused INFOhio's Early Literacy initiative, especially support for Ohio's Third Grade Reading Guarantee. Some of the work she launched includes:

- Managing the creation of instructional "bags." Ohio schools often assign "blizzard bags" to students to help make up work lost during snow days. INFOhio built on that idea with "Beach Bags," suggested activities and additional reading for parents to use to help keep their children's reading skills sharp during the summer. Then followed standards-aligned Back to School Bags for teachers, Blizzard Bags, and even a virtual STEM-focused summer camp. The "bags"—PDF

files or LibGuides—align INFOhio resources with Ohio Learning Standards for reading and the other major content areas.
- Forming the Early Literacy Task Force, composed of public librarians, school librarians, teachers, INFOhio providers, State Support Team members, and other professionals invested in early literacy in Ohio. The task force's goal is to create an early reader online interface that will put the right reading material into the hands of the student.
- Working with other state education agencies to produce a series of tools to help parents understand the Third Grade Reading Guarantee and to provide simple strategies for reading with their children anywhere, anytime.

Digital Literacy

Brandi Young worked as an English teacher and school library media specialist for almost seven years before coming to INFOhio to lead digital literacy initiatives. The results of that work so far include:

- Creating and regularly updating the Tech Skills for Online Testing Pearltree. The Pearltree helps teachers find places for students to practice skills needed for online testing, everything from dragging and dropping to using an online protractor. Many of the featured tools are found within INFOhio's digital content.
- Exploring the best ways to support student achievement with new strategies such as MakerSpaces. The MakerSpace movement is steadily growing within Ohio's school libraries. INFOhio's LibGuide on MakerSpaces helps librarians make a case for creating a MakerSpace within their schools, learn low-cost ways to implement and market one, and keep current on new ideas for learning in a MakerSpace.
- Developing the Digital Literacy LibGuide to help teachers find resources to help students develop digital citizenship, technology literacy, and information literacy.

In addition, working together the ILibrarians developed a plan to create social networking content to bolster participation in INFOhio social media, thereby reaching more educators than ever before. The ILibrarians manage the INFOhio Facebook presence, collaborate on INFOhio's Twitter presence, and monitor how the use of the INFOhio social media channels affect INFOhio website and resource use.

ILibrarians: Early Results and the Future

The ILibrarian pilot was a success in that it has increased the audience for INFOhio's statewide initiatives. Most tellingly, use of INFOhio digital content increased 53 percent in 2014-15 over the previous year, and use is steadily increasing in 2015-16 compared to this same time last year. The

Tech Skills for Online Testing Pearltree has logged almost 400,000 views in the last year. And parents and teachers have started asking for new Beach Bags, Back to School Bags, and Blizzard Bags.

Initial funding for the ILibrarian pilot lasted through June 2015. Early results were so promising that the ILibrarians were contracted for an additional year to continue to build on the INFOhio instructional initiatives and branch into new areas such as participatory learning, students as creators, and personalized learning.

That INFOhio works to eliminate the digital divide is apparent in its motto: "All about all students learning." That belief in equity was the foundation of the the ILibrarian program. And now it plays such a key role in ensuring that students in all areas of the state are aware of and know how to use quality digital resources that INFOhio's Governing Advisory Board is showing its commitment to the idea by aggressively working to secure funding to expand the program next year. By continuing to explore the best uses of time, people, and space, INFOhio will work to help students and educators meet the demands of an ever-changing educational and economic climate.

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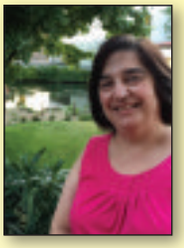
Section II

Articles of Presenters

Fran Kompar
Moving from Vision to Reality
The Library Learning Commons

TL Editors



Fran Kompar has been the K-12 Coordinator for Library Media Services for Greenwich Public Schools, Greenwich, Connecticut, since 2004. She oversees the district's 15 library media centers (soon-to-be Learning Commons) including curriculum, personnel, resources, professional learning and, of course, advocacy during a digital transition. The message is that the profession is at a crossroads – one in which all roads lead to a reimagined, reinvented library – the Learning Commons. This year, Greenwich is implementing a 1:1 digital learning plan K-12 that will provide all K-5 students with iPads and 6-12 with Chromebooks. The focus of the plan is on improving teaching and learning – not the devices. The Library Media Services team, which she oversees, has a critical role in the support for the District's digital transition. As a Program Coordinator for the Greenwich Public Schools she has taken on the challenge to affect change necessary in the Library Media Program and incorporated the evolving role of media in our schools to meet the needs of the digitally-connected student. It has been clear that the Library Media Staff is the "hub of learning" regardless the format of the resources. Prior to her current role, Fran was a library media specialist at Eastern Middle School, Greenwich.

Fran is committed to advocating for the importance of an exemplary, well-staffed and resourced library media program that focuses on encouraging students to imagine, be curious, think and create. In addition, she serves as an Educational Consultant for the Fairfield County Regional Educational Service Center (R.E.S.C.), Cooperative Educational Services (C.E.S). This year, she is implementing Year Two for all member districts (14 districts, over 133 schools represented) entitled Re-Imagining the School Library. The program is designed for districts interested in transforming their traditional school libraries into a Learning Commons. She is also on the Board of Directors and faculty for Connecticut's Alternate Route to Certification for Library Media Specialists delivered through the R.E.S.C., Area Cooperative Educational Services (ACES) to prepare successful teachers to become successful certified Library Media Specialists. She is the recipient of the Connecticut Association for School Librarians (CASL) Administrator of the Year Award (2007) for support of Library Media Programs and, recently, was awarded the 2015 Hilda and John Jay Award from CASL (The Connecticut Association for School Librarians) for significant contribution to the Library Media profession at the local, state and national level. She has and will be presenting at several regional, state and national conferences-specifically on the critical role of the Library Media Specialist in today's evolving society. Connect with Fran by following her on Twitter @fkompar or send her an e-mail at fkompar@gmail.com.

Whatever you can do or dream you can, begin it.
Boldness has genius, and magic and power in it. Begin it now.–
–Goethe

This year I have the privilege of beginning my eleventh year as a K–12 library media services coordinator for Greenwich Public Schools, a district in Fairfield County, Connecticut, with fifteen schools. In our profession, a new school year is always exciting, filled with so many opportunities. For many reasons, this year feels different. It's a feeling reminiscent of arriving at a destination after a very long journey filled with choruses of "Are we there yet?" Our vision for an excellent media program has many familiar components: dynamic learner-centered environment, innovative programming, rich print and digital resources, inquiry learning, collaboration, passionate readers, and, of course, life-long learning. Many of these align with educational reforms under way. So what happens when the vision is your next stop on your journey? It's hard to change from our endless journey to living in the reality of now—of the destination. In order to move from vision to reality, we need to change more than just our space or the name on the door; we need to own the change that has slowly been taking place for the past decade (or longer), quantify the results, and celebrate the successes as an integral member of the community of professionals that enrich, improve, and elevate student learning.

So why does this year feel different? Perhaps it is because Greenwich is implementing a digital learning environment plan that will provide devices for all our students in all schools with clear goals to personalize learning for every child. The library media staff is key to the implementation and ongoing support of this digital transition. Perhaps it is also because I have an equally exciting privilege of facilitating year two of a countywide program, Reimagining the School Library as a Learning Commons, through Cooperative Educational Services (CES), a regional educational services center for all districts in Fairfield County. Year one of the same program reached 100 participants representing 14 districts and 133 schools. Year two has as many school-based teams moving from planning to implementation of their plan. For so many reasons, it feels that we have arrived—that advocacy has given way to accountability. Most importantly, the reality of arriving at a new destination simply signifies the start of a new journey.

It's undeniable that there is a national movement in the world of library media that can best be defined as a metamorphosis—a new beginning. Professor David Loertscher kicked off "The Year

of the Learning Commons" in April 2015. CoSN (Consortium of School Networking) identified makerspaces as a major trend expected to be implemented in the next one to three years and noted that the International Society of Technology Education's (ISTE) 2015 conference offered numerous sessions directly applicable and important to library media professionals. The American Association for School Librarians (AASL) has begun the process of updating standards, as has the ISTE. Whether we call it reaching the critical mass or the tipping point, the change we have all been advocating is here. The importance of life-long learning, reading, inquiry-based instruction, and innovation are at the centerfold of what is happening throughout education, at all levels and content areas. In what seemed an endless journey to get to our vision, we have arrived without realizing it. At this point in our profession, it is more important than ever to coalesce around the destination rather than the struggle to get here. It's our time to shine and demonstrate the promise.

FROM VISION TO REALITY THROUGH A LEARNING COMMONS MODEL: GETTING PAST "SPEAKING TO THE CHOIR"

> Every road leads to the re-imagined, *re-invented school library: the learning commons.*
> —Fran Kompar, *Teacher Librarian*

In the *Teacher Librarian* April 2015 edition, I wrote about achieving systemic reform through the Reimagining the School Library as a Learning Common program. The program, offered through Fairfield County's CES as a professional learning opportunity, required participation from key decision makers. The message was simple. The learning commons is not only a renewal of the physical space but also a fulfillment of the advocacy for collaborative instruction, leadership, and community liaison for innovative programming that can be achieved using the services of their highly credentialed, often underutilized, library media specialists (LMSs).

Year one of the program featured district teams including assistant superintendents, directors of technology, and principals alongside their LMSs. The teams worked together to develop a vision for their learning commons; review data analysis, curriculum, and innovative programming, including makerspaces; and, of course, redesign the physical and virtual space to reflect the learner-centered environment.

Year two is comprised of teams that are responsible for making it happen. The teams consist of school-based participants including a principal, an LMS, and one or two teachers. The learning commons belongs to the school community—planning and implementation must be a collaborative effort. In the *Teacher Librarian* article I wrote,

For years, many in our field have embraced the library learning commons model as the road forward. However, my "aha moment" was the realization that we can no longer embark on this road alone. . . . We are at a tipping point that screams for a transformation in the profession—one in which every road leads to the re-imagined, re-invented school library: the learning commons.(p. 10)

Systemic reform involves all stakeholders and key decision makers. When I see articles touting the renewal of the teacher librarian's role in publications written for superintendents, such as *Teacher Librarians: Digital Mavens in a Digital Age* (Webb, Ray, American Association for School Superintendents) I know that there is a major change that is not only stirring but is also an awakening. Our challenge in having reached the destination is that we must now define it rather than have it defined for us.

