MEDIA LITERACY:
A SYSTEM FOR LEARNING
ANYTIME, ANYWHERE…

Part I: Change Management

Tessa Jolls

President and CEO

Center for Media Literacy

MEDIA LITERACY:
A SYSTEM FOR LEARNING ANYTIME, ANYWHERE…

This e-book is the first piece in the CML Trilogy titled *Media Literacy: A System for Learning Anytime, Anywhere...*

The Trilogy includes:

Part I:

- **Change Management e-book**
- *Professional Development Presentation*
- *Tools for Change Management*

Part II:

- *Deconstruction and Construction e-book*
- Professional Development Presentation: Deconstruction
- Tools for Implementation: Deconstruction

Part III:
- Professional Development Presentation: Construction
- Tools for Implementation: Construction

ISBN: 1-879419-23-8

© 2012 Center for Media Literacy, www.medialit.com

Find additional media literacy resources and information about CML's services for professional development, curriculum development, assessment, research and evaluation on our website: www.medialit.com

TABLE OF CONTENTS

A drive with my son through the famous mid-Wilshire district of Los Angeles tells a story of change and renewal that is indicative of the change and renewal that is now underway in the education field. I first saw mid-Wilshire in 1986, when I moved to Los Angeles. During our recent drive, I saw that the Los Angeles County Museum of Art has a new entry; it is no longer possible to see the jumble of museum buildings from Wilshire Boulevard. Instead, a tall glass block wall reflects light but obscures the view of the museum campus. Further east, stately churches, with their gothic spires and grand wooden doors, line Wilshire. They retain their traditional dignity and they are labeled with signs advertising their denominations in Spanish and Korean. The familiar logos of chain restaurants found globally now line facades formerly occupied by local mom and pop shops. The building that housed Bullocks Wilshire, the elegant department store, remains, but it is unrecognizable and seems to shrink from its former glory; its beauty depends upon the eye and memories of the beholder. And the Los Angeles New Learning Center now stands where the famed Ambassador Hotel stood, housing the site of the Coconut Grove nightclub and the assassination of Robert F. Kennedy. For me, who remembers the "old" mid-Wilshire, seeing it now is like looking through a funny-house mirror, where shapes are familiar but distorted, where the familiar anchors are gone. The world seems turned and unpredictable. But for my son, the boulevard is what it is, at least for today. It's a different world – for me, not for him.

"Get over it," my son said, as I was lamenting the past. Get over it! Yes, that is my burden, my responsibility and my challenge – not his. But it's not easy, and it's not instant. Recognizing change, and navigating it, is a process, and it's a messy process, at that. The outer world, the buildings, are only surface constructions that are fairly static; what the buildings house is far more dynamic, tumultuous and transitory. In a world where seismic changes are underway, we need a new set of the Three R's: to Re-examine, Re-value, and Re-imagine. We need to give people concepts and tools to help them understand and bridge the changes confronting them. That is the purpose of this book and toolset: to give education leaders tools for reflection that enable meaningful change. Each individual and each organization will make their own meaning from this process, but while the solutions are infinite, the problem is the same: to "get over it" and to meet youth where they live, in the present, so they are prepared for the future.

Recently, the Knight Commission on the Information Needs of Communities in a Democracy issued a comprehensive report detailing how the drive toward broadband and digital access is affecting everyday life (Knight Commission on the Information Needs of Communities in a

Democracy, 2009).   This report calls for all citizens to be media literate, and for mandating the development of state curricular standards on media and digital literacy while providing classes and other means of teaching digital and media literacy. My own work focuses on the field of media literacy in K-12 settings, and it is through the lens of this work that I've applied the new Three R's, with hopes of helping others gain a new view of their own.

Tessa Jolls, January 2012

Rights and Permissions

This work is part of the CML MediaLit Kit™, a collection of resources based on the Center for Media Literacy's framework for media literacy. Since its founding in 1989, the Center for Media Literacy has been committed to making media literacy information and resources available for distribution while at the same time, receiving fair compensation for development costs. It is important to note the following:

- When you purchase materials from CML, it is unlawful to photocopy or reproduce our materials (in whole or in part) for further distribution to others (whether electronic or print) without proper consent or compensation. For quantity discounts, please contact us.
- CML's framework for media literacy education is proprietary, copyrighted and research-based. Please obtain written permission from CML to use in other applications or materials.

We ask you to respect copyright and abide by the policies related to downloading and use of copyrighted resources.

For updated Rights and Permissions information, please go to:
www.medialit.com/permissions.html

Media Literacy: Change Management

"In preparation for landing, please turn off your books!" the flight attendant announced to passengers busy with their e-readers in an April 2010 New Yorker cartoon. Hmmm….imagine that!   Now imagine library shelves being…..empty. Or think of homes with bric-a-brac lining shelves and occasional displays of antiques, otherwise known as…. books. Or of schools with….no walls. Or of students with….no backpacks.

And of course, these changes are just the beginning. What was scarce in the past is now plentiful: access to information. What was plentiful in the past is now scarce: face-to-face interaction, guidance and filtering from caring adults for youth as they access information (Jolls, 2008). What used to be static is now more dynamic: design and delivery of curriculum (Steiny, 2010).   What used to be dynamic is now becoming more static: individual state standards are moving to a common core of national standards (Council for Chief State School Officers, 2009). Instruction that is one-size-fits-all with lockstep progress, is now yielding to individualized instruction, tailored to individual progress. Many of these changes are rooted in technology, and the story is just beginning.

Like it or not, the very fabric of everyday school life is being rewoven. And none too soon! The call to action is compelling, with school districts around the country slashing staff, with no end in sight for shoring up funding shortfalls (Lewin and Dillon, 2010). Unlike staff, students have voluntarily left the system and voted with their feet, with an average dropout rate of 30% nationally (Khadaroo, 2009).   The U.S. education system is facing unprecedented competition from abroad, placing 15th of 29 Organisation for Economic Co-operation and Development (OEDC) countries in reading literacy, 21st of 30 in scientific literacy, 25th of 30 in mathematics and 24th of 29 in problem solving (Alliance for Excellent Education, 2008). In 2007, more school-age U.S. children were schooled at home full time than attended charter schools, with 2.9% of children in grades 1-12 being taught at home and about 2% attending charter schools (Viadero, 2010), while 11% of all K-12 students attend private schools (Center for American Private Education, 2009). Employers are citing professionalism/work ethic, oral and written communications, teamwork/collaboration and critical thinking/problem solving as the most important skills for workplace readiness (Lotto and Barrington, 2006).

With these conditions, the argument over the sustainability of the present system should be over, with the real question being what characteristics the education system should now embrace and embody. Due to the proliferation of technology tools and the engagement of youth with the

technology, the need for valuing change and changing values is urgent. Even those teachers and administrators hailing from "successful schools" are typically being measured by yardsticks rooted in the past, not the future. With the proliferation of media tools, media literacy is a necessity, not a luxury, for today's students.

According to Julie Evans (2010), chief executive officer, Project Tomorrow, "A growing chorus of students say they are required to step back in time when they enter the school building each morning, powering down the productivity, learning and connectedness tools they use outside of school and that many adults now take for granted." Evans states that this is true "despite overwhelming agreement among parents, teachers and principals that the effective implementation of technology in schools is crucial to student success."

Yet just installing technology is not enough. "Throwing technology at our students is missing the point. It's like saying 'Give them cars, and they will drive,' about a non-driving population," said William Badke (2010), an academic reference librarian with Trinity Western University.

We continue to need a new set of 3 Rs: to Re-examine, Re-value and Re-imagine what ingredients each school day offers community members being served, and how administrators and teachers meet these needs. The interactive world of today has yet to be reflected in today's classrooms.

Fortunately, new technologies and our understanding of what they mean and entail have finally evolved to a point where new approaches can be more easily scaled more quickly. A tipping point? Will 50% of all high school courses indeed be delivered online by 2019? (Christenson, Horn and Johnson, 2008). "Necessity is the mother of invention," and the education field is indeed reinventing itself. But the U.S. cannot be complacent: in Great Britain, for example, all schools are now *required* to deliver education content through virtual learning platforms, and common standards for content are being identified and adopted so that educational resources can be easily and widely shared. Countries who want to compete in the world arena based on broadband speed and access as a competitive advantage need populations who are equipped to leverage such access technically and intellectually.

Information: the Mind of the Matter

The hunger for information is universal and compelling, regardless of time and place. Roman rooftops in 1990 revealed a landscape of television antennas reaching up toward the sun; a Tijuana slum in 2002 displayed satellite dishes near every doorway; and now in 2010, U.S. cities are

changing their names to compete for the privilege of being a "Google city" with high-speed broadband access to multimedia information (Boulton, 2010).

Learning to navigate this global information village is the biggest challenge for adults and children today. Citizens need media literacy skills to be:

- Efficient managers of information
- Wise consumers
- Responsible producers and
- Active and effective participants in today's global culture.

