Preparing students with 21st century skills
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A message from the editors .......................................................... 3
Becky Cooke, Jim Howard, and Gene Sementi

Timeless skills in new platforms
Are the skills touted as 21st century skills really new? .................. 4
Joshua J. Garcia

Arne Duncan’s mistaken view of education and
No Child Left Behind ................................................................... 6
Yong Zhao

Teaching for the 21st century:
Mercer Island’s 2020 vision ...................................................... 8
Gary Plano and Mike Radow

Delta High: a school for the 21st century .................................. 10
Deidre Holmberg

Expeditions at Kettle Falls Elementary ...................................... 12
Greg Goodnight and Valerie McDern

Shadow of the salmon: preparing students
with 21st century skills ............................................................... 16
Ella Inglebret and ChiXapkaid (D. Michael Pavel)

Emerging technologies for learning ........................................... 19
Andrew Lumpe

A message from the executive director ..................................... 22
Kathy Clayton

2010 Annual Conference: Looking through the Kaleidoscope:
Focusing on the Learner ............................................................ 24

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The editorial committee seeks articles that provide perspectives, research and practical
information about the issues of and ways to improve learning and teaching in Washington State.
There has been a phrase floating around for the past several years about the importance of being a skilled worker. The phrase goes something like this “in the information age a worker has to be one of two things, skilled, or willing to work for low wages.”

That is a pretty stark statement but it has never been more true than now, and the skills referred to are what have come to be known as Twenty-First Century Skills. Our students need to be digitally literate, able to think inventively to solve new problems, they need to possess the social and personal skills to communicate interactively, and they need to strive for high quality state-of-the-art results. And perhaps most importantly they need to be lifelong learners. It has been said for many years that learners shall inherit the earth while the learned will find themselves perfectly prepared for a world that no longer exists. Being a life-long-learner has never been more critical than right now as new skills burst onto the scene and old skills lose value.

We are very pleased to bring you this electronic issue of Washington State ASCD’s Curriculum in Context. This issue is a collection of articles from around the state of Washington, that we feel address some aspect of the theme: “Preparing students with 21st Century Skills”

• The first article by Josh Garcia, President of Washington State ASCD, provides a review of the recent ASCD’s book “Curriculum 21: Essential Education for a Changing World”, as well as his own perspective on 21st century skills.
• We were very thrilled to receive permission from Yong Zhao to reprint his article, “Arne Duncan’s Mistaken View of Education and No Child Left Behind”. This article suggests that we re-think the core mission and directions of education in the United States.
• Gary Plano and Mike Randow, from Mercer Island School District, provide a number of examples of district programs and initiatives that provide students with exceptional learning opportunities to develop 21st Century Skills.
• Deidre Holmberg introduces us to Delta High School in the TriCities. Delta is a STEM high school, meaning that the way students learn, as well as what they learn, reflects the world we live in – a world driven by science, technology, engineering and math.
• Next, Greg Goodnight and Valerie McKern, describe how Kettle Falls Elementary School is using an expeditionary approach to provide their students with standards based compelling studies for life in the 21st century.
• The Shadow of the Salmon, by Ella Inglebret and Michael Pavel, is a wonderful story and video of how the revered salmon is used as the vocal point of a curriculum.
• Andrew Lumpe explores the technologies that are emerging and will have a significant impact on teaching and learning.
• And finally, Kathy Clayton, Washington State ASCD Executive Director, provides us with a message and preview of the fall WSASCD conference. We would like to extend a special thank you to the Spokane Valley High School Web-Design Class. The class is taught by Eric Jurasin an outstanding educator dedicated to preparing his students for success in the 21st century. Eric’s students met with the Curriculum in Context editors and WSASCD Executive Director Kathy Clayton to determine our wishes, needs, and expectations for our first ever e-journal. The students then developed several prototype websites and worked with us to select the elements and schemes we most liked then developed a hybrid design that we are very excited about. The students also met with Kelly Lagrutta at WSU to communicate the website vision and help her craft the document. It seems only fitting that these 21st century students used their 21st century skills to help WSASCD’s Curriculum in Context make the leap into the digital age.

This journal is a publication of Washington State ASCD that began in 1956 as an affiliate of the Association for Supervision and Curriculum Development. With nearly 180,000 members worldwide, ASCD is one of the largest and most influential educational associations in the world promoting learning, teaching, and leadership. Washington State ASCD’s membership is comprised of over 2000 educators in diverse positions throughout our state. Participation in WSASCD offers opportunities for leadership, professional development, problem solving, joint planning, research, publications and networking. Thank you for being a member of this wonderful organization. We look forward to learning together with you in the future!
Google 21st century skills, one will get access to hundreds of articles, research reports and books written of the topic. One site, The Partnership for Learning, created a framework that, “presents a holistic view of 21st century teaching and learning that combines a discrete focus on 21st century student outcomes (a blending of specific skills, content knowledge, expertise and literacies) with innovative support systems to help students master the multidimensional abilities required of them in the 21st century” (http://www.21stcenturyskills.org/index.php?Itemid=120&id=254&option=com_content&task=view). What multidimensional abilities will be required in the 21st century? After reviewing several sites on 21st century learning, I began to wonder if it is the skills that are new or the platforms that we must use them in.

Heidi Hayes Jacobs’ Curriculum 21, Essential Education for a Changing World, brings together timeless skills with 21st century platforms. Jacobs begins by creating urgency for educators to become greater learners. She states, “As Educators, our challenge is to match the needs of our learners to a world that is changing with great rapidity. To meet this challenge, we need to become strategic learners ourselves by deliberately expanding our perspectives and updating our approaches” (Jacobs, 7). Expanding our perspectives and updating our approaches, sounds like a recipe for success, but how? Jacobs challenges educators to distill our work to the core first and then replace dated content, skills and assessments. Why do we struggle to define our core, what is essential? Are we so nostalgic that we can’t let go of our myths and stories?

For educators, we must begin to think like futurist not like historians. We must not limit ourselves by today’s reform efforts. Our schools must be transformed; they must change their composition and structures. Many educators may ask where we begin. Jacobs brings together seven broad concepts where educators can begin to make connections and inroads into a 21st century curriculum. I would like to propose that we begin to think about these seven concepts and begin to truly be practitioners of the 21st century. Begin by signing up for free links or a blog. The Futurist Magazine (http://www.wfs.org/futurist.htm) is a magazine of forecasts, trends and ideas of the future and a great resource for concepts our students should be thinking about on a daily basis.

Think like the future — not the past

Jacobs writes about seven basic areas that every educator should consider in their improvement plans. By bringing together ten leading minds in the education field, Jacobs facilitates a variety of inter-connected concepts that a single educator can begin to implement on a daily basis. One of these concepts is presented by Arthur Costa and Bena Kallick, Rethinking Curriculum for the 21st Century. In a gracious manner, Costa and Kallick, remind us that significant learning processes for adults are also good for students. They state, “This vision reflects a curriculum of process that serve as leverage for learning any content. It is a curriculum that gives students practice engaging with complex problems, dilemmas, and conflicts whose resolutions are not immediately apparent. And what is most significant for adults as they are for students” (Jacobs, 2010, p.212).

In his chapter, Five Socio-Technology Trends, Stephen Wimarth reminds us that it is always about the relationship. Wimarth discusses the importance of social production, social networking, and semantic webs. One trend is for sure, technology is here
now and here to stay. Wilmuth states, “As educators we have a responsibility and a role to play in determining how we respond to the technology trends and social adaptations underway. At the very least, we will have to address not just what we teach our students, but how they (and we) learn” (Jacobs, p.95). Technology has become a part of our relationships and in some cases it has become the relationship. Educators have the responsibility to help student navigate this relationship in a safe and healthy manner.

There is only enough time and money to do...