AN INSTRUCTIONAL BLUEPRINT: THE LEARNING COMMONS

According to the AASL, our goals and mission include connecting learners with ideas and information and preparing students for life-long learning, informed decision making, a love of reading, and the use of information technologies ("AASL Governing Documents," 2015). Our goals have not changed; however, the information age of the late 1990s and early 2000s gave way to an exponential increase to information, reading formats, and, of course, technologies. At the end of this school year, Carl Fisch's video *Shift Happens* will be ten years old. The short video describes an information explosion and served as a signal that we had a responsibility to prepare students for the new global society. Soon after Fisch showed it at a faculty meeting in 2006, it was viewed by more than twenty million people.

The learning commons model provides a framework that emphasizes flexibility of space, resources, and instruction and addresses the new literacies, including traditional, digital, media, and global. The implied instructional framework for a learning commons requires that the LMS have flexibility to make our journey and vision reality.

COLLABORATIVE INSTRUCTION (CO-PLANNING, CO-TEACHING AND CO-ASSESSING)

LMSs need time to plan, teach, and assess learning in collaboration with other content teachers in order to provide students with meaningful and connected information, skills, and ideas. Flexible scheduling frees up the time. Through co-planning and co-teaching, the two professionals provide access to digital tools, rich resources, and processes for exploring student-posed questions. This approach provides flexibility to teach in all content areas rather than in isolation—to provide teachers ongoing professional learning, technical, and literacy support.

In 2014–2015, the International School of Dundee (ISD) implemented a learning commons. One of the major elements was flexible access to the LMS for collaborative instruction. After the first year, there was a 300 percent increase in collaboration. Jeannine Madoff, the LMS, shared her thoughts about collaboration in the learning commons:

"Scheduled collaboration time is crucial to making the learning commons model a success. I meet with the teachers at each grade level on a biweekly basis just before classes begin to ensure that their needs are met. During these collaboration times, we are brainstorming, planning lessons, and reflecting on our units so that our teaching improves and our responsibilities are shared. During our co-taught lessons, I focus on research, information, and technology skills while the classroom teacher is looking at understanding of content. Ideally, we inspire each other, and the entire learning experience is blended for the students, who might not even realize that their classroom teacher and LMS have different objectives."

One of the collaborating teachers, Esra Murray, a third-grade classroom teacher at ISD, provided the teacher's perspective on the experience:

"One of the keys to our success was our shared understanding that we needed to be flexible—and at times, spontaneous—with our schedules. . . . Again, what was truly highlighted here was our separate focuses: I was honing the student content knowledge while Mrs. Madoff was focusing on the use and learning of the technology and research cycle. With two separate and distinct perspectives combined, there was a constant flow of ideas between the two of us. Even our three-minute conversations were incredibly valuable as we observed and assessed our learners and then revised our plans to personalize their learning experiences."

The perspectives shared by this collaborative partnership evidence the power of collaboration and co-teaching in a learning commons model. Both the LMS and classroom teacher described a shared responsibility that benefits the students in a transparent, reflective manner. The unifying thread is to deepen and personalize learning for all students. The research for the effectiveness of collaborative instruction is clear. In the book *Co-Teaching and Collaboration* (Loertscher and Koechlin, 2015), an impact study on the effect of teachers who co-teach with teacher librarians, 70–100 percent reported that students met or exceeded expectations for a learning experience, which was an increase of 20–50 percent over teaching in isolation. The recommendation and next step for anyone requesting or beginning collaborative instruction through flexible scheduling is to collect similar data on the quality of the collaboration.

PROFESSIONAL LEARNING IN A DIGITAL AGE

The LMS has traditionally facilitated and led professional learning for teachers in areas including ethical use of information, online resources, digital citizenship, and inquiry/research. This role is expanding by necessity, to keep up with the ongoing changes related to digital resources. Providing ongoing, embedded professional learning is critical to the digital transition and the LMSs' expertise in selecting, curating, organizing, and sharing resources make them invaluable to teachers who are acclimating to using digital learning in their classrooms. In 2014–2015, Greenwich LMSs facilitated fifteen hours of districtwide professional learning related to digital learning, as well as many 1:1 and small-group sessions. In addition to faculty or district professional learning, our district provides ongoing support through 1:1, small-group, and large-group instruction.

THE LEARNING COMMONS: A RE-IMAGINED STUDENT-DRIVEN LEARNING ENVIRONMENT

Tell me and I forget. Teach me and I remember.
Involve me and I learn.
—Benjamin Franklin

The learning commons vision is to provide a shared space for curricular work and quiet exploration and to nurture students' interests, passions, and imagination. The learning commons includes specific areas that are flexible and provides space for students to support learning needs. The space includes moveable furniture and areas for large-group instruction/meetings, as well as areas for innovative programming, reading nooks, small collaborative spaces, independent work stations, and a makerspace (also referred to as an innovation space).

Cos Cob School, another one of our eleven elementary schools, redesigned its learning spaces during the past summer to meet the vision of a learning commons. Principal Gene Schmidt and LMS Nancy Shwartz worked in partnership to make the design a reality for the 2015–2016 school year (see photo on opposite page). The Cos Cob teams will continue their work to re-imagine not only the space but also the learning opportunities—they'll participate in the school-based team re-imagining the school library program at CES to network with other schools in the planning stage of the metamorphosis.

In the Greenwich Public Schools district, last year began with an approach to redesign the school library from a center of media to a center of learning—a library learning commons. The change to a learning commons instructional framework helped align the digital learning goals with the library media program mission. The elements of this redesign will resonate with most of us who have advocated for a research-based approach to delivering curriculum in a dynamic, resource-rich learning environment. The reorganization of the library media services department was a priority area related to my work. This involved ongoing communication with staff, empowering them to share in this new vision and forming a consensus of what the new expectations will be by the end of the year. With the guidance of the Greenwich Public Schools chief information officer, Phil Dunn, we quantified the vision of how library media should change to meet needs by creating an "As Is/Learning Commons" document to guide and capture the change through analysis and an evidence-based approach. The analysis led to the district's new flexible schedule this year for grades 3–5. The flexible schedule will provide the LMSs time to collaborate, provide professional learning, support the digital learning transition, and oversee the learning commons resources and spaces.

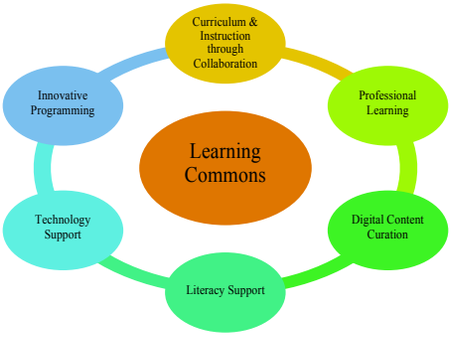
THE MOST IMPORTANT PARTNERSHIP

Collaboration is valuable because it helps us transcend our individual limits and create something greater than ourselves.
—Bob Sullo

Library media professionals are expert collaborators and teacher partners, with both internal and external groups. In such a service-driven program, we work with everyone. I have read many articles about the importance of advocating and partnering with principals, other teachers, and community organizations. I agree with the importance of these partnerships. However, I am going to be bold by saying that the most crucial service-oriented partnership for library media is information technology (IT).

The two departments—media and IT—have a longstanding love/hate relationship. Many library media professionals have war stories about tech that is outdated, doesn't work, is filtered beyond recognition . . . and more. Many are reluctant to embrace the changes in the format of resources, fearing that print books are "going away." All these fears are understandable—but not founded in evidence. What we have found is that the learning commons is a new way of providing students with a personalized learning experience. We found that circulation of print books increases when a learning commons model is implemented. We also find that we are able to access a variety of formats (audio, video, print, digital, and materials). Many of the resources are our favorite categories come alive and literally spring out of our shelves. I heard once from my friend and makerspace expert Bill Derry, Westport Public Library, director of innovation, that we can consider the makerspace part of the applied sciences category—in a different format, of course. I see the opportunities of interactive e-books that provide struggling students with easy access to a dictionary or, for others, the text-to-speech function. I also see the way students learn—and the way society has changed from an isolated experience to one that is collaborative and crowd sourced. In fact, technology has made social skills more important than at any time in our history. Now, in addition to consuming information, students can create their own meanings using such tools as Book Creator, Storify, and educational blogs to reach a much wider audience. All of the possibilities that are now here at our fingertips require many partnerships.

I have had clarity of purpose in the past year. This comes at a time when the library media program in our district has partnered with the IT department, with both now led by the chief information officer, Phil Dunn. The partnership was inspired by a mutual need and desire to be successful in the 1:1 digital learning implementation for the Greenwich Public Schools through an alignment with the digital learning goals and library media goals. Dunn offered a different perspective on how to tackle the age-old challenge of providing LMSs with a flexible schedule. His perspective resonated with me, as it was about accountability and evidence-based outcomes. Through a data analysis process, we looked at the time of the LMS's day and created a document that quantified the vision. The comparative document included a snapshot of the current schedule and the future learning commons framework with corresponding responsibilities. We zeroed in on the vision through a backward design process, making this truly an outcome-based model. We created a roadmap and conditions to achieve the goals that would best serve our students.



QUANTIFYING THE VISION

Below is a snapshot of the As Is/Future Learning Commons Framework Change.

LMS as instructional partner, including embedding new literacies—information, media, global.	300% increase
LMS as professional learning leader	284% increase
LMS as innovative programming and spaces coordinator	100% increase
LMS as technology expert	110% increase

EVIDENCE-BASED CHANGE: CREATE A DATA PORTAL FOR THE LEARNING COMMONS

Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.
—William Pollard

So how do we prove that what we know works? What does the data look like during our day-to-day operations? What is actually possible by making the change to a learning commons model? LMSs are accustomed to collecting data on many aspects of their program. In fact, many write annual reports for reasons ranging from budgeting to communicating to the greater community. Our usual analysis of circulation, books per student, number of collaborative learning experiences, and literacy events must be updated. A learning commons data portal would include collection of data on circulated books per students, e-book usage, digital resources usage, professional learning hours and topics, collaborative partnerships rated on a quality of collaboration rubric, and reporting of innovative programming usage.