Citizens naturally turn to their schools and in the past, to their libraries (and now to search engines and the internet) to gain access to the information and skills they need. In the past, because information was presented physically through printed texts or face-to-face, people physically traversed to temples of learning and literacy. Often, the architecture of these temples reflected the reverence with which people regarded them: the Carnegie libraries were beautiful architectural statements with pillars rivaling those of the Greeks; college campuses and those of many K-12 schools are imposing. But because access to information in the past required physical contact, the focus of learning tending to be on content knowledge that could be imprinted and retained more than the information process skills that facilitate learning in an era when content is infinitely available at the tip of one's fingers. Our society valued content knowledge and built its institutions to reflect that value.

Today, meeting citizens information needs requires both content knowledge and information process skills – knowing how to learn and to access, analyze, evaluate, create and participate with multi-media information -- to provide the support and context needed for making every-day choices. These information process skills represent the classic definition of media literacy. In thinking about the interplay between content knowledge and process skills, one must ask, Who can separate the dancer from the dance? But embedding the formal teaching and learning of process skills into the education system takes new understanding, new modeling and an ongoing, high-level, determined commitment.

This chart captures some of the major shifts that technology has brought to the education world – changes which educators are still struggling to understand and adapt to:

Table 1 Comparisons between Local Village and Global Village

Past	Today
Local Village	**Global Village**
Adult Guidance Plentiful	Adult Guidance Scarce
Local Representations	Global Branding
Information Access Scarce	Information Access Plentiful
Information Acquisition	Information Sorting
Content Knowledge Transmitted	Process Skills Practiced and Applied
Granular Content Knowledge	Research-based Framework Sorting
Isolated Content Silos	Integrated Problem Solving
Production by Few	Production by Many
Access to Best Teachers Scarce through Technology	Access to Best Teachers Plentiful
Physical Location of Schools	Virtual School Locations

Tessa Jolls, 2008

Examining this table more closely, the present education was born in an era when:

- children's face-to-face contact with adults in the local village was intense on a daily basis, providing children with guidance and filters on the information and people they came in contact with. Now, in the global village, such contact with adults is scarce.
- businesses and organizations in the local village were known individually. Today,   businesses and organizations are often branded globally for instant recognition.
- information and access to printed information was scarce. Now, information access is plentiful and can be overwhelming.
- content knowledge was passed down through individual teachers and printed information was often hard to obtain. Now, sorting through and validating information are the priorities, using research-based frameworks grounded in information process skills.

- content silos developed as ways to specialize and share scarce knowledge and scarce access; today, deep knowledge is readily documented and available while problem solving across disciplines, using specialized knowledge from various resources, is needed.
- production of media was controlled by a few; today, everyone is a media producer using digital tools.
- access to the best teachers was limited to physical proximity. Today, everyone can have access to the best teachers through the global village.
- students had to be physically present in school to progress; today, students are free from time, space and a lock-step pace.
- learning to play together, to work in teams cooperatively, was confined to physical interaction. Now, students can learn teamwork through online sports and games.
- students were more physically active because their world was more physical. Today, students are less physically active, creating poor environments for physical health and well-being.

With these changed conditions of 21st Century life, it is imperative to ask:

> *If process skills are central to being an educated citizen, why are process skills not clearly defined and articulated through educational frameworks? Why are these skills not the focal point for learning and acquiring content knowledge?*

So, for example:

- If values are the fundamental prism for valuing risk, evaluating choices and making decisions, why isn't character education at the heart of education?
- If critical analysis of representations, including branding systems, is key to sorting valid information for risk analysis and decision-making, why isn't media literacy education central to teaching?
- If the arts provide the creative language for emotional expression and understanding, why are the arts being downsized in schools when children need these skills to understand the global village and need to have outlets for expression and learning through different modalities?
- If sports and games are effective ways of learning to work individually and in teams in today's complex society, then why are physical education programs being eliminated when children need these skills and healthy outlets more than ever?

The whole child is more than the sum of the parts that are currently being addressed in today's schools, which are typically designed to focus on imparting content knowledge. With this in mind, ASCD (Hodgkinson, 2006) has initiated a new compact to educate the whole child, calling upon educators, parents, policymakers and business leaders to ensure that, in their own community:

- Each student enters school healthy and learns about and practices a healthy lifestyle
- Each student learns in an intellectually challenging environment that is physically and emotionally safe for students and adults
- Each student is actively engaged in learning and is connected to the school and broader community
- Each student has access to personalized learning and to qualified, caring adults
- Each graduate is prepared for success in college or further study and for employment in a global environment.

In this context, the whole child makes for a greater society. Technology as an education tool is able to provide in-depth information on an infinite number of topics on a global basis. Based on this information, choices are made, with consequences to individuals and society. Choices are rooted in values, and in a technology-driven world where choices abound, it is values, coupled with information and critical analysis, that make the difference.

So while technology offers limitless information options, humans need filters and frameworks through which to negotiate meaning. John Naisbitt (1988) said that "Society is drowning in information and starved for knowledge;" that remains the case. Beginning at birth, children need tools to gain knowledge and make wise choices. Like learning to swim or to row, using these tools takes practice over time. Reinforcement and discussion with adults helps children through the thickets while the adults learn too.

This adult interaction is essential since humans have "social" brains (Goswami, 2008) which acquire knowledge incrementally through cultural experience and social context. But children also need technical skills and equipment to thrive in the technological world. The United States leads all other Organization for Economic Co-Operation & Development (OECD) nations in providing computers access in schools and classrooms (Hodgkinson, 2006), but predictions are that it may take another decade for teachers to acquire good instructional software and training.

Increasingly, technology affords the necessary tools for curricular integration and a constructivist approach to education, in contrast to the traditional silo approach which lacks little if any connection to the world outside the classroom. These silos, which define traditional academic subject areas such as language arts, mathematics, history and science, are rich in tradition and knowledge. However, they also discourage sharing of knowledge, since silos represent discreet and often impervious subject areas separated by their own unique vocabularies and views.   The silos provide endless opportunities to "drill down" deeper into a particular content area, but often at the expense of a broader perspective that contributes to real-world problem-solving.

The Change in Educational Needs

Reacting to pressure to increase performance (valued and defined as mastery of content knowledge), schools have mistakenly emphasized "more more more" content knowledge, and "more more more" testing of that content knowledge, at the expense of explicitly labeling and teaching process skills to enhance critical thinking (Thoman and Jolls, 2004) and learning skills. With access to caring adults scarce in the global village, children need internalized frameworks and process skills – media literacy -- now more than ever, to navigate the global media world on a lifelong basis.

This is not to say that content knowledge is unimportant – quite the contrary – but process skills in the global village are needed as the central tools through which to contextualize, acquire and apply content knowledge. This means that process skills must be valued, articulated and taught systematically. The goal of teaching children the problem solving skills they need in life must be grounded in a process of value-based inquiry. It is these values -- coupled with skills of analysis, expression and self-representation -- that provide the context to inform and guide their decisions throughout life.

Equipping children with the tools to be able to evaluate their opportunities and risks and to make their own choices is the ultimate responsibility – and gift – of educators to their young charges and the nation's citizens. The online global village, built on the base of technology and media, is as much an arena for learning as the classroom in the local village.

The New Citizenship: To What End?

While schools work to shift the emphasis from primarily content knowledge to include more emphasis on process skills, they must also focus on the end goal of preparing students to be solid citizens, ready for work and for continuing education in both the global and local village. This is not a new responsibility, since school mission statements have long called for preparing

students to become responsible citizens, but the focus of what it means to be a responsible citizen is changing to accommodate the online world as well as the traditional offline world.

The internet and cell phones have become central components of modern family life, with households with children being more likely than other household types to have cell phones and use the internet (Wellman, Smith, Wells, Kennedy 2008). Students themselves make little distinction between the online world and the offline world; they move seamlessly between the global village and their local village (Ito, et al., 2010).

But while youth are comfortable with these new ways of interacting, schools and adults within them often are not: the unfamiliar is often frightening and formidable. Students report the use of cellphones, e-readers and other technologies are still exceptional in classrooms (Project Tomorrow, 2010). And not only is the technology itself underutilized, but fears regarding online participation also undermine use in schools. As new research and information become available, these fears sometimes become allayed, while other threats are uncovered. Here are some facts about Internet use reported by the Pew Internet & American Life Project (Lenhart, 2007):

- 93 percent of American teens ages 12 – 17 use the Internet
- 32 percent of online teens report they have been contacted online by a complete stranger (defined as someone who has no connection at all to you or any of your friends)
- <u>Of teens who have been contacted</u>, 23 percent say they were made scared or uncomfortable by the stranger contact
- Overall, 7 percent of online teens experienced disturbing stranger contact.

