Literacy in a Digital World: Emerging Tools and Innovative Activities for the Twenty-First Century Learner

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Let's Think Outside the Box!
For 99 seconds share learning technologies you are using this year that you had not heard about five years ago.

Innovate or die trying

Thinking outside the box is inside the scope of these companies' plans

Plato's academy: 387 BC - 529 AD

1885
1955
1985
2015

Schools, Teachers, and Students of the 1880s

Telegraph: Flattening the world in 1860

Eighth-grade students Tayler Bernholtz, left, Amy Lostroh and Kelsey Cardiff check out a weblog discussion related to the Civil War historical-fiction book 'Guerrilla Season' At South Valley Junior High School in Liberty, Mo. (Blogging now begins young Today, By Ashley Bleimes, USA TODAY, November 15, 2006, 12D). http://www.usatoday.com/life/2006-11-14-blogs-education_x.htm

Digital and Dumber?

U.S. senator: It's time to ban Wikipedia in schools, libraries

By Preston Gralla on Wed, 02/14/2007 - 7:08pm

Here's the newest from Sen. Ted Stevens, the man who described the Internet as a series of tubes. It's time for the federal government to ban access to Wikipedia, MySpace, and social networking sites from schools and libraries.

ABOUT THIS BLOGGER

Preston Gralla: Preston Gralla is a contributo
Computerworld, and the author of more than
including Windows Vista in a Nutshell.
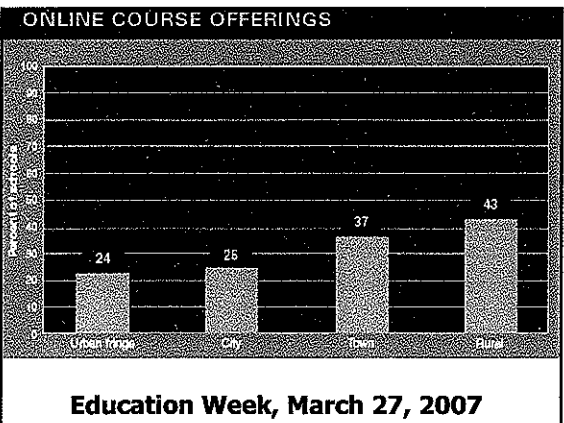
ONLINE COURSE OFFERINGS

(bar chart values: 24, 25, 37, 43)

Education Week, March 27, 2007

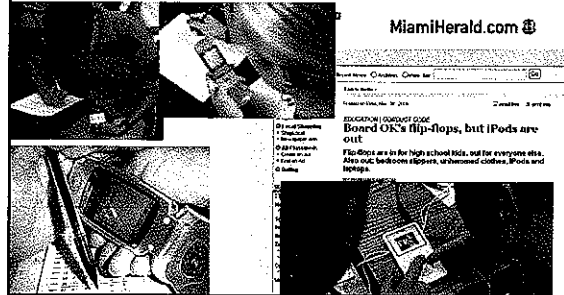**Connecting the Digital Dots: Literacy of the 21st Century**
Barbara R. Jones-Kavalier and Suzanne L. Flannigan
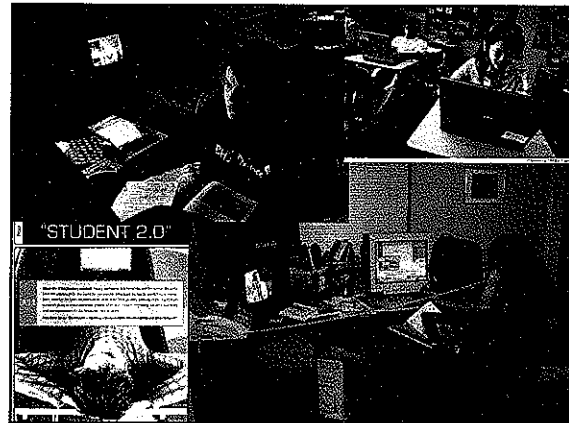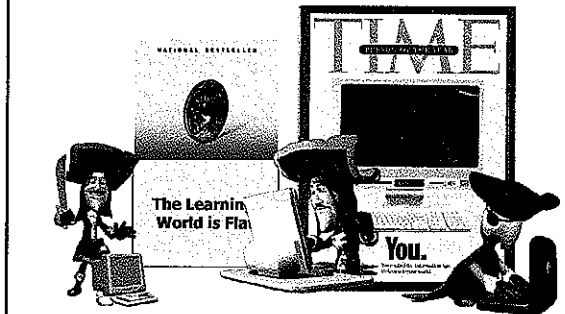Educause Quarterly (2006), 29(2)

"These days, new media literacy technical skills catapult traditional learning methods into orbit—traditional chalkboards and overheads with pens do not occupy the same realm as current capabilities. As an example, now teachers can do a PowerPoint presentation with streaming video, instant Internet access, and real-time audio-video interaction, and they can do it with relative speed and ease."