Now that we have arrived at the destination, we need a GPS to guide us. Many in the profession have done incredible research on the impact of the LMS; longitudinal studies have often been used to alleviate reduction of staff in the profession. We are at a time when with this great opportunity comes a great responsibility. The evidence-based model is not in keeping with most of our philosophies—by nature LMSs must be idealists and visionaries. Again, the push/pull of the IT department and media department needs to come to a consensus. If we can look at our vision through the eyes of a decision maker, we'll see the opportunity that a data portal signifies. Many in supervisory positions such as mine that constantly advocate for furthering the profession—and ensuring that we continue on our journey of an undeniable, invaluable role—concur with this conclusion.

Susan Ballard, a past president of AASL, is developing a new school librarian preparation program through Granite State College/USNH that includes an emphasis on the use of a variety of data to support evidence-based practice. Ballard noted, "We are focusing on the need for school librarians to be much more strategic and intentional in documenting that what they do has a positive impact on student achievement and teacher effectiveness. We are accountable to our learning communities and decision makers and have an obligation to identify, measure, and substantiate that their investment pays learning dividends."

I know that too many districts are struggling with cuts to library media staff and funding—success to some, however, will spread to others. Just as the news of so many cuts in the past decade resulted in more cuts, news of LMSs' key role in supporting the new standards, innovation, and digital learning is welcome. The challenge and work ahead is at times daunting, but the feeling that we are here, a place worthy of much exploration, reflection, and opportunity to improve our contributions to our students, is a much better than being in survival mode. In the year of the learning commons, let's make the vision a reality.

ACKNOWLEDGEMENTS

I would like to acknowledge and credit several contributors to this work, including Phil Dunn, chief information officer, Greenwich Public Schools, who is spearheading the Digital Learning Environment Plan for the district and supporting the vision through an important lens and perspective; Esther Bobowick, director of Cooperative Educational Services, the Fairfield County RESC, who is sponsoring the program Reimagining the School Library: The Learning Commons for its member districts; the LMSs in Greenwich Public Schools, who are tireless in their efforts to re-imagine their roles and spaces; Susan Ballard, former AASL president, for her advice; and, of course, the incomparable Professor David Loertscher, who inspired and empowered the work and words in this column.

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The Virtual Makerspace

A New Possibility?

David V. Loertscher

From Consumption	To Creation
Read a book	Write a book
Play a game	Create a game
Use an App	Create an App
Listen to music	Compose music
Watch a YouTube video	Create and publish a YouTube video
Over to you...	

The excitement over creating makerspaces in school and public libraries continues to grow as the library transforms into a learning commons. However our patrons can get to our library learning commons, they can now find a myriad of things to do, make, construct, build, discover, and collaborate with others in a project-based environment. Suddenly, we are in a world of self-directed learning as opposed to a constant stream of young people just trying to compete. It is a breath of fresh air for students as they realize that discovery is actually possible at school.

As setting up a physical makerspace provides its own set of challenges, including expenses and even facility redesign and renovation, it often progresses at a slower pace than any of us would like. Master's degree students at San Jose State University and I would like to introduce to you a concept that can be implemented much more quickly while the physical space is developing. We call it the Virtual Makerspace.

We envision a virtual environment where students and adults can create, build, and invent and where all the other creative, informal, educational self-directed learning passions can develop.

You mean that it would be a 24/7 virtual space that is not part of an assignment? Something I would not be tested on? Something that might be an antidote to boredom? A place where I am in command of my own learning?

Unheard of.

In pursuing the idea, we discovered there already are a plethora of such apps, tools, or experiences—whatever you want to call them—begging for an audience of children, teens, and adult users. Best of all, many are free or low cost. We set to work developing templates that could be used with various grade levels and interests and that could work on a variety of devices. We thought that if you see how a template works, you will get the idea and then have the whole school participate in the construction of such a virtual environment. It would not replace the need for a physical makerspace, but it would enhance opportunities over and above what could happen and should happen right now.

To grasp the idea, we first did some thinking on a T chart. Here is a starter chart; you can add to it.

In the past several years, the students and I have created free Google templates for teacher librarians to replace their library websites with a Virtual Learning Commons. To access them, use the following links.

The general virtual learning commons template: at: http://sites.google.com/site/templatevlc

An elementary school virtual learning commons at: http://sites.google.com/site/templatevlcelementary/

A middle school virtual learning commons at: http://sites.google.com/site/templatevlcmiddle/

A high school virtual learning commons at: http://sites/google.com/site/templatevlchigh/

You can see one of the real virtual learning commons products created by Julie Chamers and team at: **http://tinyurl.com/n5tk46b** There are others if you google them using the term "virtual learning commons."

Since Julie and team's example, our class has added what we call a Design Hall to each of the templates above. These are the virtual rooms in which the virtual makerspace can reside, and we predict that by placing it there, it will draw traffic to your VLC site as a whole.

In the Design Hall, you will be pointed to a Symbaloo group of webmixes that are public. We have created webmixes for K-3, 4-6, 7-9, 10-12, by Interest, and Adult. Each webmix was created by a team of students. Then the entire group offered suggestions and revisions. When you find a webmix you like, you can first create your own and then transfer the tiles you like from our webmix, add some of your own, and you are up and running. We have included links to Google documents that explain the idea.

In order to include more tools/apps, we created "groups" of tiles like folders in Google Drive, under a category, complete with a link to an instructional sheet. Our categories include: coding, book making, music, video production, game creation, and 3D modeling just to name a few.

You should, of course, create your own categories if you like that style. You also can separate each grade level out into its own independent webmix rather than having all the grades together as we have done.

There is a growing chorus of experts writing and presenting across the world on the need for creativity and self-directed learning. Many schools respond by having genius hours connected to fab labs or makerspaces in the school, at the public library, or in the community. We find, however, that the concentration is on physical and hands-on learning and there is certainly nothing wrong with that. Add a virtual makerspace on top of the physical one and you have something that does not require a hall pass or a class visitation schedule to enjoy. And, groups of students can choose one or several tools, link them to each other and do some kind of independent project collaboratively as they simulate the real world of business or industry.

In your virtual makerspace, we recommend a wide variety of tools that range from easy to challenging for the target audience. It is all about choice that matches skill level or, in educational jargon, differentiation. While teachers might include the virtual makerspace in a "curriculum project," we recommend that this not be its focus. To connect formal with informal learning just might kill the latter.

In order to sell the concept of a virtual makerspace, we suggest that you print out a copy of the uTEC Maker Model created by David Loertscher, Leslie Preddy and Bill Derry at: https://sites.google.com/site/learningpostersgallery/

If studied carefully, this model, including the dispositions listed at the bottom, provide a pathway leading into the use of inventions and technology toward the creation of new ideas and inventions. Such an experience seems to be central if students of all ages are to prepare and compete successfully in a networked world. Working in a virtual makerspace can lead not only to personal skills but also to cooperative work habits that lead to the development of collaborative intelligence.

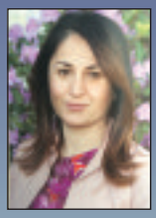
The secret to a successful virtual makerspace, we believe, is not to "build it for them." Rather, if they help build it, they will use it. Thus, for every webmix you create, you will want to have an editorial team of students helping, listening to friends, and searching for the latest fascinating tools and apps out there. Yes, we know that the AASL committee on the best websites of the year publish an annual list, but many of those sites are geared at teaching content connected to the curriculum. Perhaps their focus is to divide into two sections. We have not seen lists devoted purely to creating, making, and discover, but no doubt they are out there.

One of the core ideas of the library learning commons is to honor the idea of the consumption of knowledge as our traditional role, but now to add a second and equally important piede: the creation of knowledge. We believe that this central idea will give new life to the library concept that has been squashed in many schools and in decline elsewhere. The most progressive in our field seem to be branching out beyond just a role for teaching the love of reading and the skill of inquiry. Perhaps the virtual makerspace is a whole new world of inquiry far beyond the writing of reports and term papers. After investigating the possibilities, what do you think?

For even more ideas on the creation of both the physical and virtual library learning commons, we recommend the following publications:

The Elementary School Learning Commons by David V. Loertscher and Carol Koechlin. Learning Commons Press, 2015. (available from LMCsource.com)

The Secondary School Learning Commons by David V. Loertscher and Carol Koechlin. Learning Commons Press, 2015. (available from LMCsource.com)



"The philosophy of the new environment seemed so intuitive, almost a natural extension of our school environment."

Piloting the Learning Commons

Coteaching and Collaboration between a Classroom Teacher and a Teacher Librarian

ESRA MURRAY

Lately I have been spending quite some time thinking of the significant shifts in how we approach teaching and learning. One of the most profound changes, I have come to realize, is our intense focus on raising the twenty-first-century learner.

We are sailing through the changing ocean tides. We have been consumed with the skills that our students need to meet the standards of the times. Enter "Hour of Code." We are split over the standards we need to use to ensure our students are academically well prepared. Enter the Common Core State Standards. We have been debating the social emotional needs of our youngsters who are living a very different kind of early life than what we had. Enter federal-level bullying laws. These are just a few examples that keep me up late at night, wondering if I am meeting the needs of my students, if I am preparing twenty-first-century learners.

Sometime near the end of the 2013–2014 school year, at a staff meeting, our principal, Terry Ricci, and our media specialist, Jeannine Madoff, announced that we were moving away from the traditional media center model to the learning commons model in order to better integrate technology into our instruction. We were slated to lose the existing forty-five minutes of media center time, where technology instruction occurred; instead, we were gaining the opportunity to collaborate with our media specialist to integrate grade-level technology skills into our curriculum.

Although it seemed very promising, I remained curious about how we were going to find the time to do all this envisioned collaboration and how this new learning environment was going to affect my students. As these questions dominated our conversations over the remainder of the school year, we slowly watched our media center transform into a different kind of space—it now housed a couple of 3D printers, a laptop cart, an iPad cart, brand new carpets, and some very attractive and comfortable furniture. It looked inviting.