What value should be placed on this research? What resources should be matched to address this problem and how should those resources be allocated? It is in answering these types of questions that values play out, and citizens and their representatives are called to answer these questions. Such decisions cannot be lightly made; they take skills, knowledge, understanding and indeed, wisdom, since choices will affect people world-wide. Citizenship in the global village requires preparation, just like citizenship in the local village.

With valid information, it is possible for policymakers and for those working closely with youth to be more discerning about who may be at risk and how to deploy resources to help those who need assistance. Further understanding of online risks has also revealed that children themselves are the biggest contributors to online hazards, with cyberbullying, sexting and

plagiarism among common threats. So long as there is opportunity, issues will continue to arise. One Wall Street Journal article queried "Is Internet Civility an Oxymoron?" (Crovitz 2010), which is a valid question. The conclusion: "Technology, for all its benefits, is no substitute for readers' own judgments."

Yet a recent study released by the National Cyber Security Alliance [NCSA] (2010) and supported by Microsoft Corp. found that one-fourth of U.S. teachers have spent more than six hours on any kind of professional development related to cyber ethics, safety or security within the last 12 months. More than half of teachers reported their school districts do not require these subjects as part of the K-12 curriculum, and only 35 percent said they've taught proper online conduct to their students. Despite this, more than 90 percent of technology coordinators, school administrators and teachers support teaching cyber ethics, safety and security in schools (eSchool News 2010).

Although more than 90 percent of schools have built up digital defenses, such as filtering and blocking social-networking websites, "We need to make the child the filter,…we know that students have always found ways around the best constructed fences created by adults," said Keith Krueger, CEO of the Consortium for School Networking (CoSN) in an April 2010 article for eSchool News. Though youth are well-known to be ahead of adults in using technology, educators can't take these skills for granted. Many students have only a superficial familiarity with the digital tools that they use regularly, especially when it comes to the tools' social and political potential (The Economist, 2010).

One frequent question about delivering such instruction is whether to integrate the teaching of process skills and ideas related to "digital citizenship" or "netiquette" across the K-12 curriculum, or whether to offer a separate media literacy course for students. Although curriculum integration is ideal, on a practical basis, it is difficult to realize results since, as the old saw says, when everyone is responsible, no one is responsible. Furthermore, since both most educators have such little grounding in the teaching of these skills, concentration is beneficial to help build a foundation for both teachers and students. As demand for this knowledge and experience, combined with a shared vocabulary and more common understanding grow throughout schools, curriculum integration will become a natural by-product.

The Educator Challenge

As schools make the shift to value process skills as well as content knowledge, the various systems that support classroom learning will

necessarily reflect this shift. Instead of "temples" of learning with grand buildings that provide a portal to that learning, portals are now virtual and available through smartphones, laptops, e-books, and other devices yet to be invented. These portals are "on" night and day, anywhere, anytime, anyplace. A recent YouTube video called "A Portal to Media Literacy" (Wesch, 2008), which has tallied more than 100,000 viewings since its release in early summer, 2008, clearly captures how teaching combined process skills and content knowledge changes the physical as well as the mental landscape of the classroom. Today, the physical layout of classrooms typically feature student desks facing in one direction – toward the teacher and whiteboards or "Smartboards." The teacher is the focal point of the class; the most important communication is presumably a two-way exchange between the teacher and each student facing him/her.

But in teaching students a process of inquiry – the heart of media literacy (Thoman and Jolls 2004) -- and in utilizing today's powerful technology tools which allow for interaction and collaboration world-wide, the teacher is no longer the font of all wisdom, but instead, a guide who sets goals, parameters and assignments with state education standards in mind, helping students learn a process of inquiry that will often take them outside the classroom walls and into an engagement with their peers and others who can assist them. As the saying goes, the teacher is no longer the "sage on the stage, but a guide on the side" (King, 1994).

Not only does this approach allow students to sometimes become the "teacher" and to learn from each other – thus valuing the intellectual capacity and everyday contributions of children --but it also encourages teachers to collaborate more and to reinforce the skills that all classes have in common, rather than just the content knowledge which distinguishes each class.

Furthermore, the teacher is freed from being the only "expert" available to students. Today, students have access to the most knowledgeable experts from around the world or from their own local communities. The school walls are porous and both students and teachers are enriched by this connection to the bigger world and to their peers.

Such changes drive other changes in every facet of education: teacher preparation and credentialing, quality control and evaluation, ongoing professional development, assessment, curriculum, parent interactions – no system or individual within a school or district is untouched.   Furthermore, the heavy weight of federal, state and local regulation and code is rooted in the old value system for schools, often making it impossible for schools and districts to avoid purchasing outdated textbooks or providing for needed

technical support, and imposing an administrative burden that diverts precious resources from students and teachers.

Innovation is happening, regardless. One example of new approaches in the classroom is in Rhode Island through the New England Common Assessment Program. Children in each grade level must accomplish Grade Level Expectations (GLE's), but the curriculum itself can be whatever successfully gets the kids to reach the expected standards, completely freeing the teachers from old-school textbooks. Teachers design their curriculum and coordinate to make sure that they know what GLE's are for the grade level ahead and the grade level behind, as well. This helps avoid repetition and boredom for both teachers and students, and through ongoing assessments, teachers can make sure students have the knowledge they need to demonstrate in the state-wide assessments (Steiny, 2010).

Examples of classroom innovation abound; The Association for Supervision and Curriculum Development's recent publication, *Curriculum 21: Essential Education for a Changing World* (Jacobs, 2010) provides an excellent overview of tested ideas and approaches, including media literacy. But though individual teachers, principals and districts often exemplify models, systemic change is still a challenge. Teachers and students need ongoing support, and two keys to getting such support are the media librarian and the school principal, whose roles also are necessarily changing as their roles are revalued. Certainly, a school's chief technology officer also plays a vital role in insuring that the broadband, hardware and software tools are available to support a school's educational mission, but these ingredients are addressed in many other venues, while the impact of the technology and how the technology requires systems changes in the way services are delivered are often neglected. At the same time, many schools have had slow progress in integrating technology into classroom practice because teachers have little or no access to technical support staff.

The New (Media) Librarian

Teachers bear much of the impact of revaluing the type of instruction needed, but the role of the media librarian is also one which is greatly expanded because of the changed nature of education demands. According to Simpson (1998), the school librarian is "less of a warehouse manager and more of a reference consultant to teachers and students while still retaining the instructional focus that has always been part of the position,"   In effect, the position is the education equivalent of the business Chief Information Officer (CIO). This position differs from the Chief Technology Officer (CTO) in that the CTO focuses on hardware and software, while the CIO focuses on

content management and facilitating the process skills necessary to utilize the content effectively.

Duties of a school media librarian today include:

- Consulting. Librarians collaborate with classroom teachers to meet the information needs of students. They help teachers select high-quality materials that meet standards and criteria for instruction. They suggest resources, locate and acquire needed materials, recommend strategies, and facilitate use of technologies and instruction. These duties become even more important as teachers and students gain more freedom in finding resources through which to meet standards.
- Access to information. In the past, librarians worked to develop collections; today, they play an important role in developing access to high quality resources that are on-target for instruction; they insure that such access is in legal compliance; and they share resources with other users and communities of practice.
- Manage information. Librarians are responsible for locating, acquiring, disseminating and tracking information resources of many types. These tasks involve managerial expertise equivalent to that required of corporate information center managers, who manage budgets and selects new materials for purchase or access. Clerical assistance is often required for these tasks.
- Teach. Teachers constitute a significant portion of librarians' instructional time. As the campus expert in information location, management, the librarian is in the best position to be on the forefront of information technology and to train others on media literacy. The library media teacher is often a co-designer of instruction and assessment with classroom and specialist teachers.

In 2004, 75.2% of U.S. schools had paid, state-certified library media specialists (with California being an exception, since only 23.7% of California schools reported having a specialist) (California School Library Association, CSLA 2004). Such investment pays: access to and extensive use of resources and print and information-rich environments are correlated with student reading achievement. Furthermore, vocabulary, grammar, comprehension and motivation show powerful improvements when students are allowed to choose their reading material (CSLA 2004).

New trends in library management will undoubtedly draw upon the skills of media librarians even more:

- Information Architecture. As websites and intranets become more complex, information architecture becomes more important. Often, information architecture simply mimics a school's organization structure, but sound information architecture fits the organization's context, the quantity and quality of content and inventories, and the needs of the users. Having appropriate systems to structure a school's information so that that information is retrievable is essential. (Barker, 2005).

- Risk Management. Risks are inherent in managing and accessing the huge diversity of resources and content; media librarians are equipped to understand and manage these risks and help develop policies and procedures appropriate for their school environment, as well as instructional guidelines for teachers and students. (Kelly, Bevan, Akerman, Alcock, & Fraser, 2008).

- Participatory Libraries. Being in the knowledge business, libraries are encouraging active user participation with creating and documenting new knowledge in communities as well as facilitating conversations that can be recorded in artifacts like books, pictures and digital files (including social networking, emails, etc.) These types of activities recognize the contributions of community members and help build community capacity and a participatory library (Lankes, Silverstein, Nicholson & Marshall, 2006).