In Bill Shesky’s chapter, Creating Learning Connections, he reminds us that our future is driven by the question not the answer. According to Shesky, “Students in today’s schools can access all the information they need to know, but they must learn how to ask the right questions” (Jacobs, 2010, p. 208). Hasn’t good learning always been driven by great questions? As educators, we must continue to focus our work on teaching students how to learn, not what to learn. We must facilitate a process where each student, all students, learn how to learn. We must draw knowledge and stop attempting to shove content in. Teachers who effectively use technology in their classrooms have begun to master their ability to ask students deep-leveled questions. These teachers are deep thinkers, knowing that a good question will engage and challenge each learner. Shesky argues that deeper-leveled questions will develop enhanced problem solving skills (Jacobs, 2010). Problem solving skills are not new, however the platforms in the 21st century have the power to create a world without boundaries, then what do we call classrooms for a complex problem. I encourage your reflection and the beginning of new conversations in your institutions by posing the following questions:

What did I learn about my own ability to define how technology can enhance good instruction?

How can technology help us support, foster and develop “Habits of mind” (Costa & Kallick, 2009) in our students?

How will you use technology to facilitate a process where students create new knowledge?

Will this learning change the way I teach or lead, why or why not?

As leaders in today’s schools we have

A classroom without technology – a form of purgatory?

According to Etkom, purgatory has come to refer as well to a wide range of historical and modern conceptions of postmortem suffering short of everlasting damnation (http://www.britannica.com/Ebchecked/topic/483923/purgatory). Jacobs states, “Education is a practical field, a place where hopes and dreams for young are realized or lost (Jacobs, 2010, 15). Technology can enlighten the experiences of our students, it can enhance could instruction by bringing sights and sounds from around the universe to the most rural classroom. Today’s students can have the ability to demonstrate timeless skill and content in using 21st century platforms, yet the adults continue to restrict these for many student. In essence, we have the ability to let students mentally escape poverty, abuse, and explore a universe that is ever expanding and developing all by allowing them use their phone or the one computer in many of our classrooms. If we have the power to create classroom without boundaries, then what do we call classrooms where technology is not used?

The intent of this article is to create a sense of urgency, not give a single answer for a complex problem. I encourage your reflection and the beginning of new conversations in your institutions by posing the following questions:

What did I learn about my own ability to define how technology can enhance good instruction?

How can technology help us support, foster and develop “Habits of mind” (Costa & Kallick, 2009) in our students?

How will you use technology to facilitate a process where students create new knowledge?

Will this learning change the way I teach or lead, why or why not?

As leaders in today’s schools we have

References


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Secretary of Education
Arne Duncan delivered his first major speech about the reauthorization of the Elementary and Secondary Education Act (ESEA) 1965. The law’s last reauthorization took place in 2002 and resulted in what is known today as No Child Left Behind (NCLB). In his speech, Duncan acknowledged that NCLB has significant flaws and promised to work with Congress to correct the problems. But based on this and his previous speeches as well as the actions of the US Department of Education under his leadership, I must say that Arne Duncan’s view of education and NCLB is mistaken and I am afraid this mistaken view will result in another, and possibly worse, version of NCLB.

Duncan believes that “the biggest problem with NCLB is that it doesn’t encourage high learning standards,” according to the Press Release of the Department of Education. And his solution is to have states adopt common standards or national standards and hold schools and teachers accountable for meeting these standards. In fact, the Department of Education is already using over $4 billion of the stimulus funds to “encourage” states to adopt national standards. And coincidentally the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO) have a joint initiative to develop the so-called common core standards in math and English. The initiative released its first draft this week.

The real problem with NCLB is its definition of education, as I have pointed out in my new book Catching Up or Leading the Way: American Education in the Age of Globalization. Instead of restating what I have said, I lift a chunk of text from the Preface of my book:

NCLB practically defines good education as being able to show good scores in a limited number of subjects. Thus as schools conform to the standardized curriculum and attempt to provide “good education” so defined, children are deprived of opportunities to develop talents in other areas. As well those children who do not perform well on the required tests at the required time are discriminated against because they are considered less able and “at risk.” Theoretically, different schools can teach more than what is mandated. In reality schools must ensure that they do well in areas that affect their reputation and standing, which means the subjects that are counted in standardized testing. It is also theoretically possible to develop standards for a broad range of subjects and activities and require all schools teach the same curriculum nationally or statewide, like what China used to do. But even in the case of China, only subjects that count in the high-stake College Entrance Exam are paid serious attention to. In the U.S., such an effort is not even possible. The Clinton Administration supported the development of national standards for nine subjects but most of them failed to be accepted because of disagreement over what should be included in each subject.

As a result of adopting national standards, schools will produce a homogenous group of individuals with the same abilities, skills, and knowledge. Such a result will be disastrous to America and Americans because as globalization and technology continue to change the world, America needs a citizenry of creative individuals with a wide range of talents to sustain its tradition of innovation. Americans need talents and abilities that are not available at a lower price elsewhere on earth. American education, despite its many problems, has at least the basics that support the production of a more diverse pool of talents. However these
basics are being discarded by NCLB and similarly spirited reform efforts.

The spirit of NCLB also denies the real cause of education inequality—poverty, funding gaps, and psychological damages caused by racial discrimination—by placing all responsibilities on schools and teachers. While schools can definitely do a lot to help children overcome certain difficulties, their influence has limits.

In a way, the reforms that aim to save America are actually putting America in danger. NCLB is sending American education into deeper crisis because it is likely to lead increasing distrust of educators, disregard of students’ individual interests, destruction of local autonomy and capacity for innovation, and disrespect for human values.

Moreover, as I have pointed out in an op-ed piece in the Detroit Free Press and several blog posts that national common standards will not close the achievement gap. Instead, it distracts us from truly educating our children for the future.

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Teaching for the 21st century: Mercer Island’s 2020 vision

Mercer Island School District, a suburban district located in the center of Lake Washington, just 10 minutes from downtown Seattle, is, by all standard measures, the highest achieving district in the state of Washington. Our students score at the top of the state’s Washington State Assessment for Student Learning, 95% of our high school graduates go on to college, and colleges and universities consistently report that Mercer Island graduates are well prepared for post-secondary studies. Still, despite our success, many Mercer Island parents continue to send their children to private schools saying that these schools are better able to meet their children’s needs and some of our high school students are making risky personal choices.

We realized that our past success would have little bearing on future achievement unless we made some effort to address 21st century realities. Nearly two years ago a group of committed parents and long-time advocates for public education approached us with the idea of creating a “big idea” to transform our 20th century schools. This “big idea” would not only be a model for what is possible in public education, but would ensure that Mercer Island students “are ready to contribute to and succeed in the global community.”

We held numerous focus group sessions, many fascinating discussions about what this “big idea” might look like and assurances that with the right idea, the community would step forward with significant support for public schools. Daniel Pink, author of *A Whole New Mind*, spoke to a packed audience of parents, teachers and community members recently about the need to educate students to be “designers, inventors, teachers, storytellers – creative and emphatic “right brain” thinkers whose abilities mark the line between who gets ahead and who doesn’t.” (Pink, 2006)

And yet, no matter how big the idea and how much support we receive from our community, change will not happen without teachers. Deep substantive transformation is hard. Teachers need time to meet, share feedback, and to create lessons aimed at Pink’s new emphasis. Yet teachers are often skeptical of change, especially here in a district where new initiatives have seemed to come and go with each new superintendent. Furthermore, since the advent of No Child Left Behind, the focus on accountability, standards, and ‘one size fits all’ education model has stifled much inventiveness. Teachers have repeatedly claimed that teaching to students’ individual passions and interests is impossible in a climate where everything is held up to a test.

To make matters worse, last spring Washington State Governor Christine Gregoire announced that the state faced a $9 billion deficit for 2009-2010. Cuts to the Mercer Island School District budget were significant. We were challenged to balance the budget, much less fund any large-scale transformation or expand teacher development. Even so, the students in front of us will be entering a world that requires them to view themselves – and us to support them as academic entrepreneurs and risk-takers. We owe them a world-class education regardless of the economic climate.

