## In This Issue

### Theme: 21\textsuperscript{st} Century Skills

Media literacy is sometimes referred to as a 21\textsuperscript{st} century skill, but the set of skills referred to by this term is much larger, and the question of whether and how these skills should be taught in state curricula is the subject of much debate.

### Research Highlights

The Consortium reviews recent research on 21\textsuperscript{st} century skills. In this section you’ll read about the standards by which 21\textsuperscript{st} century skills are defined, and about the intersections between health education and education for 21\textsuperscript{st} century skills.

### CML News

CML participates in an institute on cyberbullying at a recent Department of Education conference.

### Media Literacy Resources

An innovative media literacy project in Britain combines film and poetry content with animation production.

### Med\textsuperscript{a}Lit Moments

As Kermit the Frog once said, “It isn’t easy being green!” In this Med\textsuperscript{a}Lit Moment, your students will learn how to analyze and respond to green marketing campaigns.
Theme: 21st Century Skills

The 21st Century Skills Movement Takes Center Stage

At the time of its inception in 2002, the Partnership for 21st Century Skills (P21) was working in relative obscurity, even though it had high-profile members such as the National Education Association and technology corporations. Today, the topic of 21st century skills has taken its place in the educational spotlight. In a speech before the Hispanic Chamber of Commerce in March 2009—perhaps his first address on education policy after taking office—President Obama used the term directly: “... I’m calling on our nation’s governors and state education chiefs to develop standards and assessments that don’t simply measure whether students can fill in a bubble on a test, but whether they possess 21st century skills like problem-solving and critical thinking and entrepreneurship and creativity.”

At the time of this writing, twelve states have submitted plans to the Partnership to revise standards, create assessments and implement 21st century skills professional development programs.

In this issue, we discuss recent research on 21st century skills. One of the reasons why teaching for 21st century skills is the subject of so much debate is that the set of skills referred to by the term are sometimes vaguely defined, and the development of model curricula is still in progress. In “Determining, Developing and Assessing the Capabilities of North Carolina’s Future-Ready Students,” educational researcher Chris Dede reviews 21st century standards from several organizations to arrive at a composite description of 21st century skills, and draws on current research to demonstrate the congruence of a problem-based curriculum with those standards.

Health literacy is also highlighted in this issue as a 21st century skill. In “The Role of 21st Century Schools in Promoting Health Literacy” Tami Benham-Deal and Bonnie Hodges show how a skills-based health curriculum which emphasizes 21st century skills can empower student health decision-making.

And the MediaLit Moment for this issue, “What does it mean to be green?” is drawn in part from the P21 Science Skills Map. As it turns out, analyzing the “green-ness” of environmental claims in advertising is one activity which can help students exercise their skills in media, health, financial and scientific literacy. Whether you wish to learn about the history of this movement, join in current policy discussions, or find a sample activity to try with your students, this issue provides the information and resources to help you get started.

The P21 Science Skills Map is available online at: http://www.21stcenturyskills.org/documents/21stcskillsmap_science.pdf
Determining, Developing and Assessing 21st Century Skills

The William and Ida Friday Institute for Educational Innovation, a leader in the 21st century skills movement, opened its doors last year at the North Carolina State University College of Education. The Friday Institute’s stated goal is to “prepare students for success in work, life and citizenry in the global, knowledge-based, technology-rich, culturally-diverse, rapidly-changing world in which they will live.” The Friday Institute recently released a white paper which surveys organizations which have published their own guidelines to 21st century skills.

Author Chris Dede lays out the challenges of writing “Determining, Developing and Assessing the Capabilities of North Carolina’s Future-Ready Students” by calling attention to “21st century skills” as an umbrella phrase under which advocates from various groups have argued for almost any type of knowledge. As the state of North Carolina has already adopted the Partnership for 21st Century Skills Framework, Dede uses the “P21” framework as the basis for comparison in attempting to define these skills.

Next, Dede surveys 21st century frameworks, learning outcomes, and skills inventories from a wide array of organizations: the International Society for Technology Education, the European Organization for Economic Cooperation and Development, the Educational Testing Service, the American Association of Colleges and Universities, and the North Central Regional Educational Laboratory in partnership with the Metiri Group. Dede finds that the skills outlined by these organizations generally fall into two categories: those which are a more detailed iteration of skills from the P21 framework, and those which expand on skills from the framework. For example, the ISTE standard for “troubleshooting systems and applications” may be viewed as a sub-skill of the P21 category of “ICT literacy.” And the Metiri/NCREL “EnGauge” framework highlights the disposition towards risk-taking, which effectively extends the P21 “learning and innovation” skill through which students “view failure as an opportunity to learn. . .”