- Outreach to Community Libraries and Museums. Museums and community libraries are actively engaged in encouraging 21st century skills; many of them reach out to students through educational programs and also through providing facilities and multi-media tools (Pawel, 2010). It is critically important to align and leverage all participants in the learning system – schools, institutions, individuals, families and neighborhoods. When such alignment happens, everyone has the potential to be a learner, educator and collaborator, which benefits not only the individuals but entire communities as well. (Institute of Museum and Library Services, [IMLS] 2009).

- Outreach to National Library Movements. Librarians are strong advocates for privacy and for freedom of the press; for example, a group of Connecticut librarians spearheaded a legal challenge to Section 215 of the Patriot Act (Johnson, 2010). Students benefit from knowing how information and media play a key role in policy formation, how to access their representatives and policymakers, and how to preserve their freedoms.

The Principal

The principals' role continues to be central to success in addressing new educational needs and supporting their staffs in doing so. Re-valuing how content knowledge and process skills are balanced in the classroom impacts all systems in a school, as well as parent's perceptions, and it is the principal's role to confront and to align these systems with new teaching and learning imperatives and to insure quality of services and effectiveness.

Furthermore, as the chief executive for their schools, principals must insure that the organization structure and goals are well represented and consistent throughout the school's information systems: the information architecture, websites and intranets, intellectual property management and content management systems. Although it's possible to delegate the implementation of these systems, it isn't possible to delegate having vision, consistency or evaluation of results!

Content management is rapidly changing in schools, as new technologies increase the diversity and access to content of all types – whether that content is developed externally or internally. Smartboards and virtual learning platforms, as well as data management systems and enterprise systems are all examples of managing schools' content and data offerings in better, faster and cheaper ways. Schools are buyers, recipients, generators and repositories for intellectual property, and as teachers and students become freer to create and share their curriculum, learning and projects, there will be an increased need for managing intellectual property and insuring that it is properly protected, stored and shared. School managements have not emphasized this function in the past, but with world-wide distribution of content and even monetizing of content now possible, it is worth noting.

Considering media literacy as core learning rather than an add-on or nice-to-have requires a new lens through which to look at school leadership and success.

Characteristics of the New Student and New School

Letting go of the old factory school model is difficult for many who remember their own schooldays. We know what we are moving from, but what vision are we moving towards? The "Hollywood" teacher or librarian of old was depicted as being busy shushing students so that they could quietly soak in the content knowledge that they presumably came to the facility to acquire. Closed and protective environments, where disturbances weren't welcomed, helped insure that the transmission of content was intense and uninterrupted; ideal children were regarded as sponges absorbing knowledge

from elevated sources (automatically inviting rebellion against authority, of course!). Today, this one-way transmittal of information is handled routinely through technology and not only is two-way asynchronous communication possible, but it is interactive and simultaneous as well. But generally, views of children and how they might participate in the education process haven't kept pace with the new possibilities offered through a technology-assisted learning environment.

Children experience this technology from birth; it is a given for them. Whether in a car seat engineered for safety, in a room with music or television, or observing a parent speaking on the telephone, babies immediately interact with a world driven by technology. How children process this experience is unknown, but the field of cognitive development has changed dramatically over the last three decades (Goswami, 2008), upending assumptions about what is taking place within a child's head. As posited by Jean Piaget in 1954, child development is a linear process through which children progressed in orderly fashion. Interestingly, this view of child development is also reflective of the factory model of learning.

But recent brain research has upended Piaget's assumptions: "It is now recognized that children think and reason in the same ways as adults from early in childhood. Children are less efficient reasoners than adults because they are more easily misled in their logic by interfering variables such as contextual variables, and because they are worse at inhibiting irrelevant information…Child development is today conceptualized as an essentially social process, based on incremental knowledge acquisition driven by cultural experience and social context," Goswami said (2008, p. 3).

These new findings call for a fundamental re-examination of how we teach and how children learn, of how empowered children can be self-directed learners, of how children might participate more fully in society, to engage in the social processes and experiences that drive learning. Children should be empowered to engage and contribute in ways that utilize their capacity and that recognize that all paths are not linear. These new ways of viewing children are threatening to existing educational structures and institutions that are designed to impose controls on children (and educators) that may not be necessary or appropriate – with legislatures, regulators, and higher education being just as accountable for this modus operandi as K-12 boards and administrators.

Children can be trusted to speak, but they are not often asked. When students are asked their opinions, the results are revealing and even startling. Project Tomorrow, through its annual Speak Up Survey of U.S. students

nationally, surveyed 300,000 students in 2009. Students reported three essential elements for their vision of education:

- Social-based learning. Students want to leverage emerging communications and collaboration tools to create and personalize networks of experts to inform their education process.
- Un-tethered learning. Students envision technology-enabled learning experiences that transcend the classroom walls and are not limited by resource constraints, traditional funding streams, geography, community assets or even teacher knowledge or skills.
- Digitally rich learning. Students see the use of relevancy-based digital tools, content and resources as a key to driving learning productively, not just about engaging students in learning.

"Students are no longer waiting for policy changes within their schools or from Washington, D.C.," said Julie Evans, chief executive officer, Project Tomorrow. "Students want their voices heard by those making education policies, but we are now seeing them move beyond their attempts to share their needs with adults. They are taking the technology they have grown up with and using it to help them learn – inside and outside of the classroom." (Evans, 2010).

Teachers are trying to respond: according to Digitally Inclined (PBS & Grunwald Associates 2010), 76% of K-12 educators said they use digital media in the classroom, up from 69% in 2008. Of those teachers, 80% are frequent or regular users. School districts are scrambling to upgrade their technical infrastructures so that they can accommodate demand. For example, over the past two years, Forsyth County School District in Cummings, GA has slowly allowed some of its 34,000 students to bring their own notebooks, iPhones or other computing tools to school and connect them to the district network. But even this partial opening of the system has required the district to employ a dual wide area network connection, a triple Internet connection and a robust wireless infrastructure, (Roscoria, 2010), need at end as well as to use three different Internet service providers, two different wide area connections companies, and a triple Internet connection, "Districts should talk with students before they start something new, " said Bailey Mitchell (Roscoria, 2010), Forsyth County's chief technology and information officer. "Administrators need to ask the kids how they approach learning with technology, what kinds of tech tools they would like to see in school and how they would use the tools if they had them."

The 2009 Speak Up survey revealed that students use of media is quite different outside of school than in. For schoolwork, high school students use digital tools, content and resources to:

- Complete writing assignments (79%)
- Create slideshows, videos and Web pages (66%)
- Take tests online (34%) and
- Use online textbooks (33%)

But outside of school, middle school students use digital media to:
- Upload/download videos, podcasts or photos (65%)
- Participate in online games (51%)
- Create or modify digital media (40%)
- Mashup (25%) and
- Contribute to a blog (20%)

Project Tomorrow reported that the process of creating content from other content is a key characteristic of the "free-agent learner" who relishes the learning opportunities presented through interactive experiences. In a change from traditional education, students found the process of creation is as important and sometimes more important than the end result of the activity in a digitally rich learning environment. Additionally, students providing tech support and even teacher support has been modeled through programs such as Service & Technology Resource Team (START), which was piloted in six schools and funded through Microsoft Corporation (Barack, 2010). Students help teachers come up with compelling assignments using technology, and get experience with communicating with their clients or running a help desk.

Today, a two-way – indeed, a multi-channeled way – of reaching and teaching students is possible and indeed, inevitable. Through responsive educational structures and technology, it's now possible to provide students and teachers alike with challenging and engaging learning environments, improvements in productivity and effectiveness, and opportunities to directly participate and contribute to their local and global communities. This freeing of the education system has as much potential to unleash intellectual and social capital for use by society as the women's movement did during the past fifty years.

School technology directors are scrambling to respond. The State Educational Technology Directors Association [SETDA] 2010 National Educational Technology Trends Report, *Innovation through State Leadership*, identifies five trends in educational technology leadership through the Enhancing Education through Technology (EETT) program:

- Scaling up Success. States continue to focus EETT investments on student-centric, research-based, technology-

rich learning environments that advance state and federal goals.

- Enhancing Teacher Effectiveness. For the seventh year in a row, states reported   offering a wide range of professional development.
- Using Data to Inform Learning, Teaching and Leadership. EETT investments are increasing the capacity of educators to access, analyze and use data effectively.
- Increasing Academic Achievement. Core academic areas continue to be a focus.
- Driving Innovation and New Educational Model. Web 2.0, interactive technologies and broadband, online learning, use of open and digital content, and web-based professional communities of practice continue to be emphasized (SETDA 2010).