If we want students to take risks, the adults in the system must model that behavior as well. At our annual staff luncheon at the beginning of the year, staff heard from their superintendent and association president that they not only had permission, but encouragement to experiment with ideas intended to engage students with the world they will inherit. We know that standardized tests don’t necessarily measure the skills our students need. As President Obama said, “We can’t simply measure whether students can fill in a bubble on a test, but whether

“We live in a 21st century world where jobs can be shipped wherever there’s an internet connection; where a child born in Dallas is competing with children born in Delhi; and where your best job qualification is not what you do, but what you know.” President Barack Obama
they possess 21st century skills like problem-solving and critical thinking, entrepreneurship and creativity.”

The paradigm for 21st century learning has become our “2020 Vision: Successfully preparing students for the cognitive, global and digital world.” The Mercer Island School Board officially adopted this vision in the summer of 2008 and all district improvement - planning initiatives are being examined under this light. Mercer Island schools will deliver a 21st century education that prepares students to convert information into knowledge and create innovative solutions demanded by tomorrow’s world.

Some of the ways Mercer Island schools are engaging students in 21st century learning include:

**The Mercer Trading Company —**

Mercer Island High School students are collaborating with Saint Augustine’s College in Ghana to set up an online trading company to buy and sell goods from the United States and Ghana. The students have formed a corporation, sold stock, written a mission statement and by-laws and split the company into departments. As one student said, “We chose Ghana because we wanted to learn more about Africa and give our proceeds back to the people there. Right now the United States does not import goods from Ghana. Maybe we will be the first”

**Ecosystems of Puget Sound**

A team of elementary teachers is using the Internet to support students in sharing what they learn about Puget Sound with a global community. “As our students study the ecosystem of Puget Sound they learn about marine life (plants and animals), the food web, and how their actions impact the health of the sound.”

**Geocaching**

Students learn about geography and orienteering through hands-on experience. Teachers use a “Travel Bug” to allow the students to watch their item travel around the country and even the world. This activity is tracked on-line. The students will be connecting with people from other areas by reading the logs people create about our Travel Bug. This is an exciting way for technology to help connect young students to the outside world.

**Voice Thread teen tutoring program**

This project utilizes the Voice Thread computer program to create a teen-tutoring program in the Mercer Island School District whereby students who are proficient in a subject can assist one who may need help. For example, high school students assist elementary or middle school students on a daily, weekly or monthly basis.

**Modernizing the new social studies offerings**

A team of social studies teachers are researching and designing up to ten problem-based learning experiences to be used as a framework for the new 9th grade Global History course and the second semester of the new 10th Grade World History course. These learning experiences include a career exploration element in order to make the projects authentic and open-ended. An example is, “Imagine that you are a museum curator. Design an exhibit around the art and inventions of Leonardo Da Vinci.”

Following the development and implementation of these lessons, the Social Studies department will evaluate the appropriateness and success of the assignments with the goal of choosing several common assessments for the 2009-2010 school year and beyond.

**Music Commission Project**

Mercer Island High School’s band director has contracted with a young professional composer named Carl Holmquist to compose a piece after meeting with and discussing compositional ideas and process with the students and directors of regional high schools in Washington state. The project includes two “webinars” in which MIHS students actively rehearse the piece for the composer who is in turn available over the web to answer questions about the piece and its development. Mr. Holmquist will come to Mercer Island to rehearse the band and conduct the world premier of his piece.

**ActivExpressions**

Elementary teachers are using the ActivExpressions interactive response systems in their classrooms for individual student use and interaction with the Activboard. It is a unique learner response system with the ability to text complete sentences and numerical responses.

**Voices of the Congo**

Students in International Studies and Drama at Mercer Island High School are collaborating on researching the current conflict in Congo and are writing and producing an original drama based on first-hand accounts of participants in that conflict. The classes together will utilize videoconferencing technology to dialogue directly with persons involved in the conflict and to gather their stories. Students will also use digital technologies such as wikis to build their understanding of the conflict, and in collaborating in script development.

Our success depends on our community’s willingness to be ambitious and take risks with us. We want our students to discover their passion, design their own academic path and take responsibility for it. We expect students to view themselves and be supported as academic entrepreneurs and risk-takers. We need to acknowledge many paths to success and encourage each student to find his or hers.

We have embarked on a fascinating journey. We expect this journey to evolve as we learn and grown from these experiences. After all we are a school, committed to the growth, expanded awareness and ability of ALL the individuals in the system.

Gary Plano is superintendent at Mercer Island School District.

Mike Radow is president of Mercer Island Education Association.
The road to 21st century skills is a long one for most of the 8th graders I talk to. They seem to be blissfully unaware that the world, the economy, the climate, the culture of work, and the very fabric of America are changing. They know that everything is “Made in China”, but they don’t seem to know exactly why. They do not understand the economic imperative of learning to solve problems. At the moment, some of them lack the drive and hunger necessary to get the best jobs, to compete in college and then the workforce. Meanwhile, these same 8th graders are digital natives, walking around with computers in their pockets that are more powerful than the desktop computers we “thirty-somethings” first encountered in junior high. Anything they could ever want to know is literally seconds away. They socially network using MySpace, Facebook, and Twitter. These millennials will, however, enter into a workforce dominated, owned, and led by older people that don’t work the way they do. This generation, in particular, will have to follow tried-and-true business rules while they rewrite them.

For our educational system, the storm has gathered, the point has tipped, and the world has flattened. Average 8th graders need to be educated in collaboration, cooperation, and extreme problem-solving to be the next generation of American worker. For some, a high school reboot with 21st century skill-building as its predominant driver, is the only solution.

One example of a reboot underway is the STEM movement. STEM is the new ‘It’ girl. STEM (Science, Technology, Engineering, and Mathematics) is working its way to its rightful place in the American educational vernacular. At my STEM school, Delta High, we enjoy massive interest and inquiries into how students learn and think differently. Visitors from as far away as China and Mexico have come to see our students and teachers in action. But here’s the big secret…it does not have to be a STEM school to focus on critical thinking, creative problem-solving, collaboration, communication, and innovation. 21st century skills are necessary for our students to be the next generation of American bread winner. If done correctly, this type of skill-building could be done in any high school.

In terms of curriculum for 21st century skills, it is DIY or nothing. Using backward design, my teachers, industry partners and I have developed a naturally integrated, standards-based, mastery learning package for all students focused on communication, collaboration, and common sense in STEM. An example would be our light bulb unit. Students were given one simple task: build a light bulb that is extremely bright and extremely energy efficient. Students designed the light bulb using SolidWorks (a 3D parametric modeling program used widely in industry), built it, tested different filaments in different internal environs, figured out how to collect the data, and then gathered data. In math, they crunched the numbers. In English, they wrote a technical report. In science, they learned all about electricity, and in social studies they started their National History Day project that focuses on innovation in history. The curriculum at my school is standards-based in all classes, is formatted in collaborative groups, is integrated where appropriate, includes a culminating assessment, and is assessed using rubrics.

It is important to note that the light bulb has already been invented. Our curriculum is not about the light bulb, really. It’s about communicating to solve problems, using new tools to aid the design process, critically thinking about materials in less-than-ideal conditions, and communicating conclusions effectively.
Teachers that engage in building 21st century skills through curricular design and learning strategies have certain professional dispositions that set them apart from other teachers. They read, sometimes voraciously. They pay close attention to coups, conspiracies, economies, commodities, and emerging markets—even if they are “just” the 9th grade math teacher. They read the paper. They network with people in their fields. They enjoy their own content enough to learn about it on their non-compensated time. These teachers have ideas, will travel. They spend their summers at colleges, institutes, and internships because they simply love to learn. They spend their winter breaks having lunch with former students returning from college. These teachers are the gold that educational leaders have been mining for decades.

I was speaking to a teacher in the community recently. We were discussing possible science courses for Delta seniors in 2012. In the brainstorming session, I proposed a course that I called “Current World Problems in Science”. Her response?

“Well, science changes so much, I mean, you'd have to change the curriculum every year.”

There. That’s what I mean. If you want to offer dynamic, collaborative, communicative, responsive curriculum, it does need to be updated by content experts, every year at the very least. It needs to be reinvented and reflected upon. Curriculum that is married to a textbook that your district replaces every seven years is not going to hit the mark, period. Textbook-driven curriculum is not 21st century, it’s 19th century.