Poll #1:
Should kids be allowed to bring mobile phones, MP3 players (iPods) to school?

MiamiHerald.com

The Learning World has become Open!

The Learning World is Flat

"STUDENT 2.0"

Triple Learning Technology Convergence of "WE-ALL-LEARN"

The Learning World is Open

A Circle of Knowledge Building and Sharing

bility of tools and
· learning.
ibility of free
ent and resources
ational Resources).
rning Culture: A
move towards a culture of open
access to information, international
collaboration, and global sharing.

4th P? Processing Speed
Scientists develop fastest computer
June 9, 2008, H. JOSEF HEBERT, AP

- **To put the computer's speed in perspective, it has roughly the computing power of 100,000 of today's most powerful laptops stacked 1.5 miles high, according to IBM. Or, if each of the world's 6 billion people worked on hand-held computers for 24 hours a day, it would take them 46 years to do what the Roadrunner computer can do in a single day.**

5th p? Pointing?
What are the new digital learning skills?
30 Ideas and Predictions!!!

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1. New Reading Skills. New ways to read
information (e.g., Thinner, Crisper, and Cheaper
eBooks; Kindle = $400-500)

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2. New Listening Skills.
Read, Listen, etc. to online books (e.g., "An International Episode" by Henry James)

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3. New Research and Study Skills. Repository:
Connexions (6,000+ modules, Rice Univ) & Curriki (K-12, Sun Micro)

4. New Storage and Retrieval Skills
Terabyte thumb Drives and Magic Pens! (The Pulse from Livescribe). Second, we need new ways to record info: Smartpens: "Never Miss a Word"

5. New Creativity Skills. Indexing Sounds in Cities with Google Maps

6. New Communication Skills (e.g., Twitter)

Twitter took off from simple to 'tweet' success

Tech giants poke around Facebook

7. New Social Interaction Skills.
Facebook's Mark Zuckerberg, at his office in Palo Alto, Calif., is in no hurry to sell the popular social networking site. (23 years old)
Facebook could be worth as much as $6 billion today, Bear Stearns (BSC) analyst Robert Peck says. He expects privately held Facebook to post a profit of about $30 million on revenue of $140 million this year, and register a $70 million profit on revenue of $358 million in 2008. He predicts $6 billion in revenue by 2016.

8. New Information Search Skills (Stumble Upon)

9. New Visual Presentation Skills.
Online Photo Albums, e.g., FLICKR
(Inc. Magazine, December 2006)

10. New Mobile Learning Skills. Mobile News (New York Times): A new way to take your news with you on the iPhone and iPod touch
Connected (Part 1/2) from Abilene Christian Univ: http://www.youtube.com/watch?v=Tp8fHgp0xhU

11. New Reflection Skills.
Use of Weblogs

1. Instructor or Tutor blog
2. Learner blog: reflections, sharing links and pics.
3. Partner blog: work on team projects or activities
4. Class blog: international exchanges, projects.
5. Revision: review and explode previous posts.
6. Nutshell: summarize themes or blogs.
7. Blog on blog: reflections on feelings, confusions.

12. New Real World and Authentic Learning Skills (PBL, evaluation, interaction, communication, etc.)

13. New Adventure Learning Skills
(Ben Saunders, Mark Fennell, Andrew Revkin)

14. New Informal Learning Skills.
Art and History Exhibits

15. New Visual Learning Skills (e.g., Periodic Table of Visualization; Visual Thesaurus
http://www.visualthesaurus.com/; http://www.visual-literacy.org/periodic_table/periodic_table.html)

Slide 16:

Amy, 13, writes her news script.

Trevor, 12, Adriano, 12, and Okeeno, 13, listen back to the report they have recorded on an iPod.

Ivan, 12, records his news report.

16. New Text and Audio Production skills.

Lambeth CLC technician George Belfield edits the students' work.

Uryas, 12, and Ivan, 12, research their news story.