School Work

More important than the technology tools themselves is how schools will use them to teach students to think critically and to make informed, responsible decisions. Many experiments are taking place, and new understandings of "what works" in a 21st century environment are emerging and multiplying. Given the enormity of the upheaval and the urgency of the need for change, it seems that schools can't respond fast enough; there is an enormous and unfulfilled need for professional development and for understanding of how to teach in these new ways. Employers are calling for students to be able to work in teams, to think critically, to be adept with technology use, to be work-ready with real world experience and global awareness (Partnership for 21st Century Skills, 2006) , and whether one chooses to work in the private sector or academia, these are demands that schools must meet to help students be productive citizens. These demands are all addressed through media literacy education.

The power of technology is sufficient now to allow schools to provide a continuous spiral of interactive learning and practice, using cognitively complex assessments and appropriate evaluation to inform the process and enable continuous improvement and problem-solving. New frameworks, new assessments and new combinations of offline and online learning opportunities are now available to make new visions of education a reality. The following sections summarize important ingredients that help schools exemplify 21st century learning models. All of these ingredients support and augment media education.

Whole School Frameworks

To begin, some educators and educational advocates have now designed new education frameworks for overall learning that schools should address. These frameworks take into consideration the continuing convergence of media, technology and education and all of these frameworks emphasize the importance of core subjects as well as skills in categories such as learning and thinking, information, media and technology, and life skills.

Among these frameworks and organizations who have released them are the Partnership for 21st Century Skills (P21), EnGauge Framework (Metiri/NCREL), American Association of Colleges and Universities, ICT Skills (International Society for Technology in Education), DeSeCo (Organization for Economic Cooperation and Development) and ICT Literacy (Educational Testing Service) (Dede, 2009). The most prominent of these frameworks is that of the Partnership for 21st Century Skills (of which ASCD is a member). Alternative frameworks tend to emphasize some subskills identified by P21 as particularly important; or they stress areas such as "risk taking" (Metiri/NCREL) that are missing from the P21 framework.

But regardless, these frameworks lay out a vision of new skills and learning contexts in ways that help schools launch self-assessments of their systems, which is a useful starting place to lay out a plan of action.

Cognitive Complexity: What is Critical Thinking?

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. Since then, Bloom's approach has gained wide currency in U.S. education circles, particularly in devising curricula and assessment tools (Anderson & Krathwohl, 2001). In the 1990's, a new group of cognitive psychologists, led by Lorin Anderson (formerly a student of Bloom's), updated the taxonomy, which was reinterpreted by educators at the Darden College of Education (Overbaugh and Schultz, 2005):

Table 2   Bloom's Taxonomy

Revised   Original
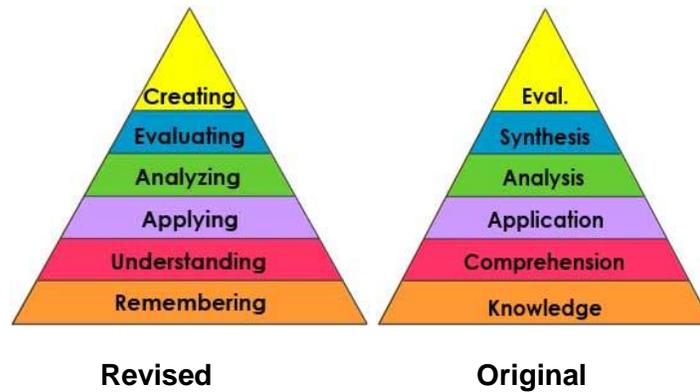
Remembering: can the student recall or remember the information?	Knowledge: define, duplicate, list, memorize, recall, repeat, reproduce state
Understanding: can the student explain ideas or concepts?	Comprehension: classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase
Applying: can the student use the information in a new way?	Application: choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write
Analyzing: can the student distinguish between the different parts?	Analysis: appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test
Evaluating: can the student justify a stand or decision?	Synthesis: appraise, argue, defend, judge, select, support, value, evaluate
Creating: can the student create new product or point of view?	Evaluate: assemble, construct, create, design, develop, formulate, write

Interestingly, the Revised Bloom's Taxonomy utilizes verbs rather than nouns to describe various skills, reflecting that these skills represent active processes, not something that is already "done," and static. The skills identified in Bloom's Revised Taxonomy also closely resemble the classic definition of media literacy, which is "The ability to access, analyze, evaluate

and create media in all its forms" (Aufderheide & Firestone, 1993). Today, the Center for Media Literacy (CML) has added the words "participate with" as part of the skillset identified in the definition (Center for Media Literacy, 2008), since media technology is now interactive and collaborative (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006).

And though the graphic representation of skills in Bloom's Taxonomy is a pyramid, implying a linear progression with "creating" at the apex of the triangle, it is important to note that utilizing these skills may not be a linear or sequential process at all: as one is creating media, one is also remembering, analyzing, understanding, evaluating and applying new ideas.

Though academic silos remain in schools, there is not a single discipline where these process skills do not apply and indeed, state education standards often employ terms from Bloom's Taxonomy regardless of the academic discipline being addressed. For example, the California State Board of Education (CSBE) Visual and Performing Arts Standards incorporate terms such as Artistic Perception, which "refers to the processing, analyzing and responding to sensory information through the use of the language and skills unique to" the arts (CSBE, 2001). Other terms in these standards include Aesthetic Valuing and Creative Expression.

However, the basic process skills outlined in Bloom's Taxonomy are not systematically and consistently represented in state standards; they are not scoped and sequenced in a way that applies across all disciplines. Instead, and unfortunately, they are haphazardly addressed in a way that mixes the process skills in with the required content knowledge in each separate discipline. This invites inconsistency as well as a lack of progression, resulting in gaps for instruction and for increased identifying of levels of competence. And so, since technology allows easier comparisons of disciplines by examining and comparing state education standards, it becomes apparent that *all* of the disciplines have common ground in demanding information process skills and critical thinking as part of student learning, but these skills are not presently looked upon as discrete competencies that are scoped, sequenced and applied across *all* disciplines in a systematic way.

Assessment: What Gets Measured Gets Taught

The importance of incorporating these thinking skills into assessment is emphasized by groups such as the Health Education Assessment Project (HEAP), a project of the Council of Chief State School Officers (CCSSO), who are currently updating their assessment item bank to embed these skills

in each assessment question addressing health content (Deal and Hodges, 2009). The National Assessment of Educational Progress (NAEP) for Technology and Engineering Literacy will be introduced in the U.S. in 2014, which is a first-time effort to measure students' technology proficiency. EdSteps, another CCSSO project, is experimenting with an assessment methodology that relies on exemplars of student work, scaled on the basis of expert and peer judgments, to evaluate the quality of student work in areas such as writing, global competency, and analyzing information. These exemplars are then available to teachers and students alike in "seeing" what high quality work was identified and assessed during the time period in which the samples were gathered.

These are among other efforts to broaden assessments to include more higher order thinking skills, rather than having tests that focus primarily on the traditional content knowledge that multiple choice questions foster. The Programme for International Student Assessment (PISA), sponsored by the Organisation for Economic Co-operation and Development (OECD), are administered every three years in a cycle that covers reading, mathematical and scientific literacy for 15-year-old students representing more than 90% of the world economy. PISA assessments focus on the capacity of students to extrapolate from what they have learned and to analyze and reason as they pose, solve and interpret problems in a variety of situations. Additionally, the test is designed to have students self-report on their motivation to learn, their beliefs about themselves and their attitudes to what they are learning, so that countries have a reliable and comprehensive way to inform educational policy and practice from a wide variety of international viewpoints, including those of students.

Pioneering work done by the ETS Assessment Training Institute, led by Rick Stiggins, who has long advocated for and designed systems for student-involved assessments for learning, also acknowledge that students themselves can be and should be their own best critics. In a classroom where one-way communication is the norm, it is typically only the teacher's judgment that counts; students, like teachers, need the skills and tools through which to learn to critique their own work and that of others. Encouraging such multi-dimensional ways of assessing students' work and process skills is essential in guiding and informing teachers and students alike about expectations and performance.

Though multiple choice tests are still the norm, there is a rich variety of classroom assessment tools that go "beyond the bubble:" portfolio analysis, rubrics and tools for analyzing media creations and communications. As technology improves for assessing student work and

costs go down for alternative types of testing, more variety and more appropriate solutions will continue to emerge.

Although assessments designed to measure higher-order thinking skills and to involve students may not be called "media literacy," these types of assessments lend themselves well to the types of skills and teaching methodology that media literacy fosters.

Media Literacy: Acquiring a Lifelong Process for Inquiry and Critical Thinking

The call for critical thinking skills is being amplified, but teachers are still faced with the dilemma of HOW to help their students learn the habits of mind that lead to critical thinking. These skills of critical analysis are fundamental to media literacy, whether one is acting as a consumer, producer or active participant with media. Media literacy, grounded in inquiry-based, process-oriented pedagogy, offers not a new subject to teach but rather *a new way to teach and a new way to learn all subjects*. Since it provides a metaframe that complements the overall frameworks for learning communities, it gives teachers a readily-accessible methodology to deliver and share in their classrooms and a "short-cut" to 21st century skills. This metaframe is core to teaching and learning – not peripheral.