PILOT YEAR

During our pilot year, 2014–2015, my class and I took a tour of the learning commons during the first week of school. Students loved the new, attractive space—they rotated sitting around on every ottoman, every arm chair. They hovered over each other in the new circular seating areas and eased into conversation. They complimented the new carpets, sat on them, and even rolled on them. They were pleasantly surprised at the promised freedom to work while sitting on the arm chairs with laptops or iPads, while others gave a sigh of relief that the traditional round tables were still available—different kinds of seating arrangements for different types of learners.

The way furniture was organized highlighted some of the most recently published and some old-time favorite books. With the new design of the common area, these books didn't seem to get lost in the sea of all the books but rather found more desirable spots on the shelves.

Quite a few students were drawn to the makerspace area and immediately started asking if they were allowed to create and print objects. Through our media center curriculum, all of our students had experienced tinkering with design software like Tinkercad or Cubify in the previous year. Now they were looking at the same tools at their fingertips, not put away in some corner in the computer room where only adults seemed to have access.

Some students rushed to the stage area, which now seemed a little more prominent and more integrated within its environment. Instead of being just a backdrop and

a place that is used during concerts and large presentations, the stage presented opportunities for students. I watched my students sit in circles around the stage, legs crossed, and discuss books they were intending to check out.

Students were equally pleased to see the media center staff at their familiar spots. It was confirming to all of us that although the media center had now evolved into a learning commons, the people remained the same.

The initial excitement over this new learning space was evident. Now we had to figure out how best to use it to fit our learning needs.

OBSERVATION LEADS TO ACTION

Propelled by my students' excitement over the learning commons, I began to see the potential of our new shared space: a place where my students can think, read, talk, inquire, research, and design and solve problems. The philosophy of the new environment seemed so intuitive, almost a natural extension of our school environment. It encouraged students to get together, brainstorm, plan, and develop ideas. It inspired them to read about what they wanted to explore, whether online or print resources. It invited students to share their thinking in pairs, small groups, or larger audiences. It had all the elements that teachers would want in their classroom, and it was a much larger space, conducive to physical movement. My observation of my students' enthusiasm sparked all these ideas in my head, so I approached Jeannine to try out the new model; she was thrilled.

DECIDING ON A UNIT OF STUDY TO COLLABORATE

Identifying a unit of study to collaborate on with the media specialist is an important initial step. In our case, we chose a six-week-long inquiry on a newly revised science unit at the beginning of the school year. Reflecting on our decision, we could have chosen to collaborate on any single lesson or a short-term project; however, I think that might have not enabled us to build on momentum that we observed students gain throughout our collaboration. With that said, I would even suggest trying out one lesson so you get a feel for collaborative lesson planning.

Teacher collaboration is truly embedded in the philosophy. As an international baccalaureate (IB) school, the concept is embedded in the way we approach teaching and learning. We often partner with our advanced learning program or special education teachers in coplanning or coteaching lessons. Our transdisciplinary approach to planning instruction allows us to maximize student learning as we work with the music, physical education, art, and Spanish teachers. The science unit we decided to coteach was in fact revised with input from a number of teachers.

Looking back, what set apart my collaboration with our media specialist from other educators was the different perspectives from which we approached the unit. As the classroom teacher, I was concerned about the content of our unit, while Jeannine concentrated on the integration of technology and the research cycle into the curriculum. Her focus aligned with our district digital learning environment goals that aim to raise students to be critical thinkers of online content and become self-regulators of their own learning while encouraging teachers to provide quality feedback and personalize the learning environment. She homed in on the research cycle, using the engineering design process from the Boston Science Museum as a model. This was a key difference in the way we approached our science unit.

NOW THE NITTY-GRITTY: SETTING UP COLLABORATION TIME

Since collaboration is at the heart of our school's IB philosophy, we were able to identify some common prep times. Each of our grade levels meets about forty minutes in the morning every other week, and we have common planning times throughout the week. Some of these times, however, are devoted to more specific tasks, so we needed to be strategic in carving out planning time. We planned to use some before-school and lunch times, as well as some other common prep times, to collaborate.

One of the keys to our success was our shared understanding that we needed to be flexible—and at times, spontaneous—with our schedules. We often needed to adjust our schedules and were able to maintain open lines of communication.

Looking back at this process, it was challenging—yet possible—to be in sync throughout the unit. The way we overcame the challenges was to make sure that we were both proactive in identifying meeting times and were flexible. We also realized that some of the last-minute changes or adjustments in our plans were primarily student driven. At the end of each lesson, we both came away with ideas—some similar, some different—about how we would tailor our instruction in our next session together. Again, what was truly highlighted here was our separate foci: I was concerned with student content knowledge, while Jeannine was focusing on the use and learning of the technology and research cycle. With two separate and distinct perspectives combined, there was a constant flow of ideas between the two of us. Even our three-minute conversations were incredibly valuable as we observed and assessed our learners and then revised our plans to personalize their learning experiences.

EMPOWERING STUDENTS TO PROMOTE INQUIRY

We were fortunate to have a dynamic revised science unit plan to raise the level of student critical thinking and incorporate the engineering design process. The unit identified a big idea around which related concepts were built. Each week focused on a smaller idea where students would explore resources—online and offline—and build a greater understanding of the solar system. The plan also suggested some key vocabulary and teacher-generated questions (we call them "provocations" in IB) to shape student inquiry. We had a great starting point, and we realized that we

needed to design our sessions to promote student inquiry and embed meaningful use of technology.

At one of our meetings, I shared one of my long-term professional goals with Jeannine: to raise active fifth-grade learners interested in their own growth. To me, that meant that I held my students accountable for their own learning, and I was more of a facilitator than a knowledge-imparter. Could she support me with this goal? Could we incorporate teaching moves to promote active learners? We know our profession is no longer an isolated set of experiences where we stand alone and deliver in our classrooms. We gather to talk about our own teaching, analyze data on student learning, watch each other to get inspired, and let our guards down to receive feedback and do everything all over again. When I approached her with this suggestion, she embraced it.

When I look back at these initial planning stages, I realize that: (1) The time it takes to coplan with the media specialist shaves off a great deal of future time that would be required to teach these skills. (2) When incorporated, a media specialist's perspective raises the level of twenty-first-century skills in instruction. (3) Open and honest communication with the media specialist leads to increased opportunities for professional development.

NOW THE NITTY-GRITTY: MAKING OUR PLANNING VISIBLE

As professionals, at times we delve right into some idealistic vision and then lose track of our initial purpose. While we maintained a high bar for our students through our vision, we also wanted to make sure we were setting achievable goals. Jeannine and I felt that we needed to keep track of our thinking, not only in terms of using shared files and an electronic filing system but also to set ourselves up for reflection at the end of our unit. For that purpose, we agreed to use our district's new learning management system, Schoology.

A learning management system enables educators to document, file, track, report, and deliver instruction in an electronic manner. Our district subscribed to Schoology near the end of 2013–2014 school year, so we are still learning the capabilities of the system. I had attended train-the-trainer sessions in the summer of 2014 and had gained comfort in creating courses, managing resources, and designing assessments. There are multiple uses of such systems, and we wanted to optimize Schoology not only for ourselves but also for our learners.

In Schoology, I created a science course for my students wherein I saved a teacher-view-only folder that contained the unit overview, and then chronologically ordered folders, week by week, that matched our plans.

In each folder, both Jeannine and I included a variety of resources—photographs, interactive web tools, articles, news reports, etc.—that we had identified to match the theme of each week. In these folders we also incorporated assessment opportunities, such as discussion threads, questionnaires, and short- and long-answer quizzes, to track student progress. We converted our district's unit-end test to a digital platform using Schoology and, at the end of our unit, gave our students the option of taking the test in either format.

Having a shared electronic platform kept both myself and our media specialist on the same page, working toward the same goals. It enabled us to focus on our learners. Instead of spending time arranging and rearranging papers or making copious amounts of copies, we were able to allocate collaboration time to discuss our teaching and student learning. Our meetings also became increasingly more efficient as we were able to view and tweak resources on our own time. Our efforts enabled students to access information at their own pace. Finally, all of the resources for the unit will be accessible for the upcoming years.

LAUNCHING THE UNIT

As we completed the behind-the-scenes work together, we were eager to launch the unit with our learners. Prior to launching, both Jeannine and I worked with students to ensure they felt comfortable with their log-in procedures for Google Documents and Schoology. In tandem, we reviewed our district's policies on digital citizenship and conducted minilessons on what it means to use technology for learning purposes. Our class also used the learning commons for a few writing workshops, where students and I became more familiar with the etiquette of using the new common space.

Our first week of the science unit was dedicated to immersing ourselves into the topic and scientific research. Students spent time exploring print resources from the library and online resources using

laptops or iPads to gain familiarity. During this time, the physical makeup of the learning commons appealed to different learning styles. Some students used the quiet areas for independent reading, while others were more inclined to sit in seats arranged in circular fashion. Some students shifted from one area to another to regain their focus, or at times, to weave in and out of independent and group formats. Most importantly, they took ownership of their own learning styles. I did not realize this until later when a student approached me and asked if we could move to the learning commons. When I asked why, she said that she felt "more comfortable" learning there because the seating was better, she had access to laptops and iPads, and there were more books than in our classroom.

One of the most powerful lessons during the launch emerged from my brainstorming session with our media specialist. As any elementary teacher would tell you, we really love when our students ask critical questions—questions that provoke thinking, require looking into resources, and intrinsically promote inquiry. During one of our collaborative times, I had mentioned to Jeannine that the placement of such a grand unit at the beginning of the year may prevent some of our students from asking those critical questions. As with any research-oriented unit, asking those questions really raises the bar for student research. My concern led to a fruitful conversation in which we both agreed that we would like to see our students ask a range of questions and that the best kind of research emerges from a combination of high- and low-level questions. We mulled over several avenues we could take to address this concern. Finally, our brainstorming led Jeannine to suggest putting together a minilesson on key concepts. She suggested using a recent news items and wanted to incorporate some multimedia to make it relevant to the students.

