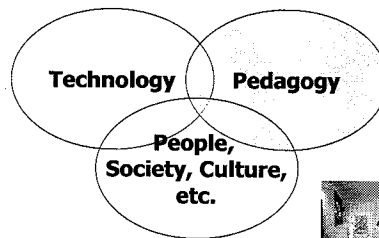


E-Learning: It's about Nature (technology) AND Nurture (pedagogy)

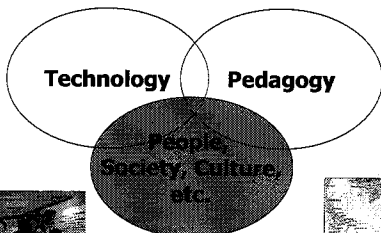
Curt Bonk, Professor, Indiana University
 President, SurveyShare, Inc.
 cjbonk@indiana.edu
<http://php.indiana.edu/~cjbonk>
<http://SurveyShare.com>



Nature and Nurture: An Interactional Model



Nature and Nurture: An Interactional Model



Poll #1. What are you???

- A. Teacher, instructor, teacher assistant
- B. Counselor, school psychologist
- C. Curriculum specialist, developer
- D. Instructional designer, technology specialist, multimedia developer
- E. School administrator, principal, head
- F. Government official, policy thinker
- G. Student
- H. Other

Poll #2:

Raise your hands if you are a digital native (grew up with a computer at home).



Poll #3:

What age learners are you interested in?

- a. Ages 1-5
- b. Ages 6-10
- c. Ages 11-15
- d. Ages 16-20
- e. Ages 21+

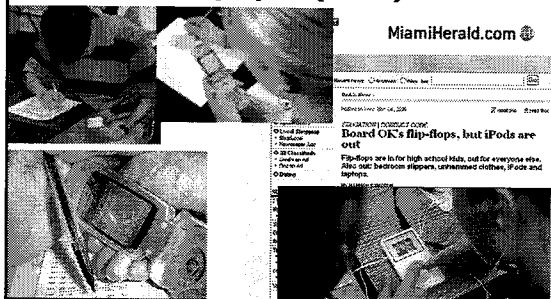


**Poll #4:
What age learners is online
education growing the most in KL?**

- a. Ages 1-5
- b. Ages 6-10
- c. Ages 11-15
- d. Ages 16-20
- e. Ages 21+



**Poll #5:
Should kids be allowed to bring mobile
phones, MP3 players (iPods) to school?**



**E-learning + Scotland = Major success,
May 21, 2006**

<http://www.sundayherald.com/55719>

In this vision of the future, every school will have a web portal where the pupils, parents and teaching staff will have the opportunity to interact and share information. In this virtual space, lessons will be beamed direct to anyone who wants to attend, while all the teaching materials required can be downloaded in a trice. Video conferencing will facilitate group interaction while scholars from Tokyo to Tomintoul (Scotland) will log on to their personalised home pages to upload course work, view their marks or receive news about the wider school community."

**E-learning + Scotland = Major success,
May 21, 2006**

<http://www.sundayherald.com/55719>

However... "SCHOOLS and colleges are not renewing their IT equipment fast enough to keep up with changing technology, according to the British Education Communications and Technology Agency (Becta)."

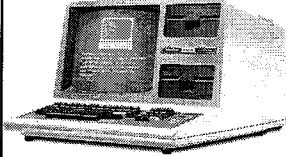
**Brainstorm #1:
What technologies hold the most
promise in Malaysian schools today?**



I'm a librarian



Technology of the 1980s



Radio Shack TRS-80 Model III

Introduced: July 1980
 Price: US \$999 base model
 US \$2495 w/ 32K, dual drives.
 CPU: Zilog Z-80, 2.03 MHz
 RAM: 4K, 48K max
 Ports: Cassette tape, expansion, serial
 Display: 12-inch BW monitor: 64 X 16 text
 Storage: 0, 1, or 2 internal 176K floppy drives
 External cassette @ 500 / 1500 baud
 OS: BASIC in ROM, TRS-DOS on disk

Technology of the 1980s



NEWS
 Several give out iPads to education students

Entice Students with Technology Giveaways

Motorola Droid 2, SONY
 College of Agriculture and Technology at Maryland
 The school gives all students a Droid 2 as a gift to help them get started in the new year.

Gateway M275 tablet PC, Winona State University, Mayville State University
 The schools will provide the tablet computers to full-time students who do not have laptops from previous programs.

BlackBerry 7310 PDA, University of Maryland
 The school has been handing out the wireless personal digital assistants to faculty and more than 1000 full-time graduate students in the Smith School of Business.

The Growth of Online Learning

Thursday, June 22, 2006

More students pursue degrees online
 Enrollment up 16.2% in '04, but without major program changes, efforts better experience

UMaine
 UMaine's enrollment rose 16.2% in 2004, but without major program changes, efforts better experience. She has served as a professor, but never as a classroom and has decided not to attend the program only once. Long after she had enrolled in the university, the 20-year-old graduate student had been working for two years.

Peak Consulting, an educational consulting group, estimates:

- 1 million American high school students are currently taking Internet courses in 2004-05
- 571,000 in 2003
- 378,000 in 2002

- More students log on to learn, Boston.com, Peter Schworm, September 16, 2004.