Media literacy began at the grassroots as parents, educators and concerned citizens concluded that if media was to play a pivotal role as children's teacher, children would need a way of filtering through the messages. The goal is wise choices, in accordance with acceptable community norms. For example, in seeing alcohol advertising, children are less likely to be influenced if they have media literacy skills to refute such messages. Furthermore, if they have received media literacy training in analyzing alcohol advertising, their decision-making process can be positively affected in other risky situations. Once children master a decision-making skill, they can apply it to a variety of contexts. In this new way of teaching and learning, media literacy skills represent a constant or consistent process that can be applied to an infinite variety of content. For long-term benefits, then, it seems more valuable to concentrate on helping children develop media literacy skills than to teach them which specific decisions to make (Austin & Johnson, 1997).

Formal education in media literacy, not just censorship or control, is an avenue to help young people understand their choices and to help question the values represented through the media. In addressing how broadband and digital information is affecting communities and democratic societies, a 2010 Knight Commission report, "Informing Communities: Sustaining Democracy in the Digital Age" identified media literacy as having a

key role in communities and schools today. Media literacy has continued to grow globally and has some common characteristics:

First, media literacy helps individuals explore their deep and enduring relationship with media. In 1989, Eddie Dick, Media Education Officer for the Scottish Film Council, developed the Media Triangle, which illustrated the relationship between Text, Production and Audience. Understanding this relationship is fundamental to understanding the power dynamic between these three elements.

In looking at a common brand identity or logo, for example, it becomes evident that audiences have a shared understanding of the text – the logo – that was produced by a particular organization. The audience did not necessarily "ask" for this understanding, but because of repeated exposure to the brand, people have internalized an understanding of what the brand means and how they may have interacted with it in the past. The producer has established a relationship with the audience through the text, which is the logo. Yet the audience exerts the ultimate power over the relationship when consciously deciding to engage or not.

Second, the focus of media literacy is on process rather than content. The goal of media literacy is not to memorize facts about media or be able to make a video or design a Web site. Rather, the goal is to explore questions that arise when one engages critically with a mediated message that contains facts or other content – print or digital. It involves posing problems that exercise higher order thinking skills – learning how to identify key concepts, make connections between multiple ideas, ask pertinent questions, identify fallacies, and formulate a response. It is these skills, *coupled with* engagement with factual knowledge, that form the foundation of intellectual inquiry and workplace productivity, and that are necessary for exercising full citizenship in a democratic society and a global economy (Thoman & Jolls, 2004).

Such skills have always been essential for an educated life, and good teachers have always fostered them. But they too often emerge only as a by-product of mastering content areas such as literature, history, the sciences and mathematics. Seldom are process or learning skills explicitly taught. But if society is to graduate students who can be in charge of their own continual learning in a media culture, learning skills must be "incorporated into classrooms deliberately, strategically and broadly" (Partnership for 21st Century Skills, 2003, p. 6). As writer Alvin Toffler (qtd. in Partnership for 21st Century Skills, 2003) pointed out, "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn and

relearn" (p. 6). By its very nature, media literacy teaches and reinforces 21st century learning skills.

Third, media literacy education expands the concept of text to include all message forms – verbal, aural or visual (or all three together!) – used to create and then pass ideas back and forth between human beings. Full understanding of such a text involves not just deconstruction activities – that is, taking apart a message that already exists – but also construction activities – learning to write opinions and ideas with the wide range of multimedia tools available to young people growing up in a digital world.

Fourth, media literacy is characterized by the principle of inquiry – that is, learning to ask important questions about whatever one sees, hears, produces or engages with:

- Is this new scientific study on diet and weight valid?
- What are the implications of ranking friends on a social networking site?
- What does a "photo-op" mean?

With a goal of promoting healthy skepticism rather than cynicism, the challenge for the teacher (or parent) is not to provide answers but to stimulate more questions – to guide, coach, prod and challenge the learner to discover how to go about finding an answer. "I don't know: How could we find out?" is the media literacy mantra.

Questions, of course, open up many more questions. And how one even approaches a question determines what answers one might find. Inquiry is also a messy process because one question leads to another and yet another. To keep inquiry on course and to provide a way to be able to master a process of inquiry, curriculum specialists look for a comprehensive framework to provide guidance and structure. Core concepts of media literacy, rooted in media studies by academics throughout the world, are a way to express common media characteristics that also distinguish media literacy from other disciplines. Various adaptations of core concepts have been developed, starting with 18 concepts originally named by Len Masterman in his seminal work, *Teaching the Media (1985)*, and eight core concepts used in Canada as a way of structuring curriculum. The U.S.-based Center for Media Literacy (CML) compressed the ideas into five core concepts. The National Association for Media Literacy Education (NAMLE) provides a listing of Core Principles for media literacy, as do other organizations.

CML's Five Core Concepts for media literacy are:

CML
Mission: Media Literacy

1. All media messages are constructed.

2. Media messages are constructed using a creative language with its own rules.

3. Different people experience the same media messages differently.

4. Media have embedded values and points of view.

5. Most media messages are organized for profit and/or power.

Media literacy core concepts apply to both deconstruction, or analysis and consumption of media messages, as well as construction, or production of media messages. Application of the media arts, as well as the traditional arts, is ever-present with media literacy education (Jolls and Grande, 2005).

Media literacy is about understanding ongoing relationships with media, about how audiences make meaning from a media product and about understanding the greater role of media in society. Though being media literate implies having a broader skill set than simply evaluating a media product, evaluating a media product always involves the skills of media literacy.

It is for this reason that the ability to conduct a media analysis using a process called "Close Analysis" or "Deep Deconstruction" is a fundamental media literacy skill. A key ability demanded in close analysis is to distinguish fact from opinion, and to be able to separate content information from contextual inferences. Acquiring this skill demands practice from an early age and it highly complements study in language arts, so that both educators and students can easily and quickly analyze a media construction of any kind, regardless of the content area being addressed. These skills are fundamental to productively sharing information and acting upon information as informed citizens.

By instilling a common methodology for close analysis, students carry a consistent process of inquiry and habits of mind with them from grade to grade, from class to class, from subject to subject, from classroom to home, from school to work. This enables and deepens the development of a common vocabulary and a common understanding of both the media messages (the content and its forms) and the systems employed in global communications. Though content may vary infinitely, the process skills call upon consistent habits of mind.

The analysis process also informs the decision-making or actions that may be taken, and learning takes place in a continuous loop, constantly informed and re-informed by new information, new insights and new

behaviors and actions that inform more learning. Since this process can be speeded up, shared widely and his "learning loop" distinguishes 21st century learning from the one-way factory model of learning inherited from the 19th century.

The skills of media literacy prepare students to participate in society, to represent themselves effectively in an interactive process that depends on new inflows of information and give and take in navigating the daily flow. These are foundational skills of citizenship today and core to schools' educational tasks.

Citizenship

Participation in the online global village requires awareness of different dynamics and consequences than did citizenship in the local community: in a social networking site, for example, we aren't just sharing an opinion with a friend, we are often sharing our opinions with the world. The ability to share, publish, circulate and widely disseminate information has consequences that are still being raised and dealt with, with far more questions than answers.

Today, we can be citizen journalists, commenting and calling attention to a myriad of issues, but what does this mean for traditional news outlets? For fact checking? for identification and for credentials? We can quickly identify and find friends and acquaintances, but what does this mean for safety and privacy? We can find financial and lifestyle information on individuals quickly and easily, but what does this mean for security and for control over our own information and lives? We can re-use and re-mix multi-media audio and visual content, but what does this mean for copyright and for intellectual property management? We can show friends new products and services we recently purchased and recommend vendors, but what does this mean for consumerism and the nature of friendship?

We are at the beginning of this transition to combining the online and offline worlds: Kaiser Family Foundation (2010) reported that 8-18 year olds devote an average of 7 hours and 38 minutes to using entertainment media across a typical day (more than 53 hours a week), and according to Nielsen, the research firm, there is room for growth in this usage. In a recent study (Nielsen, 2010) Nielsen argued that the increased uptake of digital video recorders, high definition and flat-screen TV's, as well as the growth of simultaneous media use were introducing a new "golden age of media." The evidence for this trend included the fact that there are more TV sets than people in the average household in the country at present, with these figures standing at 2.86 and 2.53 respectively; more specifically, 25-34 year olds "timeshifted" almost three hours of material using a DVR in the fourth quarter

of 2009. Neilsen also stated that DVR owners watched 47% of primetime commercials during shows that were played back at least three days after their original transmission. And online video consumption rose by 16% year-on-year in the closing three months of 2009, with 44% of this materials being streamed while people were at work. While 242 million US citizens own a mobile phone, just 17.6 million of this group used it to access video each month as of Q4 2009 (having grown from just 11.2 million the previous year) (WARC News 2009).