Wow. Did her lesson really enable the students to understand the power of using a range of questions for inquiry? Yes, and more. Jeannine was able to look at my concern from her perspective as a media specialist and was able to broaden my horizon and see value in creating a rich lesson around questioning. This planning session became a quintessential example of a classroom teacher and a media specialist collaboration in my mind. One of us posed a concern; together we brainstormed and came up with potential solutions. We decided on and implemented a solution and were able to reflect on the success of the outcome

GAINING MOMENTUM

As we moved through the weeks in our science unit, we continued to collaborate on our instruction. We got into a rhythm of coteaching and revising and planning our unit. We were seeing student progress through discussion boards and mini check-ins via our learning management system, and from conferring with individuals and groups. It's always telling when students begin to mix your names, "Oh, sorry for calling you Mrs. Madoff" or "Oops, sorry, not Mrs. Murray, I meant Mrs. Madoff," showing that our teaching became cohesive and that we were one voice in the learning commons.

Our entire school was concurrently engaged in reading *Making Thinking Visible* by Ritchhart, Church, and Morrison. Jeannine invested in glass-writing markers, and we started thinking of taking our learning to a literal level: What if we asked our students to make their thinking visible to our greater learning community by using these markers on the glass surrounding the learning commons and the hallways? How would our students react? Is drawing on walls and windows counted as vandalism? With the permission of our custodians, we decided to give it a try for our end-of-unit project.

The project led students to envision a space colony on the planet of their choice and to create a prototype that would assist humans in colonizing another planet. Students had the freedom to use any materials and technologies available to create their prototype and eventually present to their peers.

As groups of students started thinking about their designs and the materials and technologies they would use, we observed a great variation in their thinking. For their design, some decided to build astronaut spacesuits that sustained life on their imaginary planet, while others decided to build a water source, as they identified that as one of the most critical needs. Students continued to explore resources, ask a variety of questions, find answers, and take notes using the Cornell notes structure. In the previous school year, Jeannine, alongside the classroom teachers, had introduced students to this style of note-taking that enabled them to identify key words and main points and summarize to reflect on what they were reading or watching. Using Google Drive for note-taking, as well as drawing and surveying, enabled students to work collaboratively in school and also at home. They were ready to translate their findings onto their design.

We asked the groups to choose a window and draw their designs. You can imagine the perplexed looks we received. Really? What you may not be able to imagine is the level of confidence this simple task gave to some of the students who were more inclined to demonstrate their learning through visual expression. Moreover, at the end of the design sessions, as other classes were walking in and out of the learning commons, our students became aware that others were stopping and looking at their creations. They were discussing what they saw and making comments. So on the flipside of making their thinking

BOOKMARKIT

KATHLEEN ODEAN

YA FICTION

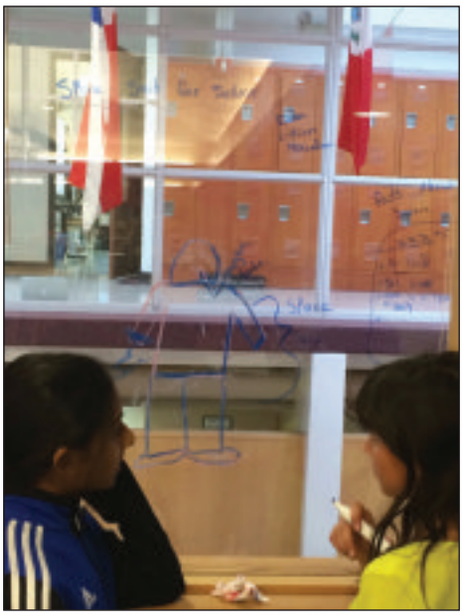
CLUES & CRIMES

Gilbert, Kelly Loy. **Conviction**. Hyperion, 2015. $17.99. ISBN: 9781423197386. Grades 8 and up. What happened the night that Braden's father ran over a police officer in their California town? With his father in jail awaiting trial and his mother long gone, Braden, 16, turns to his estranged brother, who grudgingly returns home to help. Flashbacks slowly reveal the real story in this suspenseful, tightly plotted novel about the complexities of family love.

Stevens, Robin. **Murder Is Bad Manners**. S&S, 2015. $16.99 ISBN: 9781481422123. Grades.5-8. Set in the 1930s, this entertaining girls' boarding school caper pairs narrator Hazel Wong, newly arrived from Hong Kong, with Daisy Wells, a sporty Brit who hides her sharp mind. After Hazel stumbles across their dead science teacher, suspects abound until the friends narrow down their list to a surprising solution.

Konigsberg, Bill. **The Porcupine of Truth**. Scholastic, 2015. $17.99 ISBN: 9780545648936. New Yorker Carson, 17, hates being in Billings, Montana, with his mother to care for his dying father who's long been out of their lives. Hanging out at the local zoo, Carson meets beautiful Aisha, recently estranged from her family because she's gay. He falls for her but they also become friends and embark on a road trip using elusive clues to try to track down Carson's grandfather. A funny, heartwarming story that's full of life.

Latham, Jennifer. **Scarlett Undercover**. Little, Brown, 2015. $18. ISBN: 9780316283939. $18.00. Grades 7 and up. Scarlett, 16, who lives with her devoutly Islamic older sister, has set up business in urban Las Almas as a detective. But instead of the run-of-the-mill case she's used to, her new one weaves together magic and her heritage from her Egyptian father and Sudanese mother, both deceased. Scarlett's snappy narrative tells a tale of intrigue, danger and a hint of romance.

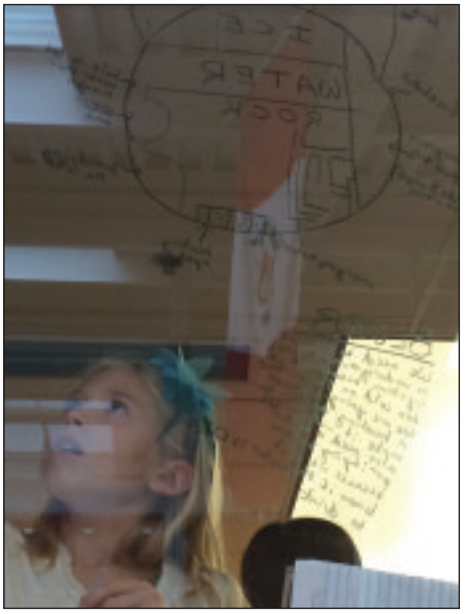


visible on the windows, we learned, students were gaining experience and confidence in sharing their thinking with an extended learning community.

PREPARING TO SHOW OUR LEARNING

Once students made a final decision on their design, they started to think about the materials and technologies they would use to put together their prototype. The freedom of choice was embedded in the instructions; however, they needed to make the choices based on their own needs, as well as group consensus. We noticed that there was quite a bit of negotiation taking place, and collaborative decision-making was at its critical point. In conferring with the groups, both Jeannine and I started to shift our conversations toward teamwork and decision-making process. During our collaborative time, discussions centered on social and emotional learning needs of our students, and we checked in with each group on a daily basis.

By this point, students were familiar with the routines: they grabbed their science notebooks and headed over to the learning commons during our designated science times without my prompting. They had carved out spots for their groups and worked on identifying their materials for the project. The benefit of being in the learning commons was heightened at this stage—students had a variety of different

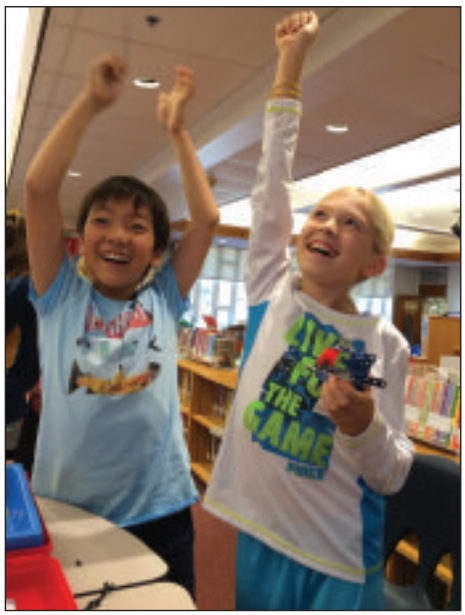


spaces to discuss their plans. We also noticed some of the groups checking in with each other to discuss and gather new ideas. In addition, the technology was available at their fingertips: the makerspace, the laptops, the iPads, the Smart Board. If they decided to incorporate any of these technologies into their project, they did not have to wait until media time or until someone could supervise them in the media center. Everything they needed was immediately available for use.

During the making phase, students used a variety of media to bring their ideas to reality: Legos, 3D printers using Tinkercad, paper, boxes, cloth, paper towel rolls. Jeannine and I observed something very critical to raising the twenty-first-century learner at this stage: perseverance. Students were going through multiple attempts to bring their designs to life. We observed frustration, patience, and many learning moments. We watched students go back to the drawing board and re-create their prototype. We realized that we were observing our collaborative teaching of the engineering design process come to life.

FINALE

In our school, students as young as kindergartners are encouraged to communicate their ideas in a variety of formats with their extended learning community. In this unit, we asked our fifth graders to prepare to explain their projects to their peers. We also



YA FICTION

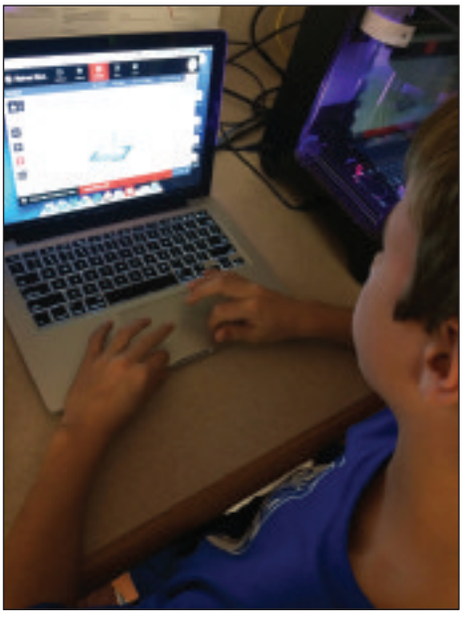
FINDING COURAGE

Wynne-Jones, Tim. **The Emperor of Any Place**. Candlewick, 2015. $17.99. ISBN: 9780763669737. Grades 8 and up. Evan, 17, and his father, Clifford, have a congenial shared life unlike Clifford's strained relationship with his military father, Griff. When Clifford dies, Griff visits Evan but does little to comfort him. Meanwhile Evan finds a manuscript by a World War II Japanese soldier, told in separate chapters, which may implicate his grandfather in something evil. Complex characters and two related, absorbing plots make this a stand-out.