Slide 17:
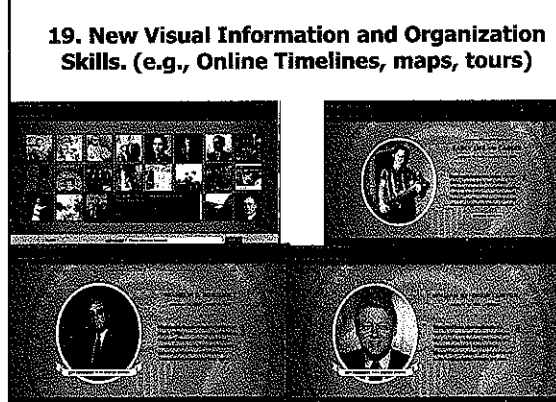
17. New Video Production Skills
Individual Produced Videos
(e.g., African School Dream in CurrentTV)
http://current.com/items/77146082_african_school_dream

Slide 18:
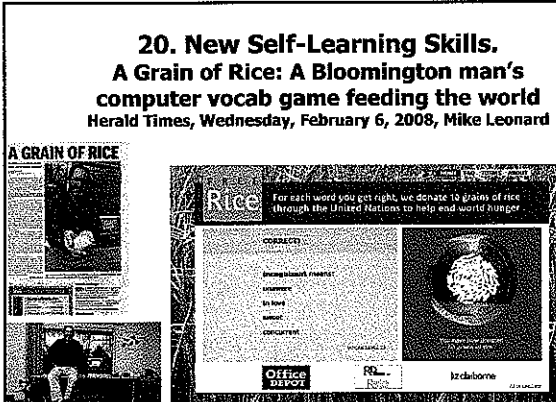
18. New Visual Language Skills.
Using Online Video (e.g., YouTube) to Memorize Sonnets and Poems

Slide 19:

19. New Visual Information and Organization Skills. (e.g., Online Timelines, maps, tours)

Slide 20:
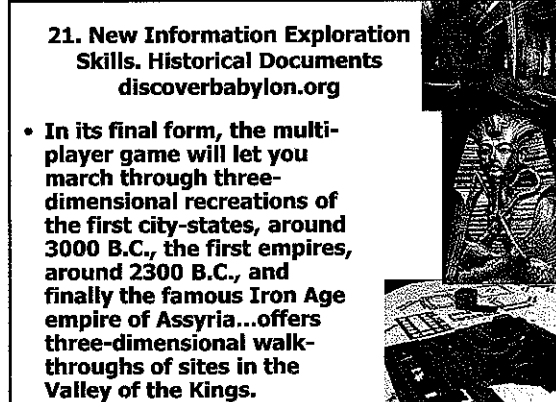
20. New Self-Learning Skills.
A Grain of Rice: A Bloomington man's computer vocab game feeding the world
Herald Times, Wednesday, February 6, 2008, Mike Leonard

A GRAIN OF RICE

Rice

For each word you get right, we donate 10 grains of rice through the United Nations to help end world hunger.

CORRECT!

Slide 21:

21. New Information Exploration Skills. Historical Documents
discoverbabylon.org

- In its final form, the multi-player game will let you march through three-dimensional recreations of the first city-states, around 3000 B.C., the first empires, around 2300 B.C., and finally the famous Iron Age empire of Assyria...offers three-dimensional walk-throughs of sites in the Valley of the Kings.

**22. New Learning Management Skills.
Moodle (400,000 registered users in
193 countries speaking 73 languages)**

**23. New Sharing Skills.
Posting Documents on Web
Scribd: http://www.scribd.com/; 21 million
unique visitors per month, May 2008**

**24. New Research Collaboration Skills
(e.g., Diigo)**

**25. New Language Learning Skills
Online Language Learning**
(Mixxer, Livemocha, Friends Abroad)

26. New Video Search Skills.
http://www.usatoday.com/tech/products/2008-
10-23-youtube-tv-episodes_N.htm

**YouTube expands its horizons,
and its time limits for videos**

Site branches out from
homemade clips to
full-fledged TV shows

**27. New Self-testing Skills.
High School Student Self-Testing
(e.g., Calm Chemistry)**

28. New Browsing Skills.
Online Portals & Resources
(Civil Rights Digital Library and Amistad, history, science, literatur)

29. New Multimedia Learning Management Skills (Animations, Video Clips, Audio, Pictures, Web Resources, etc.; e.g., DNA from the Beginning)

30. New Multitasking Skills

- "The skill to be valued in the twenty-first century is not the length of attention span, but the ability to multitask - to do many things well at once.... [and] the ability to process visual information very rapidly." (Rushkoff, 1996:50)

Multitasking

A characteristic of the 21st century everyday life

Neomillenial Learning Styles
Planning for Neomillennial Learning Styles: Implications for Investments in Technology and Faculty
Chris Dede, *Harvard University, Educause, 2005*

- Fluency in multiple media--value all types of communication, activities, experiences, not a single best medium
- Actively seek, collect, and synthesize experiences, rather than absorb a single best source
- Active learning and collective reflection
- Non-linear and associated webs of learning
- Co-design of learning experiences for individual needs and preferences not pre-customized

What Students Need to Know:
21st Century Skills and ICT literacy;
Susan D. Patrick, President and CEO
North American Council for Online Learning

The future will demand people who can express themselves effectively with images, animation, sound, and video, solve real world problems that require processing and analysis of thousands of numbers, evaluate information for accuracy, reliability, and validity; and organize information into valuable knowledge, yet students are not learning these skills in school.