After summarizing these results, Dede points out the major weakness of all the frameworks: none of them, including the P21 framework, provide “any guidance on how to reconfigure current curriculum standards. . . in scope, emphasis and interrelationship with other curriculum standards--to make time for students to attain the necessary understandings and performances” (p.12). Drawing on current research by education scholar Tony Wagner, Dede suggests that a 21st century curriculum could be built on unique, complex, multi-step problems which require initiative, imagination, critical thinking skills, collaboration--and the pronounced absence of any ready-made solution provided by a text or teacher (ibid.).

Dede provides a theoretical underpinning for a problem-based 21st century skills curriculum at a few junctures in this paper. Before conducting the survey, he discusses the work of economists Frank Levy and Richard Murnane, who focus their research on
skills which computers cannot perform despite recent ICT advances. One skill identified is expert thinking: “...effective pattern matching based on detailed knowledge; and metacognition, the set of skills used by the stumped expert to decide when to give up on one strategy and what to try next” (qtd. p. 6). For example, a skilled auto mechanic will invent new problem-solving heuristics when standard diagnostic systems show that no problem exists.

In addition, Dede favors a 21st century curriculum based on problem-solving because 21st century information technologies are expanding human problem-solving abilities. Dede justifies his argument with concepts forwarded by Henry Jenkins and his colleagues on the capacity of information technologies to enable “distributed cognition” and “collective intelligence” (p. 16).

To conclude the paper, Dede briefly surveys assessments by both European and US governments and organizations which could be used to measure 21st century skills. Dede also directs readers to the recent report issued jointly by the National Governor’s Association and the Council of Chief State School Officers which advocates a five step strategy for benchmarking educational outcomes to the best models from around the world (i.e., ‘international benchmarking’).

To access the full report, point your web browser to:

Health Education and 21st Century Skills

In January of 2009, the National Education Association’s Health Information Network hosted a symposium in which experts from the fields of education, health and philanthropy gathered to set a K-12 education agenda for “health literacy in the 21st century.” One essay published as a proceeding of the conference, by Tami Benham Deal (U. Wyoming) and Bonni Hodges (SUNY Cortland), forges a chain of associations between health education, skills-based curricula, and self-empowerment; in the process, the paper also illuminates connections between health education, media literacy education, and education for 21st century skills.

In “The Role of 21st Century Schools in Promoting Health Literacy,” the authors begin by discussing the unique features of health literacy programs in the schools. In contrast to health programs (in and out of academic settings) which focus on preventative interventions or behavior change, health literacy programs are intended to develop the capacity of students to obtain, process, and understand basic health information and services needed to make appropriate health decisions (p. 1).

According to the authors, a number of experts believe that curricular changes are needed to support the goal of improved health literacy in schools. While traditional
school health programs focus on problems such as health risk behaviors, the experts cited suggest a transition to a skills-based curriculum centered around core health concepts through which skills can be learned and practiced. In addition, a skills-based curriculum can help students develop greater self-efficacy. According to one scholar, health literacy is not so much a problem to be solved but an “asset to be built” which can support greater empowerment in health decision-making (p.3).

This anticipated shift in models of health education seems to echo historical changes in media education practice. Previous approaches emphasized protecting children from the undesirable influences of media. Contemporary media literacy instruction focuses on the learning of core concepts and critical thinking skills which make student empowerment possible.

“Critical literacy” is a key term in this essay, which the authors define as the skills necessary to critically analyze information and use it to control one’s actions (p.3). The authors elaborate on this definition by identifying three groups of skills from the framework developed by the Partnership for 21st Century Skills as skills crucial to the development of critical health literacy. These essential skills are 1) learning and innovation skills 2) information, media and technology skills; and 3) life and career skills. In the health classroom, students apply these skills as they evaluate printed and electronic sources of health information for their validity, analyze internal and external influences on their health choices and behaviors, set appropriate health goals, and use interpersonal communication skills to advocate for personal and community health. All these practices help students develop skills that enable them to manage their health behaviors and reduce their health risks (p.4).

The authors also note that health literacy is an interdisciplinary theme featured in the Partnership for 21st Century Skills Framework, and argue that health literacy should be taught throughout the curriculum of K-12 schools. Like many media literacy educators have done, they argue that health literacy is not something ‘added on’ to traditional subjects, but instead a strand woven throughout the curriculum which can promote understanding of academic content at a higher level than might have been previously imagined.

An electronic copy of the paper is available at:

CML News

Institute on Cyberbullying Offered at DOE Conference
On August 3rd and 4th, the US Department of Education Office of Safe and Drug Free Schools convened its 2009 National Conference in Washington, DC, with the theme “The Power of Change: Healthy Students, Safe Schools, and Engaged Communities.” In addition to organizing the conference into institutes, workshops, poster sessions and plenaries, the OSDFS created several tracks for conference sessions, including tracks for research, promising programs, training, technology, new trends and resources.