Benwell, Sara. **The Last Leaves Falling**. S&S, 2015. $17.99 ISBN: 9781481430654. Grades 7 and up. Set in Japan, this powerful narrative concerns Sora, 17, who is dying from ALS or Lou Gehrig's disease. No longer in school, Sora unexpectedly makes two good friends on the internet, where no one can tell he's sick. After the friends, a boy and girl, meet him in person, Sora's life expands but he still must face death. Beautifully told and deeply moving.

Older, Daniel Jose. **Shadowshaper**. Scholastic, 2015. $17.99 ISBN: 9780545591614. Grades 8 and up. Sierra, a talented artist, comes into magical powers just in time to try to ward off the walking corpses that are endangering her Brooklyn neighborhood. Sierra and fellow artist, Robbie, tap their respective Puerto Rican and Haitian ancestors and cultures in their desperate quest. An impressive heroine in a rich, exciting tale.

Toten Teresa. **The Unlikely Hero of Room 13B**. Delacorte, 2015. $17.99. ISBN: 9780553507867. Grades 7 and up. Adam, 14, longs to be normal, not obsessive-compulsive, and he'd like Robyn, a girl in his new therapy group, to be his girlfriend. The group, which starts to feel safe and friendly, helps Adam but life with his troubled mother makes progress hard. Readers will be rooting whole-heartedly for the kind boy in this highly engaging read.



asked them to focus on the process, from their potential questions to identifying a solution and through the design process.

During our collaboration time, Jeannine and I thought of ways to support our students at this stage. We noted that they were knowledgeable about what they wanted to convey to their audience. We based this assumption on the notecards we observed them making while they drafted their presentations. We also acknowledged that they needed to balance the amount of time each group member was taking as part of the entire presentation. We also came to realize that we wanted students to start focusing on their delivery, including tone, pacing, and clarity. Building on my goal of guiding students toward gaining personal agency, Jeannine and I generated a number of ideas to promote self-reflection. One idea was for students to rehearse their presentation—individually, with peers, and as a group—using the camera function on the iPads. This way they could also time their parts to ensure there was equal distribution of time.

Students used all the corners of the learning commons to record themselves. Then they watched their own parts and asked a peer to review it with them. Students took notes of what they liked and what they saw as an area for improvement. When Jeannine and I checked in with the groups, we noticed that the peer-review process was very much on point with our own feedback. We then placed ourselves in the role of coach and suggested some strategies to improve their self-identified weaknesses. This process certainly helped students make progress in their presentation skills and also enabled them to see that we all have areas where we need to continually improve.

I wish we had allocated more time to each presentation and allowed other students to spend more time browsing each other's work and asking questions. The entire unit had been so rich in collaborative thinking and so deep in sharing that thinking, that I now see we should have slated a few more hours to the presentations. Next year, we will work to improve this step in the process.

SIMMERING THOUGHTS

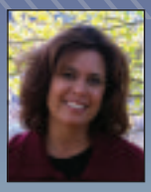
Writing this piece enabled me to truly stop and look at all the complex layers I was able to weave into teaching the science unit as a result of coteaching with our media specialist in the learning commons. I can also see that the key to our success was access to this amazing space to facilitate student learning. It was important that we identified a unit of study and developed a shared vision of our collaboration. We both had to be very proactive and flexible (and forgiving) in scheduling our time together. Most importantly, we allowed ourselves to be open minded and were willing to take risks.

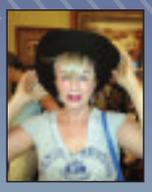
As my next step, I would like to translate my perspectives to quantifiable data. I would like to identify and set specific measures, collect evidence, and assess progress to support the impact I observed in my students' learning.

Esra Murray is a third-grade general education classroom teacher at International School at Dundee in the Greenwich Public Schools in Greenwich, Connecticut. In addition to her role in teaching, Murray has developed and led professional learning activities on literacy and math instruction, as well as integrating technology into classroom instruction. She received the Greenwich Public Schools Distinguished Teacher Award in 2013. You can reach her via email at esra_murray@greenwich.k12.ct.us or twitter at @ezziemur.

Repurposing for the Future

A Library Story





"The smart phone, tablet computers, GPS, ubiquitous phone and video coverage, all these things have impacted our lives and how we educate children."

SUSAN WOLFE AND LINDA REULING

"Our teacher said we have to read a biography. Where are they?"

Linda Reuling, our librarian, experienced this mindset with every class that visited the library on that first day, her vantage point being atypical. Linda is a thirty-five-year veteran teacher turned librarian. Approaching her new librarian assignment as her teaching instincts directed, she was prepared to share the wonderment of books. But as she reflected upon her experiences of this first day, she came to some significant conclusions, all reflecting the need for a twenty-first-century upgrade:

1. The library environment was inadequate.

2. A collaborative paradigm shift was needed by all constituents on how the library needed to evolve and become the learning hub of the school community.

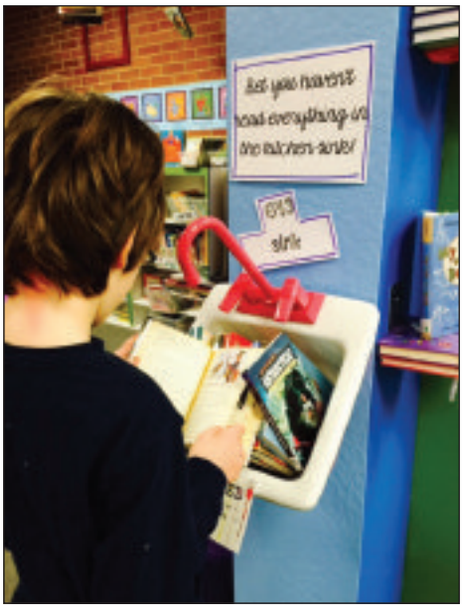
3. The age of the library materials was not effectively meeting the needs of the modern student.

Linda's introduction to the school library was a culture shock because of the archaic perceptions of the role of the school library. As a teacher, she had sent hundreds of students to the library to find a specific book to fulfill curriculum requirements or a theme of study. With "Which book is the skinniest?" still reverberating in her mind, she realized that she had never given much thought as to whether the topic interested the student. After all, teachers have curriculum to cover. She quickly realized that the library she had inherited was something of a grab-and-go concept akin to a fast-food establishment and students didn't see it as a place to go and be filled with the wonderment and joy of learning. Teachers had not been introduced to the idea of the library as a place to support project-based learning and open-ended research and collaboratively shared ideas. The intent of the library at that time was not a room designed to be a learning hub of the school community but rather a room housing a librarian with the heart of a teacher, ready to collaborate and partner with students and teachers. How was Linda going to change both student and teacher perceptions? She had no idea.

Hawthorne Elementary School was built in 1961. Like every other elementary school built in the '60s, it served its middle-class neighborhood in Boise, Idaho, with classrooms, hallways, an office for the principal and secretary, a teacher lounge with cigarettes in ashtrays, custodial closets, and, of course, a traditional library. If those library walls could talk, they would certainly tell stories of students and teachers and librarians doing what was expected in the '60s—stories of students and teachers perusing the shelves for just the right book, and librarians shushing the loud whisperers, keeping the library quiet and orderly.

Culture and society advance, driven in no small part by seemingly never-ending technological progressions. The smart phone, tablet computers, GPS, ubiquitous phone and video coverage—all these things have impacted our lives and how we educate children. This change in our culture has led to new curriculum standards, design, and learning models. But perhaps the least changed are the brick-and-mortar learning facilities—nowhere is this more apparent than in our country's aging school libraries.

Linda inherited a small traditional library whose walls were lined with stationary wooden bookcases. Freestanding metal bookshelves ran down the middle of the two small rooms. Large round tables and old, heavy chairs filled the rest. Her first decision: make the room more welcoming by changing its look and feel. In a librarian's fantasy world, a quick phone call to facilities to initiate the remodel would have been sufficient. Unfortunately, this was the nonfiction version. She began hauling out the freestanding shelves and most of the tables, which then required material reshelving and reorganization and consumed much of the first year. Finally, the library began to "feel" less cluttered and more open. So began the transformation.



As happens in elementary schools, Hawthorne had new teaching faces the next year. A veteran teacher herself, Susan Wolfe hadn't yet met Linda, as she was preparing herself and her classroom for her upcoming fourth- and fifth-grade gifted class. Susan had been peeking into the shadowed library, fascinated by the menagerie of items and objects on the walls and ceiling. A certificated GATE teacher with former administrator and director roles, Susan was starting her twenty-second year in education and her first at Hawthorne, a Title I school, in a district with thirty-two elementary schools.

One year into the transformation, the library still contained books, though some were hanging from the ceiling or folded and deconstructed into a modern art piece. The real eye-catching items in the room—ask anyone—included a skeleton named Einstein hanging from the ceiling, a waterless sink holding an open book just hanging on a wall, and a bicycle wheel chandelier with an ever-changing collection of items hanging from the spokes. This colorful global marketplace was an innovative showcase of repurposed materials utilized to highlight books and technology. Linda had successfully crafted a space to meet the needs of her student population—a space with curiosity, visual interest, and an intellectual itch to scratch.

As with any great inquiry learning project, it all began with a driving question. When Linda and Susan finally met face to face to discuss the logistics and details of "library time," Linda posed a question that initially surprised and befuddled Susan: "What should we do with your students during their library time?"

This was a question Susan had never heard. For teachers around the country, library time provides a break from students, prep and lesson planning time, maybe a bathroom visit. This simple question was an invitation to imagine something different.

It turns out that Susan and Linda were kindred spirits, evidenced by the objets d'art in Linda's library space and her fascination with and excitement for her library and the students. Linda shared that while both students and staff enjoyed the new look of the library, the catalyst of change was the recognition that it could be more. What was that next step? As Susan and Linda began to get to know one another, they began to construct the vision to provide shape to what would eventually become an amazingly transformative space in Hawthorne Elementary School.