New research has revealed that those who watch more tv have a higher risk of death (e! Science News, 2010); children who use more media are more inclined to obesity (Kaiser Family Foundation, 2004). Yet the findings also bring positives: for example, new research has measured ideological segregation on the Internet, and the findings are quite reassuring (Gentzkow and Shapiro, 2010). The study found that the Internet is actually more ideologically integrated than old-fashioned forms of face-to-face association, and that people are likely to travel widely through cyberspace to find information, adventure, combat and arousal. And obviously, if such positives weren't present, it's unlikely that technology would be so heavily used.

As the research and statistical data pour in, more people are calling for "digital citizenship" classes to teach about how to optimize opportunities and minimize problems in the online village, addressing topics such as internet safety, privacy, security, ethics and personal and social responsibility. While these are all worthy subjects for discussion, such discussion takes time -- and more importantly, practice -- in applying new ideas and new ways of operating on an everyday basis. Combined with teaching fundamental media literacy skills, prioritizing time to address these 21st century skills is time well spent.

Community-Based Learning

To learn *how* to be citizens, students must *act* as citizens (Melaville, Berg and Bland, 2010). To create both learners and citizens, the Coalition for Community Schools advocates strategies that engage students in learning through community-based problem solving. These strategies include academically-based community service, civic education, environmental education and work-based learning – all activities that are supported through the participatory nature of media literacy.

A large majority of respondents to several national surveys agreed that involving students in more real-world learning experiences would greatly improve student outcomes:

- 95% of students (ages thirteen to nineteen) said opportunities for more real world learning would improve their school, with 71% saying it would improve their school a great deal.
- 92% of adults (including teachers) favored emphasizing real world learning in schools including work study, community service and vocational courses.
- 70% of teachers strongly advocated emphasizing real world learning.
- 81% of dropouts called for more "real-world" learning opportunities, with 47% of dropouts reporting they left school because classes weren't interesting.
- 40-60% of students from all economic backgrounds are chronically disengaged from learning.

A number of studies have shown promising results of the academic impact for service learning, in which meaningful community service is integrated with instruction and reflection to enrich the learning experience, teach civic responsibilities and strengthen communities. (Corporation for National & Community Service, 2010).   Participating students developed better problem solving skills and understanding of cognitive complexities and scored higher than nonparticipating students in social studies, writing, English/language arts and science. They were found to be more cognitively engaged and more motivated to learn. Positive impacts on career exploration, ethics, and resilience have also been tied to service learning.

The Coalition for Community Schools identified five core characteristics that distinguish community-based learning:

1. Learning occurs in places outside the standard classroom, and focuses on issues that have meaning for students.
2. Learning is active and provides students a role in decision making
3. Learning goals connect personal achievement to public purpose.
4. Ongoing assessment gives students the opportunity to learn from their successes and failures.
5. Community partnerships increase the resources and relationships available for student learning. (Coalition for Community Schools 2006).

Technology is greatly enabling the possibilities for community-based learning. For example, one local advocacy website called SeeClickFix.com lets users write about issues to encourage communication between residents

and local government. SeeClickFix users post a complaint about problems that occur within a set of boundaries on a Google Map, like graffiti at a bus stop or potholes on a busy street, and the site communicates the problem to the appropriate government agency and marks the problem on the map (Slotnik, 2010). Users can then follow up to see about progress on the issue, and this progress can be followed by government agencies and journalists, as well. What can be more satisfying than to know that a single individual can make a positive difference in the lives of others in the community! Being able to represent oneself effectively is a key media literacy skill.

The World Community

Technology has expanded our world and yet brought the world to our fingertips. In one generation, Bill Gates and his company, Microsoft, achieved a mission once unimaginable: to put a computer in every home and on every desktop. Now, Microsoft has revised its mission: to help people and businesses throughout the world realize their full potential.

We have moved well beyond the days when teachers make daily deposits of knowledge in the students' heads, which they bank for future use. Rather than focus on knowledge acquisition, students identify and engage significant problems in the world. The skills of media literacy are now core to learning and living: these skills are no longer optional or trumped by the need to impart content knowledge that is not readily accessible. With this critical consciousness, students learn to take control of their lives and their own learning to become active agents, asking and answering questions that matter to them and to the world around them (Elmborg, 2006). Educators have a unique role and opportunity to help youth realize their full potential and in that process, contribute to society as productive citizens. The race is on and there is no time to lose. The children are growing!

References

Alliance for Excellent Education. (2008). *How does the United States stack up?: International comparisons of academic achievement.* Retrieved April 18, 2010 from www.allfored.org

As schools lose relevancy, students take charge of their own learning. (2010). *Project Tomorrow.* Retrieved April 10, 2010 from http://www.tomorrow.org/speakup

Aufderheide, Patricia, & Firestone, Charles M. (1993). *Media literacy. a report of the National Leadership Conference on Media Literacy.* Washington DC: Communications and Society Program, the Aspen Institute. Retrieved October 22, 2009, from http://www.medialit.org/reading_room/article582.html

Austin, E.W., & Johnson, K.K. (1997). Effects of general and alcohol specific media literacy training on children's decision making about alcohol. *Journal of Health Communications*, 2(1), 17-42. doi: 10.1080/108107397127897

Badke, W. (2010, April 10). *Lots of technology but we're missing the point: providing only the tools isn't enough ; today's students must know how to handle information.* Retrieved April 30, 2010 from http://www.eschoolnews.com/2010/04/29/lots-of-technology-but-were-missing-the-point/

Barack, L. (2010, Feb. 1). *Students to help teachers better use tech.* Retrieved March 11, 2010 from http://www.schoollibraryjournal.com/index.asp?layout=articlePrint&articleid=ca6717185

Barker, I. (2005, April). *What is information architecture?* Retrieved March 3, 2010 from http://www.steptwo.com.au/papers/kmc_whatisinfoarch/index.html

Boulton, C. (2010, March 21). *Google broadband test has U.S. cities vying for high-speed internet.* Retrieved April 21, 2010 from http://www.eweek.com/c/a/Search-Engines/Google-Broadband-Test-Has-US-Cities-Vying-for-Highspeed-Internet-580313/

California School Library Association. (2004). *Standards and guidelines for strong school libraries*, Scramento, CA. CSLA publications, 2004.

California State Board of Education. (2001). *Visual and performing arts content standards for California public schools: prekindergarten*

through grade twelve : dance, music, theatre, visual arts. Sacramento, CA: California Dept. of Education. Retrieved October 22, 2009, from http://www.cde.ca.gov/be/st/ss/

Center for Media Literacy. (2008). *CML MediaLit Kit.* Retrieved April 10, 2010 from http://www.medialit.org/bp_mlk.html

Chaddock, G. R. (2006, June 21). US high school dropout rate: high, but how high? Christian Science Monitor. Retrieved April 28, 2010 from http://www.csmonitor.com

Christenson, C., Horn, B., & Johnson, C. W. (2008). *Disrupting class: How disruptive innovation will change the way the world learns.* New York : McGraw Hill.

Coalition for Community Schools (2006, March 6). Community based learning: Engaging students for success and citizenship. Retrieved April 18, 2010 from http://www.communityschools.org

Council for American Private Education. (2009). *Facts and studies.* Retrieved April 18, 2010 from http://www.capenet.org/facts.html

Crovitz, L. G. (2010, April 19) Is Internet civility an oxymoron? *The Wall Street Journal* p. A17

Deal, T.B. & Hodges, B. (2009). *Role of 21st century schools in promoting health literacy.* National Education Association Health Information Network. Retrieved October 22, 2009, from http://www.google.com/search?source=ig&hl=en&rlz=1G1GGLQ_EN US284&=&q=role+of+21st+century+schools+in+promoting+health&aq =0p&oq=role&aqi=g-p2g8

Deidre Heiz, School Media Librarian (2007, Oct. 13). Retrieved March 3, 2010 from http://mlipan.blogspot.com/2007/10/deidre-heiz-school-media-librarian.html

Dick, E. (1989). The media triangle. *The Strategies for Media Literacy Inc.* Retrieved August 24, 2008, from http://www.frankwbaker.com/mediatriangle.htm.

Elmborg, J. (2006). Critical information literacy: Implications for instructional practice. *The Journal of Academic Librarianship,* 32(2), 192-199. Retrieved from Proquest.

Evans, J. (2009). As schools loose relevancy, students take charge of their own learning. *Project Tomorrow.* Retrieved March 16, 2010 from http://www.tomorrow.org/index.html

Gentzkow, M. & Shapiro, J. M. (2010). Ideological segregation online and offline. Retrieved April 10, 2010 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1588920

Goswami, U. (2008, January). *Byron Review on the impact of new technologies on children: A research literature review: Child development*. Annex H to the Byron Review. Retrieved October 22, 2009, from http://www.dcsf.gov.uk/byronreview/pdfs/Goswami%20Child%20Development% 20Literature%20Review%20for%20the%20 Byron%20Review.pdf

Hodgkinson, H.B. (2006). *Whole child in a fractured world*. Association for Supervision and Curriculum Development. Retrieved October 22, 2009, from http://www.ascd.org/ASCD/pdf/ fracturedworld.pdf.