Cyberbullying was near the top of the informal agenda for this conference, as no fewer than five sessions were held on the topic. An institute on the first day of the conference offered a comprehensive and integrated approach, providing research and best practices from the fields of cyber security, school violence prevention, law enforcement, student mental health and character education to help educators, parents and other adults create positive behavioral change. Presenters included Nora Howley of the NEA Health Information Network; Sue Limber, a Clemson University scholar who specializes in legal and psychological issues related to bullying among children; Kenneth Thaxter, School Liaison Offer of the Bridgewater Police Department (greater Boston Area); and Tessa Jolls, President and CEO of the Center for Media Literacy.

About Us…
The Consortium for Media Literacy addresses the role of global media through the advocacy, research and design of media literacy education for youth, educators and parents.

The Consortium focuses on K-12 grade youth and their parents and communities. The research efforts include nutrition and health education, body image/sexuality, safety and responsibility in media by consumers and creators of products. The Consortium is building a body of research, interventions and communication that demonstrate scientifically that media literacy is an effective intervention strategy in addressing critical issues for youth.

http://www.ConsortiumforMediaLiteracy.org
Media Literacy Resources

**Teaching Tip:** Although teaching media literacy process skills need not be linear, it is best to begin with lessons for Deconstruction of media messages before moving on to Construction. When students understand ‘how’ media works, and their relationship to it, they are better prepared to construct media products of their own.

**Persistence of Vision**
by Cary Bazalgette and Clifford Cohen

In an effort to ensure young people benefit from sustainable and coherent opportunities to learn about film, a UK consortium of agencies comprising the UK Film Council and some of its key funded bodies – The British Film Institute, Film Education, First Light and Skillset – have put together a UK-wide strategy for education about moving image media, called “Film: 21st Century Literacy”. The Strategy pulls in other bodies such as Film Club and the UK’s regional and national screen agencies and has three years of funding to try and drive initiatives that will generate credible evidence about the value of learning about film, will encourage different agencies to work together, and will have thoroughly worked-out exit strategies that will, it is hoped, lead to more sustainable provision of education about moving image media in both formal and informal education for the 3-19 age range.

One of the initiatives funded in the second year of the Strategy is Persistence of Vision (POV), an animation and poetry project. Although creative animation work in schools is growing in popularity and is one of the commonest ‘entry level’ initiatives in creative work with film, especially in primary schools, the standard of most work is poor and there is very little evidence of children being enabled to develop their work in the context of wider viewing opportunities, or to be able to revisit and improve their creative skills. Technical support is frequently inappropriate, and, as with poetry, if film is used at all, it is often only as a stimulus or motivator to help raise attainment in mainstream subjects, not as a valuable cultural experience in its own right.

POV’s main aim is to establish much-needed benchmarks for learning about animated films and filmmaking in the primary school. It will establish guidelines for best practice in ‘entry level’ work; demonstrate the key factors that foster learning progression, and establish standards by which the quality of children’s creative work can be evaluated. POV will do this, not by teaching about animation on its own, but by linking it to film viewing and analysis, and by embedding it in work on poetry.

Both animation and poetry offer ways of making meaning that are particularly intense and personal, often small-scale and particularly suited to individual creative work by children. Both offer opportunities for precise and careful choices about words and images, sequence and rhythm, duration, pattern and metaphor. Both are popular with children, but face similar problems in the primary school: lack of teacher knowledge, a narrow range of examples for reading or viewing, and teachers’ lack of confidence in
making judgments about the quality of children’s work.\textsuperscript{iv}

POV is working with three rural local authorities (LAs) in England: Worcestershire, Norfolk and Devon; each of which aims in the long term to develop animation and poetry work in all their primary schools. Animators with wide experience of work in education will work with a core group of schools in each LA to help teachers develop three consecutive programmes of learning through the academic year 2009-2010. Teachers, local advisers and two academic mentors will help gather evidence about whether, and if so how, children gain in confidence and creative ability by having repeated opportunities for watching and making animated films, and for reading and writing poetry. The animation-poetry links may be stylistic or thematic, and the children will tackle a range of animation modes including classical drawn animation, cut-out and 3D stop motion. Interestingly, one of the animation programmes working with POV is based in Los Angeles and runs global projects. AnimAction has a history of working with UK projects and has been conducting youth and teacher training animation programmes for more than two decades.

Persistence of Vision is run by the Media Education Association (MEA), a subject association for media educators at all levels of the 3-19 education system in England\textsuperscript{v}. MEA is keen to see media education developed more systematically in English primary schools, and to establish its value as a distinctive part of every child’s education.