From: The Partnership for 21st Century;
www.21stCenturySkills.org
Report: are they really ready to work (2006).
http://www.21stcenturyskills.org/documents/FINAL_REPORT_PDF 9-29-06.pdf

What Students Need to Know:
21st Century Skills and ICT literacy;
Susan D. Patrick, President and CEO
North American Council for Online Learning

- Information and communication skills;
- Thinking and problem-solving skills;
- Interpersonal and self-direction skills;
- Global awareness;
- Financial, economic, and business skills; and
- Civic literacy.

From: The Partnership for 21st Century;
www.21stCenturySkills.org
Report: are they really ready to work (2006).
http://www.21stcenturyskills.org/documents/FINAL_REPORT_PDF 9-29-06.pdf

Megabits
(p. 59 May/June 2007, Tech Trends)

"More than 60 percent of educators said that their schools are not putting enough emphasis on media literacy; and 80 percent said that they have to learn media literacy on their own..."

The results of the CIC Educator Survey, Media Literacy: A Vital and Underserved Need in Schools, can be found online at http://i.ciconline.org/docs/CICmedialitre port11-2006.pdf (November, 2006)

The results of the CIC Educator Survey, Media Literacy: A Vital and Underserved Need in Schools
http://i.ciconline.org/docs/CICmedialitreport11-2006.pdf

Media literacy is a key 21st Century skill because it provides a framework and method to think critically about the media and technologies students and adults use for information and entertainment. Media literacy means knowing how to access, understand, analyze, evaluate and create media messages on television, the Internet and other outlets. It also means knowing how to use these and other technologies safely, productively and ethically.

Now for 2 Minutes: Share your ideas of digital literacy with someone next to you and agree on three things maximum.

What is "ICT Literacy"?
**(Brown & Dotson, May/June 2007, Tech Trends)**

- Define info need
- Collect & manage info from digital envirs
- Interpret into using ICT skills for comparison, analysis, & synthesis
- Evaluate info for authority, bias, & timeliness
- Communicate findings through creative use of ICT tools and resources

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...using ICT tools, students can:

1. **Define:** Select approp research topic, frame q, identify approp resources.
2. **Access:** Locate and retrieve digital primary resources useful for answering the research question.
3. **Manage:** Organize info, summarize content, report content that answers research question.
4. **Integrate:** Read and interpret info using synthesis, summarization, critical thinking, perspective taking, comparison & contrast, & read and interpret multiple sources.

...using ICT tools, students can:

5. **Evaluate:** Make judgments on usability of info, authority of sources, bias, timeliness of the materials.
6. **Create:** Adapt, apply, and design a report with conclusions to the original question.
7. **Communicate:** Design report appropriate for audience and is clearly communicated and understood.

Ok, Million Dollar Question: What are 21st Century Skills?

ONE BILLION DOLLARS
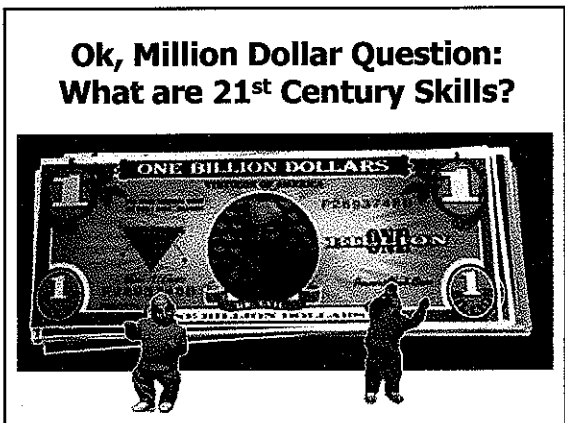
If you had to give a word or phrase to describe "21st Century Skills," what would that word be?