Initially, Susan had a conundrum of her own. Her upcoming gifted students had already exhibited a passion for math and science, so she spent the summer studying STEM (science, technology, engineering, math) and STEAM (addition of art) integration and makerspaces. In her research, she happened upon the work of A. J. Juliani and his Genius Hour concept (www.geniushour.com). Genius Hour is a project-based learning activity that allows students to explore their own interests and passions. It fosters creativity and promotes inquiry, perseverance, innovative thinking, and problem solving. There are three guidelines:

1. Projects are inquiry based and start with a driving question that cannot be answered with a quick web search.
2. Projects are research based.
3. Projects need to be shared with an authentic audience.

Understanding the many desires and needs of gifted kids, Susan planned to mold her classroom into a STEAM/Maker/Genius Hour space—that is, until she met Linda and they began to think differently, bigger. They would merge individual ideas into a collaborative partnership. As their conversation deepened, Linda shared a desire to embark on a vision of a "teaching library." In this vision, teachers and librarians collaborate, resulting in a new, different, exciting, stimulating student experience. A twenty-first-century upgrade began to emerge: Susan and Linda would partner their efforts, further rebuilding the library as a STEAM hub. Neither could imagine the full impact of their decision.

If we build it, they will come.

OR

If THEY build it, they will use it.

Students desire choice and ownership over their learning, and the more the teacher is willing to cede, the more motivated and engaged the learner. Daniel Pink's book asserts that the secret to high performance and satisfaction at work is a need to direct our own lives, to learn and create new things, and to do better by ourselves and our world. Extrinsic motivation may have worked in the twentieth century, but it pales in today's motivation hierarchy. He posits that the three elements of true motivation are autonomy, mastery, and purpose.

Enlisting Pink's philosophy, Susan embarked on bringing about change through her students. What matters to them? What motivates them to improve? What drives them to implement change? Over the course of a few weeks, she was hyperconscious of these questions and recorded her observations while forming a plan. During this time she introduced STEAM and related curriculum. Her students loved these "lab days" and gained valuable knowledge of both the STEAM concept and the specific lab topics.

Susan discovered an online movie that might bridge the gap and lead to student full engagement. Posing the question "What is a passion?" she showed Nirvan Mullick's short film "Caine's Arcade," the story of a nine-year old boy's handmade cardboard arcade. This brilliant and touching movie clearly resonated with the students. Returning to the "What is a passion?" question, the students could readily define passion, self-direction, and why Steve Jobs brilliantly stated, "If you are working on something exciting that you really care about, you don't have to be pushed. The vision pulls you."

After a lesson on the concept of driving questions, which form the foundation of Genius Hour projects, and on fire with vision and inspiration, the students commenced the formation of their driving questions. Their projects varied in scope and complexity. The most challenging was a green design architecture project utilizing computer-aided design to address third-world housing. This student's driving question was "How can we design cheaper and safer buildings for third-world environments?"

All students quickly seized the opportunity to be self-directed in their research and learning. They excitedly wrote their driving questions on sticky notes, collaborated by checking criteria, and posted them to the "What Is Your Passion" board. With few exceptions, these tied into STEAM concepts. One student wanted to study chemistry and conduct experiments, another wanted to test the properties of force and motion, another to build simple electrical circuits, and yet another to study the history of origami design and teach it to others.

The students noticed the correlation to the STEAM topics. As if on cue, a student asked about using the library to research, experiment, and share projects with other classes. One student pointed out that sharing with an authentic audience is a Genius Hour criteria. Might they get Mrs. Reuling's permission and help to make this idea happen in the library?

With Susan's help, the students developed a to-do list and began to brainstorm. A large calendar was posted in a newly created student conference area in

BOOKMARKIT

ERLENE BISHOP KILLEEN

PICTURE BOOKS

A FRIEND IS A FRIEND

Atkinson, Cale. **To The Sea.** Disney-Hyperion, 2015. 48p. $16.99. ISBN: 9781484708132. Grades PreK-2. From moody loneliness to happy accomplishments, this book shows the result of comforting friendship as Tim is finally seen for the good friend he can be. Small whale lovers will celebrate the relationship between boy and whale while they learn that friends can be relied upon for help.

Berry, Lynne. **Pig and Pug** illus. by Gemma Correll. Simon & Schuster Books for Young Readers, 2015. 40p. $16.99. ISBN: 9781481421317. Grades PreK-1.Two pets with similar size and name wonder if they can be the same or different and if they can ever get along. Children will laugh at the antics in this minimally worded book that shares the delight and dread of new friendship.

Perret, Delphine. **Pedro and George.** Atheneum Books for Young Readers, 2015. 32p. $17.99. ISBN: 9781481429252. Grades K-2. An alligator and a crocodile (cousins, no less) are tired of being mistaken for the other and travel to the children "at the end of the world" to explain the difference. A funny school visit with many chaotic events satisfies the two reptiles who return home with memories of their new friends. Lovers of Lyle, the Crocodile will appreciate these illustrations for their simple style.

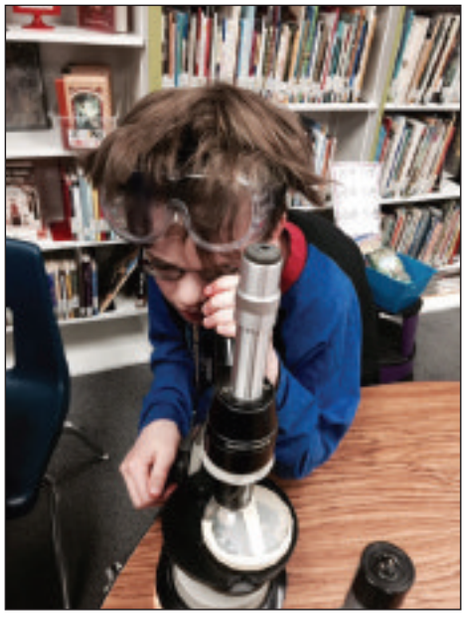
Aldorozo, Gabriel. **Good Night, Firefly.** Henry Holt and Co. Books for Young Readers, 2015. 32p. $16.99. ISBN: 9781627792226. Grades PreK-K. Nina is afraid of the dark until she catches a firefly. Her bug friend comforts her until she realizes that the firefly is not happy as a captive so Nina bravely releases it and in turn is more comfortable with the darkness of night. This would make an excellent naptime or bedtime tale.

the classroom. Responsibilities were disseminated based on interest. A committee formed to gain the permission of the principal. PowerPoint and Prezi presentations were designed and surveys created to get teacher and student feedback and buy-in. The teachers graciously made time for Susan's student presentations. The learning process was exciting and challenging! Presentations were created, scrapped, and re-created. A younger (nonreading) audience needs a different type of presentation. Linda collaborated with the students, and a model for the Hawthorne STEAM room was created. Students were given a total of sixty minutes per week to work on their projects during library time and class time. More often than not, students begged to stay in from recess to work. A student blog was created where they posted their goals for the week and the progress they made. Parents noted that their children were happily engaged at home, freely working on their Genius Hour projects.

While Susan was working to implement Genius Hour, Linda was consistently adding more technology in the library. She introduced students to Quick Response Codes and digital book trailers using iMovie, but students hungered for more. Susan seized the opportunity and posed the question to her students: "How do we give our library a twenty-first-century upgrade?" The students immediately began listing ideas such as iPads, a space to solder electronics and make things, a place to research with comfortable furniture, a space to create scientific experiments, a quiet space to relax and read, and more. As the students gained vision and ownership, Susan and Linda were attempting to break the ground, often finding themselves only a few steps in front of the kids (and sometimes trying to catch up). Just as a cartoon snowball gets larger as it progresses down the hill, so too the transformation of the antiquated library space to schoolwide learning hub picked up speed, mass, and momentum.

In spring, the first "soft" opening of our new STEAM room/library was met with nervousness. The plan was that volunteer third and fifth graders could come in during lunch or recess prepared with a polymer lesson and demonstration. Teachers and student presenters did not know what to expect. Learning stations were set up around the library. Two student presenters would teach and hold a demonstration. These students would then be able to create their own bouncy rubber ball. As the fifth graders filtered through the "magical" door connecting the lunch room to the STEAM room, there was a gasp of wonderment, excitement, and smiles. The demonstration enraptured the students, and they asked questions and participated eagerly.

In the next months, the library was wild with engaged students of every age exploring, creating, and learning. Management was a nonissue, as the students were so busy. Our STEAM room learning labs included a polymer lab (and creating a bouncy ball), a design challenge for the tallest structure constructed with spaghetti



and marshmallows, building a brush bot from a simple circuit, the history and engineering of origami, living labs with microscopic organisms, and more. After many encore performances, the upper student body was hooked and eagerly asked their teachers if it was their turn to participate in the STEAM room.

A COMMUNITY OF LEARNERS

It happened incrementally. Third- through fifth-grade students voluntarily gave up their recess to explore, tinker, and learn through hands-on science labs and experiments. We educators observed and championed their efforts, manifested by increased rigor and inquiry. At every turn, there was infectious excitement. Perhaps unpredictably, the school's female students expressed a very high level of interest in the project, especially the art aspect. They were fascinated with the possibility of turning ideas into reality.

The budgets were limited, meager. Make-it labs and STEAM inquiry projects prevailed for the older students; on the horizon was "Tinker Lab" for the K–2 students. The students wanted more materials for the library/STEAM room. An electronic sign was being constructed by students to designate the library as the home for STEAM. The Raspberry Pi computer was identified as a platform to quench the thirst for learning. A marketing group was organized and plans for bake sales were drawn up.

One of Susan's students became fascinated by 3D printers and the potential this technology brings to the curious and inventive mind. He researched the topic and set up Skype calls to the district's technology personnel and a science teacher at a district elementary school. He developed a PowerPoint presentation and enlisted our class as audience, then other classmates, teachers, and the upper student body. Budgets were contemplated, numbers crunched and recrunched. Students learned about spreadsheets and brainstormed to solve the problem of purchasing the printer. The student continued his research, and a grant application was found, written (by Susan), and awarded.