At Delta, the textbook doesn’t know better. Teachers, in collaboration with each other and with our local industry partners know better. Teachers, using standards, decide what constitutes “acceptable evidence of learning”. In an attempt to make the learning at Delta industry-grade, we have students working on collaborative teams, solving design problems, and writing to communicate their results.

The research is clear and the writing is on the wall. Education needs to change as fast as everything else is changing if we want to avoid becoming obsolete. We need to, as Elvis liked to say, take care of business. In doing so, we prepare students by providing them with the tools to achieve STEM literacy and problem-solving skills that would make most engineers blush. Current 8th graders will likely work well into their seventies. They will be collaborating, thinking to solve problems, and dealing with the fallout from centuries of industrial progress that has led to deforestation, climate change, diminishing natural resources, emerging pathogens, national debt, armed conflict, and the failing health of our American herd. We owe it to students to prepare them for what will happen next. The only way to prepare them is for educators and their systems to get real about 21st century skills…now.
Expeditions at Kettle Falls Elementary

Standards-based compelling studies

What is a healthy forest? That is the question that Kettle Falls Elementary School fourth graders have been grappling with all winter. In order to examine this question, fourth grade teachers Sally James, Sydney Potestio and Judy Galli have designed an expedition with carefully scaffolded projects for their students. Through these in-depth, service-learning projects, students have been engaged in reading, writing, math, science, social studies and technology. In Kettle Falls we firmly believe that it takes a village to educate a child and we count on a cross curricular approach of teachers and many experts to make any expedition a success for our students. Our priority is creating engaging expeditions that have rigorous learning for ALL students.

Kettle Falls Elementary:
an expeditionary learning school

An expedition is the format Kettle Falls Elementary uses to combine adventure and service with learning state standards. Each expedition has standards strategically embedded in fieldwork. The healthy forest expedition will combine many “I can” learning targets based on state standards, with snowshoeing, animal tracking, trail cameras and forestry. In the end, students will deliver PowerPoint presentations to the North East Washington Forestry Coalition (NEWFC) as an authentic audience for their service learning work product. The expedition will provide an exciting and adventurous outlet for student learning and assessments on rigorous state standards. As an Expeditionary Learning School, Kettle Falls Elementary believes that expeditions are the primary way of organizing curriculum. The subject matter of a learning expedition is a compelling topic derived from content standards. Expeditions feature linked projects that require students to construct deep understandings and skill and to create products for real audiences. Learning Expeditions support critical literacy, character development, create a sense of adventure, spark curiosity and foster an ethic of service. They allow for and encourage the authentic integration of disciplines. (Expeditionary Learning Schools Core Practice Benchmarks p.8.)

This learning expedition began as all expeditions begin at Kettle Falls Elementary. The staff went through a careful study of the new Washington State standards and determined the “priority standards” at each grade level. The standards are then written as long-term learning targets. Once these standards were determined, teams researched case studies that could become the focus of the learning expeditions. The life science standards addressed focused on life cycles, animal structures and behaviors, food webs, ecosystems and human impacts as the center of the expedition.

Literacy is embedded with in the expedition. Priority learning targets are written based on the standards of reading and writing. Reading comprehension strategies and the traits of writing are the focus of these targets. A content map is designed that assigns long term learning targets to each of three expeditions through out the school year. Each expedition runs for eight to twelve weeks.

Learning targets are at the heart of our work. There is clear criteria for posting and referencing learning targets school-wide. Long-term targets, project targets, and scaffolding steps are organized so that students can track their achievement during the daily debrief. We emphasize “learning together, but assessing independently”. Anchor charts that hold the thinking of the class are posted near the targets. The anchor charts will collect information that makes the learning target clear, whether it is knowledge...
or meta-cognitive thinking. All students are independently assessed on all learning targets.

**Kettle Falls Elementary as a 21st Century School**

Expeditionary Learning Schools set an expectation for service and authentic work. Kettle Falls Elementary teachers create expeditions that foster service in authentic ways.

Benchmark 3: B. Authentic Audiences
1. Products often meet an authentic need and have an audience and purpose beyond families or the classroom teacher.
2. Some of the products are particularly motivating because in themselves they are acts of service.

(Expeditionary Learning Schools Core Practice Benchmarks p.13.)

We are a Learn and Serve Grant recipient, which has helped us focus on the service aspect of our expeditions. This grant gave teachers release time to write rigorous expeditions and make the community contacts necessary for authentic service. It also supported the expedition through fieldwork and materials for a new expedition.

We knew that this expedition was an outstanding opportunity to educate our students in sustainable education. It meets many of Jaimie P. Cloud’s EFSS Frameworks:

**Responsible Local/Global Citizenship**
- The rights, responsibilities, and actions associated with leadership and participation toward healthy and sustainable communities. Students will know and understand these rights and responsibilities and assume their roles of leadership and participation.

**Healthy Commons**
- That upon which we all depend and for which we are all responsible. Students will be able to recognize and value the vital importance of the Commons in our lives, their communities, and the places in which they live.

**Multiple Perspectives**
- The perspectives, life experiences, and cultures of others, as well as our own. Student will know, understand, value and draw from multiple perspectives to co-create with diverse stakeholders shared and evolving visions and actions in the service of a healthy and sustainable future locally and globally.

**A Sense of Place**
- The strong connection to the place in which one lives. Students will recognize and value the interrelationships between the social, ecological and architectural history of that place and contribute to its continuous health.

(Cloud, p 172-3.)

The North East Washington Forestry Coalition (NEWFC) agreed to partner with Kettle Falls Elementary School. This expedition reaches each of these components of Cloud’s framework. It is the basis of an expedition with an authentic purpose, service, purposeful fieldwork, multiple perspectives and rigorous content.

**Kettle Falls Elementary Bangs monitoring project**

Three KFE classes will be engaged in a hands-on learning experience that includes in-class preparation and learning and fieldwork designed to teach them about the life cycles of natural systems, sustainable resource management, and community collaboration. The project will include wildlife, tree, and plant life monitoring within the Bangs Mountain Wildland Urban Interface project on the Colville National Forest, as well as presentations and instruction from school and community experts in the field and in the classroom, including members of the Northeast Washington Forestry Coalition.

The students will work with the Coalition to complete a final report in the form of a PowerPoint presentation, documenting their monitoring work and educational experience with photos and written reporting. The final report may be posted on the Coalition’s web site, and a final press release may be prepared for local newspapers to share the outcome of the project with the broader community.

**Case Study One: Indicator Species of Bangs Mountain**

Our Learn and Serve Grant gave a team of six staff members the opportunity to participate in a SEA (Service, Education and Adventure) training this fall. This adventure included learning to track with Tom Murphy of Edmonds Community College and the LEAF (Learn-n-serve Environmental Anthropology Field) school. This so engaged the teachers that we were determined to give our students the same opportunity. Murphy was able to create an alternative winter course that brought 12 college students to Kettle Falls for a week. During that time, the LEAF school taught the students how to recognize tracks and gaits of our local animals. The focus was on five animals: whitetail deer, turkey, snowshoe hare, lynx and coyote. These animals were chosen with help from the Forest Service because of their status as indicator species for the Bang’s Mountain area. Students spent time in the forest that week, learning to track, photograph tracks, and measure tracks. They also learned to set trail cameras along trails in order to capture photos of the elusive animals.

Students from Kettle Falls High School Wildlife class with teacher Joni Evelst participated in each of these activities supporting the fourth graders throughout this expedition. They also took on the task of writing “field guides” for the fourth graders to use in their work.

This project focused on the learning targets of:

- I can independently sort animals by the structures and behaviors that help them survive in their environment.
- I can independently list 4 parts of an animal and describe how the parts help the animal meet its basic needs.
- I can independently generalize from multiple forms of text to learn about forest animals.
- I can independently elaborate using details and/or examples about one forest animal.
- I can edit for capitals against the class capitalization chart.