In preparation for landing, please turn off your books. [cartoon]. 2010, April 19. *The New Yorker*. P4

Institute of Museum and Library Services (2009). *Museums, Libraries, and 21Century Skills.* Retrieved March 10, 2010 from http://www.imls.gov/about/21stCSkills.shtm

Ito, M., Baumer, S., Bittanti, M., Boyd, D., Cody, R., Herr, B., Horst, H. A., Lange, P. G., Dilan, M., Martinez, K., Pascoe, C. J., Perkel, D., Robinson, L., Sims, C., Tripp, L., (2010). *Hanging out, messing around, geeking out: Kids living and learning with new media.* Cambridge : MIT Press.

Jacobs, H. H. (2010). *Curriculum 21: Essential education for a changing world.* Alexandria, VA. Association for Supervision and Curriculum Development Publication.

Jenkins, H., Clinton, K., Purushotma, R., Robison, A. J., & Weigel, M. (2010). Confronting the challenges of participatory culture: Media education for the 21sy century. Retrieved April 20, 2010 from http://www.macfound.org

John D. and Catherine T. MacArthur Foundation. (2008, November). Living and learning with new media: Summary of findings from the digital youth project. Retrieved April 20, 2010 From http://www.macfound.org

Jolls, T. (2008, Aug. 18). *The impact of technology on character education*. United States Department of Education Character Education Symposium, Washington, D.C.

Jolls, T., & Grande-Harris, D. (2005). *Project SmartArt: A road to follow: Methods, structure and tools for replication.* Retrieved October 22, 2009, from http://www.medialit.org/reading_room/casestudy/SmartArt_ARoadToFollow.pdf

Kaiser Family Foundation (2010, Jan. 20). *Daily media use among children and teens up dramatically from five years ago.* Retrieved Jan. 20, 2010 from http://www.kff.org/entmedia/entmedia012010nr.cfm

Kelly, B., Bevan, P. Akerman, R. Alcock, J., & Fraser, J. (2008). Library 2.0: Balancing the risks and benefits to maximize the dividends. In: Bridging Worlds 2008 Conference, October 16, 2008, Singapore.

Khadaroo, S. T. (2009, June 9). US high school graduation rate climbs to 69.2 percent. *The Christian Science Monitor.* p 2.

King, Allison (1994). Inquiry as a tool in critical thinking. in Diane F. Halpern (Ed.), *Changing college classrooms: New teaching and learning strategies for an increasingly complex world.* San Francisco: Jossey-Bass.

Knight Commission on the Information Needs of Communities in a Democracy (2009). *Informing communities: Sustaining democracy in the digital age.* Retrieved March 12, *2010* from http://www.knightcomm.org/read-the-report-and-comment

Lankes, R. D. Silverstein, J. L., Nicholson, S., & Marshall, T. (2006) Participatory networks: the library as conversation. *Information Research,* 12(4). Retrieved March 9, 2010 from http://informationr.net/ir/12-4/colis/colis05.html

Lenhart, A. & Madden, M, (2007) Social networking sites and teens: An overview. Washington DC: Pew Internet & American Life Project. Retrieved April 18, 2010 from http://www.pewinternet.org

Lewin, T., Dillon, S. (2010, April 20). Districts warn of deeper teacher cuts. *New York Times.* Retrieved April 21, 2010 from http://www.nytimes.com/2010/04/21/education/21teachers.html

Lotto, J. C. & Barrington, L., (2006). *Are they really ready to work? : Employers' perspective on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce.* (2006). Retrieved April 20, 2010 from http://www.conference-board.org/publications/describe.cfm?id=1218

Masterman, L. (1985). *Teaching the media.* London: Comedia Pub. Group.

Melaville, A., Berg, A. C. & Blank, M. J. (2010). *Community-based learning: Engaging students for success and citizenship.* Retrieved April 20, 2010 from http://www.iel.org/news/newspast.html

National Assessment of Educational Progress (2010). *Technology and engineering literacy framework and test item specifications.* Retrieved April 26, 2010 from http://www.edgateway.net/cs/naepsci/print/docs/470

National Association for Media Literacy Education. (2010). *Core Principles.* Retrieved April 20, 2010 from http://www.amlainfo.org/core-principles

National Cyber Security Alliance. (2010).The state of k-12 cyberethics, cybersafety and cybersecurity curriculum in the United States. Retrieved April 20, 2010 from http://staysafeonline.mediaroom.com/index.php?s=67&item=50

Naisbitt, J. (1988). *Megatrends: Ten new directions for transforming our lives.* New York: Grand Central Publishing.

The net generation unplugged (March 6, 2010). *The Economist.* London : The Economist Newspaper Limited. Retrieved from http://www.economist.com/science-technology/technology-quarterly/displaystory.cfm?story_id=15582279

Overbaugh, R. C., & Schultz, L. (n.d.) Bloom's taxonomy. Retrieved October 22, 2009, from http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm

Pawel, M. (2010, Jan 31). To save Salinas: Can its rejuvenated libraries lead the way in the fight against gang violence? *Los Angeles Times.* p. A20.

PBS & Grunwald Associaces LLC. (2009). *Digitally Inclined: Teachers increasingly value media and technology.* Retrieved March 20, 2010 from http://www.pbs.org

Prabhu, M. T. (2010, Jan. 5). Teachers' digital media use on the rise. eSchool News. Retrieved Jan 22, 2010 from http://www.eschoolnews.com/2010/01/05/survey-teachers-digital-media-use-is-increasing/

Program for International Student Assessment, PISA (2010) Retrieved April, 26 2010 from http://www.educationcounts.govt.nz/publications/series/2543

Rideout, V. J. (2004) *The role of the media in childhood obesity*. Henry J. Kaiser Family Foundation. Retrieved April 20, 2010 from http://www.kff.org/entmedia/upload/The-Role-Of-Media-in-Childhood-Obesity.pdf

Roscoria, T. (2010, March 4). *School districts lay foundation for mobile devices.* Retrieved April 20, 2010 from http://www.convergemag.com/edtech/School-Districts-Lay-Foundation-for-Mobile-Devices.html

Rosen, C. (2010, Feb. 9). From wisdom to wi-fi. *Los Angeles Times*. p. A17.

Simpson, C. (1998). The school librarian's role in the electronic age. *Teacher Librarian*, 25(5), 38-39. Retrieved March 3, 2010 from http://www.libraryinstruction.com/school-librarians.html

Slotnik, D. E. (2010, Jan 4). News sites dabble with a web tool for nudging local officials. *The New York Times.* Retrieved Jan 5, 2010 from http://www.nytimes.com/2010/01/04/business/media/04click.html

State Educational Technology Directors Association (2010). 2010 SETDA national educational technology trends study. Retrieved April 20, 2010 from http://www.setda.org/web/guest/2010NationalTrends

Steiny, J. (2010, April 18). *What gets taught must meet standards; how it's taught is up to teachers.* Retrieved April 20, 2010 from http://www.projo.com/education/content/EDWATCH_18_04-18-10_VSI3SAD_v8.33758d7.html

Thoman, E. & Jolls, T. (2004). Media literacy: A national priority for a changing world. *American Behavioral Scientist*, 48(1), 18-29. doi: 10.1177/0002764204267246.

Too few schools are teaching cyber safety. (2010, April). *eSchool News* p. 14

Viadero, D. (2010). *Homeschools outpace charter schools in new report*. Retrieved April 20, 2010 from http://blogs.edweek.org/edweek/inside-school-research/2010/04/homeschools_outpace_charter_sc.html

Watching television increases risk of death from heart disease (2010) *The Guardian*. Retrieved April 20, 2010 from http://www.guardian.co.uk/science/2010/jan/11/watching-television-increases-death-heart-disease

Wesch, M. (2008). A portal to media literacy [online video]. University of Manitoba. Retrieved 10/22/2009 from http://www.youtube.com/watch?v=J4yApagnr0s

Wellman, B. Smith, A. Wells, A., & Kennedy, T. (2008) *Networked families.* Retrieved April, 2010 from http://www.pewinternet.org/Reports/2008/Networked-Families.aspx?r=1

You can take it with you: Future trends in media. (2010). *Nelisen Wire.* Retrieved April 20, 2010 from http://blog.nielsen.com/nielsenwire/online_mobile/you-can-take-it-with-you-future-trends-in-media.

Youniss, J., & Atkins, R. (2007). High school community service as a predictor of adult voting and volunteering. *American Educational Research Journal.* 44(1), 197-219. Retrieved from Sage.