Sometimes parallel efforts with similar goals proceed to fruition, without recognition or acknowledgement of the other. Such might have been the case with the Hawthorne library transformation, but fate intervened in the form of an April 2015 interview with Katrina Schwartz of San Francisco's PBS/NPR public radio station KQED and posted on their Mindshift section (http://ww2.kqed.org/mindshift/2015/06/24/steps-to-help-low-income-students-direct-their-own-learning/). In the interview, Susan answers questions regarding student motivation, self-directed learning, Genius Hour, and other classroom practices. David Loertscher took notice and contacted Susan, forming the bridge to this magazine. David asked Susan if she had ever heard of the library learning commons, and a new journey unfolded.

In September 2015, the repurposing of the Hawthorne library into a learning library commons continues. Susan and Linda's students are armed with a new 3D printer, a few additional Chrome Books, and the momentum of excited, empowered self-directed learners. We all have library stories. What library stories will you create?

Sometimes parallel efforts with similar goals proceed to fruition, without recognition or acknowledgement of the other.

Linda Reuling (linda.reuling@boiseschools.org) has been in the field of education for the past 40 years as a classroom teacher, teacher librarian, field teacher for universities and an educational consultant. She currently works as a teacher librarian in a Title 1 school in Boise, Idaho with the goal of turning the small, out-dated library into a 21st century LLC.

Susan Wolfe (susan.wolfe@boiseschools.org) is an award winning educator, speaker, and consultant. She teaches gifted and talented students in a self-contained multi-grade Title 1 classroom in Boise, Idaho. Her passion for staff and curriculum development is evidenced by a career of gifted Title 1 educational service and the belief that we serve by providing the foundation for all children to learn to their highest abilities.

Section III

Table Talk Presenter Notes

Name(s): Nancy Chiara
Affiliation: Doss High School, Louisville, KY
Title of Presentation: Impact of Shifting to a Learning Commons Model

Description:

During the 2013-2014 school year, as part of the researcher's doctoral coursework in education, a study was conducted in the Doss High School library focusing on measuring the impact of learning commons practices. Doss High School is one of 22 high schools in the Jefferson County Public School System in Louisville, Kentucky. The school has a student population of just over 1,000 students with typically 75% eligible for free/reduced lunch. The school was identified as a Priority school in 2011 based on low test scores and gap scores. The library had been operating under a traditional model and the researcher was interested in measuring any significant shift in student attitudes and behaviors after implementing specific policies and procedures that were based on the learning commons model. These practices included extending hours of access, creating areas for collaboration, allowing students to check out audio/visual equipment and creating a maker space for student use.

The researcher used a pre-test/post-test survey method, student focus groups and library usage data to measure any change in student attitudes and behavior. The students were surveyed using a Likert-type questionnaire based on a survey from an American Library Association (ALA) publication. Between September 2013 and January 2014, changes were implemented such as allowing more items to be checked out at a time, allowing cameras to circulate, opening before and after school and during the lunch periods, and creating a lounge area for socializing and leisure reading. The physical layout of the library was changed based on feedback from the student focus groups and the learning commons model. The teacher work area was opened to allow students to use the materials and equipment for classwork and projects. The survey data were measured using the Mann-Whitney U non-parametric test through Statistical Package for the Social Sciences (SPSS) comparing the change in the mean responses. Library usage and circulation data were compiled using sign-in sheets and Library World software and calculated based on Frances Bradburn's formulas. Focus group comments and responses provided a narrative that supported the data results. The results of the study indicated the students used the library more frequently, circulated more items and had a more favorable attitude toward the library and staff after implementation of practices that were based on learning commons practices.

Name: Julie Williams
Affiliation: Willard School Library, Sanford, ME
Title of Presentation: Making a Buzz in the Library: Bee-Bots and Early Coding

Description:

Bee-Bots are an excellent tool for teaching primary students how to code, work cooperatively, and solve problems. Bee-Bots provide a fun, hands-on approach to introductory coding that is motivating for students. In addition to coding, Bee-Bots can be used to reinforce skills in literacy, math, and logical thinking. During the 2014-2015 school year, Bee-Bots were successfully used with 1st - 5th graders in all subject areas.

In addition to Bee-Bots, Willard School has also received a grant for Pro-Bots. Pro-Bots have more functionality than the Bee-Bots including on screen programming and editing, the ability to create, edit, and call up procedures, the ability to create repeat loops, and the ability to program a variety of steps and angles. The Pro-Bots have increased the opportunities for collaboration with the 4th and 5th graders at Willard.

For even more coding students at Willard School are all participating in course materials at Code.org and have access to a variety of coding apps and websites.

Name: David V. Loertscher
Affiliation: San José State University
Title of Presentation: The Virtual Makerspace

Description:
In an attempt to build a library learning commons website that would be more than a one-way street of information, graduate students at the School of Information and I have created three free templates on Google Sites to transform the school library website into a very participatory virtual learning commons.

Here are the links to those templates:
Elementary school: https://sites.google.com/site/templatevlcelementary/
Middle School: https://sites.google.com/site/templatevlcmiddle/
High School: https://sites.google.com/site/templatevlchigh/

Each one of these templates has a design hall where students are encourage to create, build, construct, and invent as a part of efforts to create a physical makerspace but extend that space into the virtual realm where students have access to making 24/7 and on any device. This semester, the graduate student teams have concentrated on building Symbaloo webmixes that contain many apps available on a variety of platforms. Criteria for inclusion of an app included the rejection of tutorials or assignments such a Khan Academy, but did open into a virtual space that encouraged tinkering, construction, and creativity.

You can see these webmixes
at: http://www.symbaloo.com/mix/virtualmakerspace

We encourage you to download our webmixes and use whatever you can to create your own virtual makerspace in your own school at the grade levels that you want them to be available.

Name: Judi Moreillon, Ph.D.
Affiliation: Associate Professor, School of Library and Information Studies, Texas Woman's University, Denton
Title of Presentation: The Learning Commons: A Strategic Opportunity for School Librarian Leadership

Description:

In a time when the number of preK-12 students in U.S. public schools is increasing and school librarian positions are decreasing nationally, practicing school librarians are wise to think strategically about the priorities they set for their work and the activities supported by the school library program. Facilitating a program based on the learning commons (LC) model is a whole-school approach that fosters deep learning for all library stakeholders. This model provides a framework for co-developing a school library program that meets the needs of the learning community while it can help establish the role of the school librarian as central to 21st-century learning and teaching.

In this thought-piece, I assert that for strategic reasons the LC model offers a best practice in school librarianship. I review this framework and connect various aspects of this model with previous research and innovations in school library practice. I identify the learning commons as the ideal site for engaging in evidence-based practice (EBP) through coteaching. It is within certain features of the LC that school librarians can effectively measure their contributions to increased student learning and to improvements in instructional practices in their schools. Strategic school librarians, who adopt and adapt the LC model to meet the needs of library stakeholders, are perfectly positioned to apply EBP through coteaching and ensure their leadership role in today's educational environment.

Keywords: school librarians, learning commons, evidence-based practice, leadership

Name(s): Susan Wolfe and Linda Reuling
Affiliation: Boise Independent School District
Title of Presentation: Pure Genius! Sparking Student Inquiry, Self-Direction and Motivation in our Schools

Description:

To prepare our students for life outside the classroom, the school day must provide opportunities to select and solve real-world problems. This session will explain the doable integration of Genius Hour, Project-Based Learning, and "Real World" classroom activities that provide students the freedom to innovate, create, and change the world. Attendees will learn techniques to embed inquiry-based learning experiences seamlessly into the Common Core curriculum to intrinsically motivate and increase student perseverance. The presenters will share their journey with sample projects and resources, including the metamorphosis of the school library into a "Make It" media and STEAM activity center.

Countries throughout the world are re-organizing education systems. Like us, they are engulfed in rapid economic and social change. Daniel Pink's book, *Drive: The Surprising Truth of What Motivates Us*, asserts that the secret to high performance and satisfaction at work is a need to direct our own lives, to learn and create new things, and to do better by ourselves and our world. Our students are not exempt from this observation. Genius Hour, Project-Based Learning, and "Real World" inquiry-based learning frame an environment that allows students to follow their passions, challenge themselves, and personalize the learning.

Name(s): Brandi Young, Erica Clay, Emily Rozmus
Affiliation: INFOhio ILibrarians
Title of Presentation: The INFOhio ILibrarian Pilot: An Innovative Approach to Integrating Statewide Instructional and Digital Initiatives

Description:

Two years ago INFOhio, Ohio's PreK-12 Digital Library, began the ILibrarian ("Integration" librarian) program to help school librarians meet the increased demands for research and literacy found in the Ohio Learning Standards. The ILibrarians would be a statewide resource who would compile best practices, open lines of communication between library groups around the state, and investigate the possibility of virtual library service. The two-year pilot has been successful in many areas, especially in encouraging students to use databases. In fact, database use in Ohio schools increased in the last year by 53 percent.

Join the INFOhio ILibrarians for a table talk to hear the original goals of the program, how those goals were met, and how the goals are evolving as the ILibrarians and INFOhio work to integrate instructional and digital initiatives across the state.

Name: Valerie Diggs
Affiliation: Salem State University/Simmons College
Title of Presentation: Student Ownership of the Learning Commons

Description:

As school libraries developed a foothold in public schools across the nation in the 60's, school librarians were convinced that the school library was "their" domain. Students and staff visited, but never participated in decision-making around the daily operations and management of the space. This perceived "ownership" of the library by school librarians was pervasive while being destructive to the basic mission of school libraries.

This table talk will address the notion of student ownership of the Learning Commons. By what vehicle do we give students more of a voice in the life of the LC? How do we help students engage in both the more mundane daily operational tasks as well as in the bigger picture? Where do we draw the line with student-driven decision-making and what does that look like? What are the perks of student ownership in the Learning Commons?

Name: Marla Yudin
Affiliation: Oswego County (NY) School Library System Director
Title of Presentation: C3 Social Studies Frameworks and Inquiry in the Learning Commons

Description:
I will discuss what the C3 Framework is, how it originated and evolved, its guiding principles and the instructional shifts required.

I will also discuss the four dimensions of the framework, and how Dimension 1 (Developing Questions and Planning Inquiries) and Dimension 3 (Gathering and Evaluating Sources and Developing Claims and Using Evidence) are particularly relevant to the Learning Commons.

We will also look at Instructional Design Model, as well as the Connections to the Common Core State Standards for English Language Arts and Literacy in History/Social Studies.

I will supply handouts, bibliography and links.