Students learned about each animal through predicting structures and behaviors by analyzing a collage of photos and YouTube videos. Predictions were recorded before reading field guides and predictions were confirmed or not. Once the recording sheets were completed, the students wrote expository papers on the survival structures and behaviors of each animal. These were combined to create PowerPoint slides that
Case Study Two: Food Webs of Bangs Mountain

This project really focused on the interdependences within the forest ecosystem. Learning targets in this investigation focused on giving students the knowledge to be able to complete the narrative prompt:

You are a wildlife biologist researching animals on Bangs Mountain. One of your jobs is to report to the community of Kettle Falls the stories the animal tracks of an indicator species told you while doing your fieldwork. To do this you will need to describe where the tracks were found and your inferences of what the tracks are telling you about that animal's daily life.

- I can independently generalize from multiple forms of text to learn about animal population.
- I can independently evaluate one population changes will be one indicator of impacts animal population.
- I can independently describe three ways that humans can improve the health of the forest ecosystem.
- I can independently organize my writing.

During this project students learned about many changes that can happen to forests over time. The learning targets for this project are:

- I can independently describe how one population may affect other plants and/or animals in the forest ecosystem.
- I can independently evaluate one population in different forests, determine which will thrive and give clear reasons.
- I can independently describe three ways that humans can improve the health of the forest ecosystem.
- I can independently assess the author’s effectiveness for a chosen audience.

This means:
- I will write an introduction, supporting details using examples, and conclusion in an expository writing.

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This means:
- I will write an introduction, supporting details using examples, and conclusion in an expository writing.

The students will complete this project with a simulation from Project Learning Tree, The 400 Acre Wood. Students will determine the actions taken to manage a forest much like their plots on the Bangs Mountain Project. This project has a balance of Vibrant Economy, Healthy Environment, and Equitable Society, as recommended by The Sustainable Design Project Teacher Manual. (Wheeler, Bergsman, Thumlert 2008.)

The Final Presentation of “What is a Healthy Forest?”

The final project is a culmination of all of the data that the students have collected while completing this project. Data is compiled in a variety of ways. The animal monitoring is a graph of the sightings caught on the trail cams, the plant monitoring is a graph as well, both done on Excel. The canopy is drafted on graph paper, indicating the cover and open space. There is also the map from Google Earth, indicating each plot for future reference and to gauge...
changes over time. This work is gathered in a Power Point to be presented to NEWFC at a future meeting.

Kettle Falls Elementary: expeditionary learning and 21st century intertwined

Our students had the opportunity to become engaged in their local forest, gathering a respect for the land, observing the interdependence and understanding the decisions made by others that use our forests. Students were able to meet rigorous learning targets and assessed independently on each target. They collaborated to create authentic projects that reach beyond their school walls.

The expedition included many different modes of learning during this project that are key to Heidi Hayes Jacobs’ Tenets for Purposeful Debate leading to Content Upgrades:

• A personal and local perspective is developed and presented in the content area, where natural and viable.
• The whole child’s academic, emotional, physical and mental development is thoughtfully considered in content choices.
• The possibilities for future career and work options are developed with an eye to creative an imaginative directions.
• The disciplines are viewed dynamically and rigorously as growing and integrating in real-world practice.
• Technology and media are used to expand possible sources of content so that active as well as static materials are included. (Jacobs p 31).

Through compelling expeditions students at KFES achieve many 21st century outcomes. Students build strong habits of work, through both performance (traits that enable students to perform to their potential) and personal relationships (traits that enable students to be good people and community members). They are motivated to learn. Students believe that they have the ability to meet their targets, have clear targets that they can self-assess their progress against, and are connected to their school through the work they do. We believe that academic achievement is increased when students are engaged in learning. Through authentic expeditions like “The Stories Tracks Tell” students build life and career skills. Real world problems increase students’ critical thinking and problem solving skills. The use of technology opens the classroom to wider world, with meaningful examples of the work our students are doing. Our students increase their understanding of 21st century themes such as environmental literacy. (Hulleman, Hartl & Ciani 2009). Through compelling expeditions our students are engaged, supported and held accountable to high standards.

References


Greg Goodnight is superintendent at Kettle Falls School District.

Valerie McKern is principal at Kettle Falls Elementary.
The salmon serves as an indicator species reflecting the overall health of the natural environment in the Pacific Northwest. For Native American tribal members, the salmon has played a central role in sustaining communities both historically and in contemporary daily life. Based on the importance of the salmon to all people living in this region, tribal leaders, environmental organizations, government agencies, and educators formed a partnership to create curriculum resources that bring awareness to the status of the salmon population as it interconnects with the broader ecological system. The outgrowth of these efforts is the Shadow of the Salmon curriculum, designed to prepare eighth-grade students with 21st century critical thinking, problem solving, and communication skills as they address environmental issues.

Building partnerships for education

The recently completed study, “From Where the Sun Rises: Addressing the Educational Achievement of Native Americans in Washington State,” (http://www.education.wsu.edu/nativeclearinghouse/achievementgap/) identified the formation of partnerships between tribes and schools as critical to promoting the educational achievement of Native students. The report echoed the Millennium Agreement signed by state and tribal leaders in 1999 by recognizing the contributions that tribes can make to education for all students in Washington State. The Shadow of the Salmon curriculum serves as an example of how Native cultural knowledge can help inform problem solving and development of potential solutions regarding environmental concerns.

Tribes contributed to the development of the Shadow of the Salmon curriculum through the leadership of the Northwest Indian Fisheries Commission who brought together multiple partners. Additional contributors who saw the possibility of enhanced education opportunities through partnership included the environmental organizations: Salmon Defense, the Northwest Straits Commission, Environmental Education Association of Washington, Hood Canal Coordinating Committee, and Adopt-A-Stream Foundation. Washington State agencies also assisted, including the Office of the Superintendent of Public Instruction, Department of Fish and Wildlife, and Department of Ecology. Educational organizations and institutions involved were the Washington State Indian Education Association, Washington State University, University of Washington, and the Pacific Education Institute. Further assistance came from the Affiliated Tribes of Northwest Indians and the Boeing Corporation.

A partnership product

A key component of the curriculum-development partnership involved communication with members of local tribes to learn about and portray the perspectives of Native people. The outcome of this partnership, the Shadow of the Salmon curriculum, is a multi-media product consisting of a docudrama and a curriculum guide. The docudrama tells the story of Cody Ohitika, a 15-year old boy from Pine Ridge, South Dakota, who comes to the Pacific Northwest to visit his Coast Salish relatives. He learns about the importance of caring for and respecting the natural environment through stories, observation, and hands-on experiences shared by youth, elders, and other community members. More specifically, he participates in an environmental studies class with peers, observes the consequences of an oil spill, and watches his relatives take measurements to monitor the health of a
stream near a hatchery.

The curriculum guide provides a variety of materials and activities to complement presentation of the docu-drama. These include traditional stories of the salmon with suggested discussion questions and follow-up activities. A section on stewardship presents watersheds, as part of an ecological system heavily impacted by human use. Challenges to the sustainability of the salmon population are discussed, focusing on hatcheries, hydropower, harvest, and habitat. Suggestions are made for related information sources that can be explored through the internet. Communication skills are enhanced as students and teachers explore diverse communication modes, such as storytelling, art, music, and dance, in addition to meeting with local tribal members to hear their perspectives regarding the natural environment.

**Building critical thinking and problem solving skills**

Real life interactions between humans and the natural environment are portrayed in the Shadow of the Salmon curriculum as they relate to the decline of the salmon population. Students are provided with opportunities to build their critical thinking and problem solving skills as they analyze the challenges faced by salmon throughout their life cycle. The curriculum guide provides opportunities to explore potential solutions and to take action through being a “doer” and not a “worrier.” For example, after viewing the docu-drama, students are encouraged to research news articles regarding environmental issues of relevance to their local community. They then critique suggested solutions and identify ways they can personally take action to address identified concerns, such as through removing litter or planting trees along a stream.

Additional suggestions are provided for activities that promote the development of critical thinking and problem solving skills that align with Essential Academic Learning Requirements (EALRs) in various content areas, such as science, math, reading, writing, and communication. (See Table 1 for an example of alignment with a communication EALR.) Implementation of the curriculum might involve tribal and non-tribal experts serving as guest speakers to talk about what sustainability means, to provide information on local challenges, and to lead a discussion on the pros and cons of strategies being used to address these challenges. Students might gather information by taking a field trip to a fish hatchery or to a salmon habitat restoration project. As an alternative, students might explore the challenges faced by salmon through their local community. They then critique suggested solutions and identify ways they can personally take action to address identified concerns, such as through removing litter or planting trees along a stream.