Locate info, synthesize it,
Decision making,
Use effectively and ethically,
Communicate effectively,
Evaluate products,
Producers and consumers of visual info,
Informed critics,
Sensitive to bias and cultural differences,
Sets own goals,
Willing to make mistakes,
Comparison and contrast skills, inferencing skills,
Participate in a team, exercise leadership,
Manage technology for public good

Digital Literacy
(Bonk, June 2, 2007)

- Digital literacy is the ability to browse, locate, filter, synthesize across, and eventually use information appearing in multiple formats and in a wide range of sources that can lead to communication of what one discovered as well as the production of still additional information. (Paul Gilster (1997), Digital Literacy.)

Digital Literacy
(Bonk, June 2, 2007)

- Digital literacy is not only technology related knowledge, skills, and competencies, but also the critical and creative thinking skills as well as ability to engage in collaborative teams to find and solve problems in a technologically reliant society or environment.

21st Century Skills
(NCREL, Learning Point Associate, 2003)

New programs teach undergraduates how to use the Internet and the online card catalog in search of the best sources
Chronicle of Higher Education, Andrea Foster, March 9, 2007
http://chronicle.com/free/v53/i27/27a03801.htm

- College students use technology constantly. They text-message friend compile playlists for their iPods, and whizzes at updating their MySpace profiles. But when it comes to one k work they are required to do in coll namely, academic research — they (inept. Too often, college officials sa students rely on Google or Wikipedi sources, as if oblivious to peer-revie scholarship.

New programs teach undergraduates how to use the Internet and the online card catalog in search of the best sources
Chronicle of Higher Education, Andrea Foster, March 9, 2007
http://chronicle.com/free/v53/i27/27a03801.htm

- **The explosion of electronic information is fueling students' confusion, librarians say. In 1996 there were 10,000 scholarly databases online; now they exceed 18,000. The Web is teeming with more than 100 million sites, up from 18,000 in 1995. Google and Microsoft recently began archiving books and scholarly journals and making them available via their search engines. And two online, academic-oriented encyclopedias, Citizendium and Scholarpedia, are starting up...**

New programs teach undergraduates how to use the Internet and the online card catalog in search of the best sources
Chronicle of Higher Education, Andrea Foster, March 9, 2007
http://chronicle.com/free/v53/i27/27a03801.htm

- **Among the most well known is the ICT Literacy Assessment, which was developed and is administered by the Educational Testing Service, a nonprofit group based in Princeton, N.J. "ICT" stands for "information and communication technology." The 75-minute test, offered at two levels, measures students' ability in seven areas, including organizing, evaluating, and communicating with electronic data.**
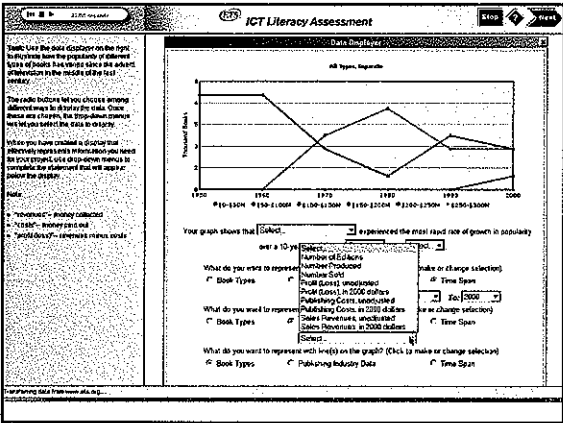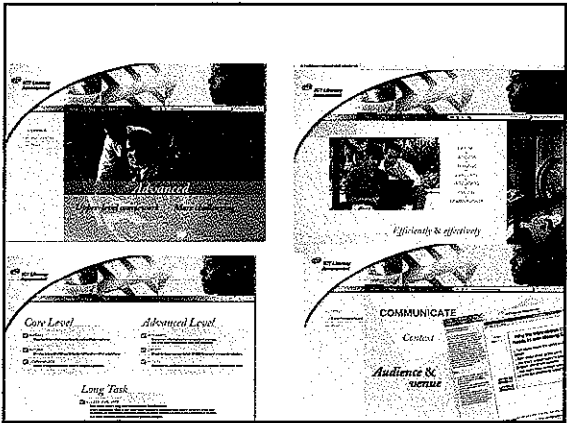
Connecting the Digital Dots: Literacy of the 21st Century
Barbara R. Jones-Kavalier and Suzanne L. Flannigan
Educause Quarterly (2006), 29(2)

"The greatest challenge is moving beyond the glitz and pizzazz of the flashy technology to teach true literacy in this new milieu. Using the same skills used for centuries—analysis, synthesis, and evaluation—we must look at digital literacy as another realm within which to apply elements of critical thinking."

Global Digital Literacy is Vital to the Progress of Everyone!!!

Sample papers at: http://www.publicationshare.com/
Archived talks at: http://www.trainingshare.com/