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\item For more detail see \url{www.21stcenturyliteracy.org.uk}.
\item Government funded scheme to give pupils and teachers the chance to explore the world of film through after-school film clubs: \url{www.filmclub.org}.
\item For a list of contacts for these see \url{www.ukfilmcouncil.org.uk/fundedpartners}.
\item See \url{www.mediaedassociation.org.uk}.
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“What Does It Mean To Be Green?”
According to a Cone Consumer Environmental Survey conducted this year, 34% of Americans indicate that they are more likely to buy environmentally responsible products today, and another 44% indicate that their environmental shopping habits have not changed despite the current economic climate (http://www.coneinc.com). Not surprisingly, environmental marketing campaigns have also been on the upswing.

And there is no doubt that a significant number of deceptive (or “greenwashed”) advertisements and product labels have been riding the tide of these campaigns. Terra Choice Environmental Marketing published a “Sevens Sins of Greenwashing” report this year which asserted that 98% of products reviewed violated at least one of their rules for making legitimate environmental claims (http://sinsofgreenwashing.org). In fact, this year’s report adds an additional “sin” not included in the 2007 report--“the sin of worshipping false labels,” a practice by which companies give the impression of third party environmental endorsements for their products where no such endorsement exists.

But enough of the bad news. The good news is that “green” advertisements and labels provide a great springboard for teaching across nearly all disciplines. By analyzing these advertisements, students can increase their consumer, health and financial literacy.

In this MediaLit Moment, your high school students will have the chance to consider the moral, social and ecological ramifications of an activity they are becoming familiar with---shaving--against the environmental claims that a major auto maker makes for its cars.

Have students analyze and evaluate a “green” advertisement’s appeal to them, as well as the message it conveys about their lifestyle choices.

AHA! They’re trying to tell me that buying a fuel-efficient car from them is more important than saving resources at home!

Key Question #5: Why was this message sent?
Core Concept #5: Most media messages are organized to gain profit and/or power
Key Question #4: What values, lifestyles and points of view are represented in, or omitted from, this message?
Core Concept #4: Media have embedded values and points of view

Grade Level: 10-12

Materials: Computer with high speed internet access, data projector, projection screen, GM E85 (ethanol fuel) car advertisement, accessed at You Tube: http://www.youtube.com/watch?v=Iv9xgHiBPWw
**Activity:** Have students watch the commercial at least a couple of times. After the first showing, ask students, what makes this commercial funny? And also ask, what kind of audience do they think GM was trying to target with this ad? (According to our research, this ad aired only on MTV).

After the second showing, ask students about the environmental claims of this commercial. What is the carmaker trying to say about the corn-based fuel that the car uses (ethanol) and the water students (boys and girls) use to shave?

Next, ask them how they feel about the fact that the advertisement is trying to persuade them that their personal consumption habits matter less than the decision to invest in a new Chevy vehicle. Are they embarrassed when they think of how much water they use? Are they annoyed by the comparison? Are they “sold” on the product? Does the advertisement simply make them laugh? Can they explain why they feel the way they do?

**Extended Activity:**
Key Question #3: How might different people understand this message differently?
Core Concept #3: Different people experience the same media message differently

Ask your students to rate the environmental claims of this commercial. Are the environmental benefits of driving a Chevy E85 presented in a credible and appropriate way? Did GM “fudge” the facts a little? Is this ad a good example of greenwashing? For example, does the ad present an “apples to oranges” comparison that “sounds” right but cannot be readily substantiated? Also, is ethanol really a “gas friendly” alternative fuel, or are the claims that GM makes about ethanol and their ethanol-compatible vehicles overblown? Place students in pairs or teams and ask them to prepare presentations based on their research. Or organize a debate. . .or a forum.

Here are some sources that you may want to use to prepare study guides, or to assign to students in their entirety:

**Greenwashing**

US Federal Trade Commission guides to environmental claims in advertising: [http://www.ftc.gov/bcp/gmrrule/guides980427.htm](http://www.ftc.gov/bcp/gmrrule/guides980427.htm)

Recent Federal Trade Commission testimony to Congress on attempts to regulate the “virtual tsunami” of recent green advertising: ([http://www.ftc.gov/os/2009/06/P954501greenmarketing.pdf](http://www.ftc.gov/os/2009/06/P954501greenmarketing.pdf)).


Consumer Reports evaluations of “green” products at [http://www.greenerchoices.org](http://www.greenerchoices.org)

Terrra Choice 2009 report on greenwashing at [http://sinsofgreenwashing.org](http://sinsofgreenwashing.org)
The Ethanol Debate

Thermodynamics of the Corn-Ethanol Biofuel Cycle, by Ted Patzek, Department of Civil and Environmental Engineering, UC Berkeley


The Five Core Concepts and Five Key Questions of media literacy were developed as part of the Center for Media Literacy’s MediaLit Kit™ and Questions/TIPS (Q/TIPS)™ framework. Used with permission, © 2002-2009, Center for Media Literacy, http://www.medialit.com