**Extending existing educational efforts**

The Shadow of the Salmon curriculum is designed to build upon environmental education efforts that already provide outdoor education experiences for students in schools. For example, 600 schools currently participate in the Salmon in the Classroom Project, sponsored by the Washington Department of Fish and Wildlife (http://wdfw.wa.gov/outreach/education/salclass.htm). This project provides students with the opportunity to receive salmon eggs that they raise in the classroom. Salmon fry are eventually released into local waterways that biologists have determined to provide suitable habitat. The Salmon in the Classroom Project has served as one focal point for partnership development. For example,
the Yakima Basin Environmental Education Program brings together the Yakama Nation, state and federal agencies, irrigation districts, private groups, municipal and county agencies, and individual land owners to offer the Salmon in the Classroom experience to students and teachers in the region. The Shadow of the Salmon curriculum parallels and extends the Salmon in the Classroom Project as students learn about the natural environment through activities, such as mapping and monitoring the status of their local watersheds, participating in environmental fairs, communicating with local community members, recording cultural histories associated with the waterways, and exploring potential responses to the dilemmas encountered.

Concerns pertaining to environmental issues and sustainability of natural ecosystems in the Northwest have resulted in the formation of additional partnerships developed to enhance educational opportunities. The Hood Canal Salmon Enhancement Group partners with the Skokomish Nation and the Port Gamble S'Klallam Nation to provide educational opportunities for students enrolled in schools in the Hood Canal watershed. The Stillaguamish Tribe has formed a relationship with nearby schools to provide hands-on educational opportunities at its fish hatchery. Through the Dungeness River Audubon Center, the Jamestown S'Klallam Tribe, the River Center Foundation, and the Audubon Society come together to provide river-monitoring field trips and other educational opportunities regarding watershed management. The Shadow of the Salmon curriculum provides an additional and readily accessible resource to enhance the educational efforts of these collaborative groups.

Conclusion

Environmental issues pose one of the greatest challenges for humans across the world today. In the Pacific Northwest, the salmon serves as an indicator species reflecting the health of the overall natural environment. Recognizing the significance of the salmon to all people across the region, Native American tribes partnered with environmental organizations, government agencies, and educators to develop the Shadow of the Salmon curriculum. This curriculum provides a tool for promoting the development of critical thinking and problem solving skills for eighth-grade students as they learn about and address real-life environmental concerns. The curriculum is designed to build on existing environmental education efforts and serves as a tool to promote cross-cultural communication and relationships.

Availability of the Shadow of the Salmon curriculum

The Shadow of the Salmon video and curriculum guide are available, upon request, from the Indian Education Office of the Washington State Superintendent of Public Instruction (P.O. Box 47200, Olympia, WA 98504, 360-725-6160). The video can also be viewed online at http://www.SalmonDefense.org and the curriculum guide can be accessed at http://www.education.wsu.edu/nativeclearinghouse/achievementgap/. A document displaying the alignment of the Shadow of the Salmon curriculum with state standards can be accessed at http://libarts.wsu.edu/speechhearing/overview/native-american.asp.

Ella Inglebret is an Associate Professor in the Department of Speech and Hearing Sciences at Washington State University. Her research examines factors associated with Native American student success.

CHiXapkaid (D. Michael Pavel) is an enrolled member of the Skokomish Nation and Professor of Higher Education at Washington State University. He specializes in promoting American Indian and Alaska Native educational access and achievement.
The year was 1986 and a shiny new Apple IIc computer with a color monitor was delivered to the high school science classroom where I was teaching. The computer was placed on a rolling cart but it remained in the office/lab prep room outside of the classroom. It was used primarily for preparing documents and keeping track of students’ grades on a spreadsheet. It was never used for instructional purposes with students. The level of development, usability and lack of availability of technology in 1986 prevented it from serving as an important learning tool. Things have changed considerably since then primarily due to the advent of high speed processors, the internet, and linked documents via the World Wide Web. Emerging technologies now provides potential for enhancing learning that did not previously exist.

Before describing how emerging technologies may be used to enhance learning, a primer on the web is needed. The first iteration of the web, called Web 1.0, is a read only system. Via the web, vast amounts of information were made widely available to anyone with internet access. Some call it the “shopping cart” web as there was very little interaction. Searching for static information and shopping are the hallmarks of this level of technology. A newer version of the web called Web 2.0, also known as the read/write web, provides a system where users can read and contribute to the system (see this informative video). Examples include wikis where people contribute content, social networks like Facebook, multiple forms of audio and video including podcasts, and blogging. The next proposed iteration of the web, Web 3.0, involves semantic intelligent systems that helps users discern patterns and create meaning from posted information (see this video description). These types of intelligent systems where software can contextualize content for users are relatively new. All of the above web-based technologies, particularly web 2.0 and 3.0 systems, may be able to serve as a tool to assist learning.

Linking technologies to learning theory will help provide a framework for discussing its capabilities. Bransford, et. al, published an excellent and oft cited treatise called How People Learn. Citing years of research, Bransford’s group formulated key findings about what we currently know about how people learn. These principles are widely used in various educational settings to help structure the way learning experiences are designed and delivered. Key findings two and three from this work are easily applied to the use of emerging technologies.

How People Learn - Key Finding 2

To develop competence in an area of inquiry, students must: (a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework, and (c) organize knowledge in ways that facilitate retrieval and application. How People Learn: Bridging Research and Practice, 1999, p. 10-13.

In describing the research behind this key finding, Bransford and his colleagues focused on how knowledge is organized and used by experts and novices. Compared to novices, experts have more access to knowledge, know how to easily retrieve knowledge that is directly associated with their work, can adapt and change knowledge structures when needed, and recognize when to apply knowledge to specific contexts.

A general goal of education is develop expertise in learners. This is achieved through using a variety of proven instructional strategies (e.g., Marzano, 2001) and curriculum materials that are content laden. Most published curriculum materials are...
static in nature; they simply provide long lists of concepts and ideas. Yet traditional textbooks are outdated by the time they are printed. The web makes a wider variety of more up-to-date content available to learners via static information websites commonly accessed via search engines. But textbooks and static websites, a form of Web 1.0, do not allow for a free exchange of information, fail to contextualize content for learners, prevent easy retrieval of knowledge, and do not foster adaptations by learners. My hope is that this will eventually spell the end of traditional curriculum materials!

Web 2.0 technologies, or the Read/Write web, move beyond static display of content. Folksonomies (collaborative collections), tagging of content by category, social networks, blogging by a wide variety of writers, regular feeds of new information (RSS feeds), collaborative wikis, and podcasts represent widely available web 2.0 technologies. Freedman and D'Souza documented various educational applications of web 2.0 technologies. They provide dynamic sources of easy-to-retrieve contextualized content, foster interactivity, and help learners adapt. In effect, they help address Bransford's Key Principle 2.

While innovative in their own right, these web 2.0 technologies don't utilize one of the most promising developments, the semantic web, or web 3.0. In citing future educational applications of the semantic web, the 2008 Horizon Report (New Media Consortium/EDUCAUSE), indicated that collective intelligence systems are key emerging technologies poised to have an impact on teaching and learning in the next few years. Such systems create new ways for users to contribute to, examine, and organize information in a semantic fashion.

Two popular and easy to use semantic applications cited in the Horizon report include http://del.icio.us/ and http://www.flickr.com/. Del.icio.us is a site where learners can maintain sets of social bookmarks and associated tags. Here is a link to my set of bookmarks related to the topic of this article (http://delicious.com/lumpea). I can tag topics to each bookmark and see who else bookmarked and tagged each site. Such systems can help learners organize information and share ideas with others.

Flickr is the wildly popular photo sharing site maintained by Yahoo. It is claimed by Yahoo that over 4 billion photos reside on their servers. Static collections of photos aren't what make this site semantic. Users can tag photos with descriptive words that others can use for searching. Geotagging – linking a photo to a specific site on a map – can be used to organize and find photos from anywhere in the world.

Semantic wikis are one method proposed to create interactive learning environments (Völkel, et. al, 2006). Regular wikis that involve collaborative editing, including Wikipedia, are excellent for static data display and ease of access. Semantic wikis move beyond the limitations of regular wikis and provide a means for users to utilize metadata (data about data) and relationships between data categories. In other words, the software is capable of identifying and organizing relationships between posted information. An example of an educational semantic wiki is JurisPedia where users from all over the world can share legal information. In such semantic environments, deep factual knowledge bases can be developed, knowledge can easily be retrieved and shared, and conceptual frameworks can be built, all leading to increased learner expertise. The potential for education is intriguing. But most semantic web development is focused on business and industry – researchers/developers follow the money! As Bradford (2008) points out, there has been scant application to the realm of K-12 and higher education where it could be of great benefit to learners. However, some recent semantic applications with potential uses in educational settings include the following: http://www.stumpedia.com/, http://www.truknowledge.com/, http://www.projectshalo.com/, http://www.swirl.com/, and http://www.twine.com.

Interactive, collaborative learning environments between learners/novices, teachers/experts, and existing web 2.0 technologies and emerging web 3.0 semantic technologies can be cultivated to enhance learning. Figure 1 depicts the interactive relationships.

How People Learn - Key Finding 3

A “metacognitive” approach to instruction can help students learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them. How People Learn: Bridging Research and Practice, 1999, p. 10-13

Bransford calls metacognition having an “internal conversation”. Others, like Novak, call it learning how to learn. While this may sound like a form of mental illness, it’s actually a powerful learning tool – a form of self-regulation where the learner controls their own learning. Teachers foster metacognition by providing scaffolds and prompts for students. The scaffolds/prompts should be able to be eventually pulled away and the learner still practices metacognition on their own; the goal is independent learning.

Experts in a given area routinely monitor their learning by attempting to align new information with what they already know. They realize when additional information is needed. Seeking help at the right time enhances depth of knowledge. But novices struggle with monitoring their learning and the sifting through the barrage of information that bombards them. With the vast amounts of information available on the internet, learners need assistance aligning their ideas with content standards. Simply “googling” a topic may not help a novice and may actually overwhelm them. Online libraries (e.g., http://www.questia.com/), repositories of content (e.g., http://www.wisc-online.com), and educational wikis (e.g., http://www.wikispaces.com/) can assist students focus their learning.

Verbalizing learning is one powerful metacognitive tool. Having learners explain thoughts about what they understand or don't understand positively impacts their
growth. One method for utilizing technology to foster metacognition is the use of blogging. Blogs create a log of learning, document development over time, and allows for feedback and connecting of ideas. Michigan State University maintains an informative site called Blogs for Learning that provides practical ideas and examples. Helen Barrett, an internationally recognized expert on blogging for learning, maintains an informative site on electronic portfolios and digital story telling that includes many resources and samples (http://electronic.portfolios.org/).

Not only can blogging be used in K-12 settings, it may serve as a powerful learning tool for the professional development of educators. At Seattle Pacific University, students in both undergraduate and graduate programs maintain professional blogs that document their learning aligned with program and/or state standards. Students use the free blog tool called www.wordpress.com. Erin Acheson is a high school science teacher in Everett and is working on a master’s degree at SPU. She is also deeply involved in teacher leadership projects in her district. Her blog is viewable at http://eacheson.wordpress.com/. She organizes her professional learning around topics, coursework and program standards. Tags and categories (on the right side of the blog) provide an organizational tool. Reflective blogs can serve formative personal assessment and summative program assessment purposes.

Mind maps, as a form of graphic organizer, can be used as a metacognitive tool where learners organize their learning and logically connect concepts. Many software programs are available for learners to create mind maps (also see http://www.mind-mapping.org/). MindMeister even acts as a wiki mind map tool allowing collaborative input. An example applicable to the topic of this article is Robin Good’s popular collaborative mind map showing the best online collaboration tools for learning.

Collaborative learning network technologies can help students monitor their learning by providing mechanisms for debate, feedback, and collaborative project development. There are many interactive, web-based systems available to schools including the commonly used learner management systems like http://blackboard.com/ and http://moodle.org/. Such systems provide online discussion forums, chat rooms, wikis, and other tools for managing collaboration. But even freely available social networking tools like http://www.facebook.com/ and http://twitter.com/ provide collaborative contexts where ideas can be quickly shared and commented upon.

**Applications to Educational Settings**

Learning happens in interactive, collaborative environments. This may be in a traditional classroom setting. But emerging technologies including web 2.0 and 3.0 environments may well serve a future role in expanding our view of where learning occurs. In the business world and non-formal settings, the learning environment is rapidly shifting to become technology-based.

Educators are oftentimes slow to adapt and adopt technologies. But the world is rapidly moving into a digital age where a new set of 21st century skills will be required (not convinced? - watch this video). Students are digital natives; adults tend to be digital immigrants. Students already understand and use the power of these emerging technologies for everyday learning. School systems must respond, perhaps even lead the change. Granted, districts are mandated to provide safe learning environments and internet safety blockers are a must. In addition, many adults in school systems are resistant and fearful of the digital age. But these should not become excuses for avoiding the potential of emerging technologies.

I remain perplexed and frustrated that these powerful technologies, based on sound learning theory and possessing enormous enhance learning, are not being developed and applied to educational settings at a more rapid clip. But, I can think of no better way to transform learning and better prepare students for their futures.

Andrew Lumpe is associate dean of graduate programs and director of doctoral programs at Seattle Pacific University.
A message from the executive director

Executive directions

What a fantastic school year 2009-2010 has been for Washington State ASCD. Our success can be directly attributed to some important decisions made by our Board of Directors during the past two years. Among those decisions, was the choice to co-sponsor the 2009 Annual Conference in Seattle with the Office of the Superintendent of Public Instruction (OSPI). We were pleased that OSPI utilized our conference to provide updates on new standards and curriculum alignment issues. This year, we will bring in a third sponsor for the 2010 Annual Conference, as we work with the Washington Association for the Education of Young Children (WAEYC) to broaden our conference participation to include child care providers and preschool teachers. This year’s conference theme, ‘Looking through the Kaleidoscope: Focusing on the Learner,’ will involve experts on all facets of education at the K-12 and university levels, as well as educators who specialize in early learning.

Other decisions made by the Board of Directors were related to the professional development opportunities provided by WSASCD. Knowing that educators need quality professional development and understanding the financial challenges of schools and districts, our Board made the decision to continue to provide regional workshops at a price that is reasonable for educators. The Board also endorsed hosting our regional workshops in school districts and at various Educational Service Districts.

On behalf of our wonderful Board of Directors, I would like to thank Federal Way Public Schools, Vancouver Public Schools, NEWESD 101 (Spokane), ESD 123 (Pasco), Mead School District, and White River School District for providing sites for our series of workshops this year. We truly could not offer our regional workshops without this tremendous support.

The journal you are currently reading is the result of yet another important decision made by our Board of Directors. Because the world is changing and more educators are getting information electronically, we decided to join the online revolution by publishing our first-ever electronic version of Curriculum in Context. It should be no surprise that the theme of this unique journal is ‘Building 21st Century Skills.’ We appreciate our innovative journal editors and hope you are enjoying this foray into uncharted territory.

“Leadership should be born out of the understanding of the needs of those who would be affected by it.”

—Singer Marian Anderson

Thanking our Board of Directors

Board members contribute countless hours of conference calls and meetings, providing a critical level of insight into issues that guide our Association forward. Because our Board of Directors was proactive in planning, we have increased our membership, as well as offered quality professional development through our Annual Conference and regional workshops. I would like to thank the following members of the 2009-2010 Board of Directors for their perseverance and involvement in so many critical decisions.

• President: Dr. Joshua Garcia, Executive Director of Learning, Federal Way Public Schools

(Click here to link to photo images.)
• Past President: Dr. Michael Dunn, Superintendent, NEWESD 101, Spokane

• ASCD Representative: Mr. Tim Nootenboom, Director Teaching and Learning, Central Valley School District

• ESD 101/123 Representative: Dr. Susana Reyes, Assistant Superintendent, Pullman School District

• ESD 105 Representative: Ms. Janice Sauve, Principal, Marcus Whitman Cowiche Elementary, Highland School District

• ESD 112 Representative: Ms. Barbara Lomas, Director of School Improvement and Professional Development, ESD 112, Vancouver

• ESD 113 Representative: Ms. Gayle Mar-Chun, Principal, Madison Elementary, Olympia School District

• ESD 114 Representative: Mr. Dave Colombini, Director of School and Family Support, South Kitsap School District

• ESD 121 North Representative: Dr. Gary Plano, Superintendent, Mercer Island School District

• ESD 121 South Representative: Mr. Barry Hoonan, Teacher, The Odyssey School, Bainbridge Island School District

• ESD 171 Representative: Mr. Ismael Vivanco, Associate Executive Director, Migrant Education and Academic Achievement, ESD 171, Wenatchee

• ESD 189 Representative: Ms. Patricia Shanander, Reading Facilitator and Assessment Coordinator, Lincoln Elementary, Mount Vernon School District

• Higher Education Representative: Dr. Andrew Lumpe, Professor of Education, Seattle Pacific University

• OSPI Representative: Dr. Alan Burke, Deputy Superintendent, K-12 Education, OSPI

• Curriculum in Context Editors: Dr. Becky Cooke, Principal, Prairie View Elementary, Mead School District; Dr. James Howard, Associate Professor, Washington State University; Dr. Gene Sementi, Assistant Superintendent, West Valley School District, Spokane

Several board members have reached their term limits and are rotating off the WSASCD Board of Directors. We would like to extend sincere thanks to the following board members for their time and dedication to Washington State ASCD.

• Dr. Michael Dunn has served on the WSASCD Board of Directors for the past six years, serving as the ASCD Representative, President-elect, President and Past President. Mike has been extremely committed to our Association, promoting healthy relationships through his honest, direct, and effective interactions. With his leadership, WSASCD has built stronger partnerships with school districts, the ESDs, and the universities in our state. In addition to being very interested in the details and activities of the organization, Mike’s strength has been in looking at the ‘big picture’ with a vision for making the organization stronger. During his tenure on the Board of Directors, Dr. Dunn put his visionary ideas into action as he collaborated with the board to create better outreach to educators throughout our state.

• Mr. Dave Colombini has served on the WSASCD Board of Directors for the past three years. During his tenure, he represented the Olympic ESD 114 (Bremerton) region. Dave’s strength on the board has been his sincere commitment to the five tenets of the ASCD Whole Child Initiative. As the Director of School and Family Support in South Kitsap School District, Dave has had the opportunity to promote programs that ensure that students are healthy, safe, engaged, supported, and challenged. This experience has had a very positive impact on our board. Mr. Colombini was also instrumental in working with representatives from Whitworth University and the Leadership Innovations Team to implement a new program for WSASCD involving the State Schools of Character, whereby schools are honored for their work with character education.

• Dr. Gary Plano has represented the Puget Sound ESD 121 North region for the past three years. Gary’s strength on the board has been his ability to ‘think outside the box.’ Many board decisions have resulted in rich conversations with Dr. Plano helping us to think differently, unconventionally or from a new perspective. During his tenure on the board, Gary attended the ASCD Leadership for Effective Advocacy and Practice (LEAP) Institute in Washington, D.C. He was part of a team of WSASCD Board members who learned more about advocating for our children’s education. The team visited the offices of our two senators and several members of Congress to share ASCD’s legislative agenda.

The contributions of Mike, Dave, Gary and our entire Board of Directors have been centered on supporting you, as educators, so you can best serve the children of our state. In these challenging financial times, remember that you count! As you go about your daily life as an educator, remember that the work you do with children and your community does make a difference. On behalf of WSASCD, thank you for your caring, your strength and your belief in children.
You are invited to attend the 2010 WSASCD-OSPI-WAEYC Annual Conference, October 15-16, 2010, at the Spokane Convention Center.

As you may know, Washington State ASCD will be co-sponsoring with the Office of the Superintendent of Public Instruction (OSPI) and the Washington Association for the Education of Young Children (WAEYC). WAEYC will begin the conference on Wednesday, October 13 and WSASCD and OSPI will join them on Friday and Saturday, October 15 and 16. We are pleased to announce that the Exhibit Hall will open from Thursday through Saturday this year.

This unique conference will offer professional development for child care providers, preschool teachers, elementary and secondary teachers and administrators, district administrators, paraeducators, and educators in higher education… with a special focus on the learner!

The 2010 Annual Conference Planning Committee, co chaired by Brent Howard, ESD 101 and Sean Dotson, Cheney Public Schools, is delighted to announce that Michael Gurian, renowned educator and New York Times bestselling author, will be the featured keynote speaker on Friday, October 15. In this inspirational, practical, and humorous presentation, Michael Gurian focuses on *The Minds of Boys and Girls: How to Help our Sons and Daughters Do their Best in School and Life*.

### October 15 — Special Features of the Friday Program

- 40+ concurrent sessions featuring local educators

### WSASCD-OSPI-WAEYC Annual Conference

**October 15-16, 2010**

**Spokane Convention Center**

**Looking through the Kaleidoscope:**

**Focusing on the Learner**

- Awards Luncheon honoring recipients of the State Recognition Awards, 2010 Outstanding Young Educator Award, and the new State School of Character Award
- Networking opportunities
- Leadership Panel focused on Early Learning
- Over 75 publishers, exhibitors and displays
- Exhibitors’ and Presidents’ Reception

**October 16 — The Saturday Institute will offer many DYNAMIC Full Day Action Lab Presenters**

- Dr. Alan Burke & Jessica Vavrus
  K-12 Education Agenda for Change: OSPI Updates
- Dr. Jeanine Butler & Brent Morrison
  Standards-Based Grading & the Role of Formative Assessment
- Dr. Tammy Campbell
  Closing the Achievement Gap through Powerful Pedagogy: How to Reach and Teach Each Child
- Adie Goldberg
  Strategies for Teaching Boys and Girls at the Elementary Level
- Nancy Cole Hough
  Time to Teach Strategies for Managing Discipline in the Classroom
- Glenda Sederstrom
  The Response to Intervention System: Effective Practices that Guide Instructional Decisions for Every Learner
- Dr. Kathy Stevens
  The Adolescent Brain: A Work in Progress
- Dr. Charlene Young
  Solving the Sensory Processing Puzzle for Students Diagnosed with Autism or Bipolar

Our keynote presentation for the Saturday Institute Luncheon will be a delightful musical presentation by Jose-Luis Orozco, a bilingual educator, children's author and recording artist. José-Luis Orozco believes that music is a powerful tool to teach multiculturalism in classrooms. Even if you can't carry a tune, you will enjoy this delightfully interactive presentation, as José-Luis takes us on a musical journey through Latin American history, language and culture.

You can register online at [www.wasa-oly.org/2010WSASCDAnnual](http://www.wasa-oly.org/2010WSASCDAnnual)

For more information, contact Kathy Clayton at kclaytonascd@gmail.com.
Partnerships for student success. Have you and your colleagues developed meaningful ways of using partnerships in your classrooms and schools that contributes to student success? Can you shed light on practical, hands-on strategies designed to help districts and schools promote and sustain partnerships for learning into current and future policies and practices? Can you illustrate recent research claims of utilizing partnerships through stories and classrooms on the front lines? If so, consider taking some time to clearly and persuasively contribute to the intellectual life of the WSASCD community. Please e-mail a 50-100 word preview of your contribution to Jim Howard (jamesh@wsu.edu) and we will promptly send a submission guidelines form for your 1000-2500 word articles. If you have questions, please contact Jim Howard at the above e-mail address.

SUBMISSION DEADLINE
Fall/Winter 2010 – August 1, 2010
Spring/Summer 2011 – February 1, 2011