No Child Left Behind Summit, e-Learning and Students Today: Options for No Child Left Behind

Susan Patrick, Director, Office of Educational Technology, U.S. Department of Education
http://www.ncibtechsummits.org/summit2/presentations/p_Patrick.pdf

- **Reasons:** Rural, medical, disabilities, at risk, work, sport, poverty, AP, supplement, catch up, summer, etc.
- **Types:** Virtual charter schools, State run schools, District run, University run.

North Central Regional Educational Laboratory
 Colorado Department of Education • Illinois Virtual High School • Wisconsin Virtual School

LEARNING POINT
 1120 East Dahl Road, Suite 200
 Naperville, IL 60563-1486
 870-352-2725 • 435-447-6450
 www.ncrel.org

KEEPING PACE WITH K-12 ONLINE LEARNING A Snapshot of State-Level Policy and Practice

| STATE | STATEWIDE PROGRAM | ONLINE PROGRAM ACTIVITY | POLICY |
|--------------|-------------------|-------------------------|-----------|
| California | Yes | Moderate | Extensive |
| Colorado | Yes | High | Minimal |
| Florida | Yes | Moderate | Moderate |
| Idaho | Yes | Low | Moderate |
| Illinois | Yes | None | Minimal |
| Michigan | Yes | Low | Minimal |
| Minnesota | No | Moderate | Extensive |
| Ohio | No | High | Moderate |
| Pennsylvania | No | High | Moderate |
| Texas | No | Moderate | Moderate |
| Wisconsin | Yes | Moderate | Minimal |

May 2004, http://www.ncrel.org/tech/pace/Keeping_Pace.pdf

NACOL
 North American Council for Online Learning

Online teaching and learning has the potential to transform education. NACOL is a national network of educators, researchers, and practitioners working together to advance the practice of online learning and learning technologies.

NACOL invites you to attend our annual conference and join our online learning community. We offer a variety of membership options and a variety of services, including:

- About Us
- Forums
- Resources
- Conferences
- Members
- Contact Us
- Join Now
- Volunteer!

Search the NACOL Online Learning Directories

NEW! NACOL Previews Professional Development Opportunities, Dates, and Locations Announced!

NACOL to host the Virtual School Symposium in 2004

The List of Conferences Continues to Grow—Check out the Forum Calendar, Dates, and Locations

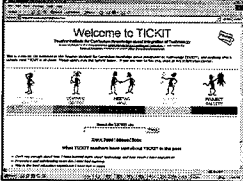
The Complete List of NACOL Members

Virtual Schools Forum Report by the Center for Digital Education and the U.S. Department of Education

Conference Agenda, Schedule, and Abstracts Documents

NACOL Symposium Proceedings (PDF file)

Teacher Professional Development in Technology Integration (the TICKIT Program)
 (Bonk, Ehman, & Yamagata-Lynch, in press, AACE Journal)
<http://www.iub.edu/~tickit>



TICKIT: Teacher Institute for Curriculum Knowledge about Integration of Technology

A Concept Paper on Funding State Sponsored E-Learning Programs
 Daniel W. Schultz and Jamey Fitzpatrick
 Michigan Virtual University, January 2004

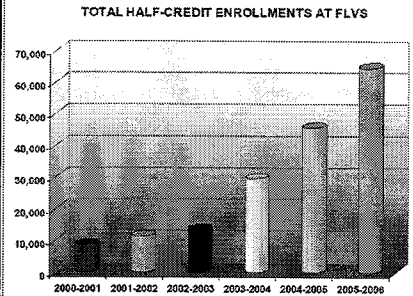
Table 1: State Sponsored Virtual High School Enrollment Growth

| K-12 Virtual Initiative | Launch Year | Launch Year Enrollment | Enrollments in 2002/03 | Avg. Annual Enrollment Growth |
|-----------------------------------|-------------|------------------------|------------------------|-------------------------------|
| Florida Virtual High | 1997 | 77 | 10,000 | 165% |
| Illinois Virtual High School | 2001 | 409 | 1,232 | 201% |
| West Virginia Virtual High School | 2000 | 300 | 1,200 | 100% |
| E-School (Hawaii) | 1997 | 96 | 500 | 39% |
| Michigan Virtual High School | 2000 | 77 | 7,282 | 125% |

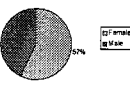

Source: School data and Eduventures research, September 2003

Julie E. Young, Executive Director, Florida Virtual School (July, 2006)

TOTAL HALF-CREDIT ENROLLMENTS AT FLVS



FLVS Students (2001-02)

Florida Virtual School (FLVS) is an established leader in developing and providing virtual K-12 education solutions to students throughout the country. A nationally recognized e-Learning model, FLVS was founded in 1997 was the country's first state-wide Internet-based public high school. Today, FLVS serves middle and high school students with more than 80 courses.


VirtualSchool
Any time, any place, any path, any pace™

FLVS Logo FLVS School Data

Enrollments by Gender (2005-06)
Female 59%
Male 41%

Enrollments by Race (2005-06)
White Non-Hispanic 68%
Hispanic 13%
African-American 8%
Asian 4%
Multi-Ethnic 4%
Other 3%

FLVS Enrollment Participation by School Type (2005-06)
Public and Charter 64%
Home School 28%
Private 8%



VirtualSchool
Any time, any place, any path, any pace™

FLVS Logo FLVS School Data

- 174 FLVS full-time and 106 adjunct teachers
- 80 Courses (from GED to 10 advanced placement courses)
- 31,000 students in 65,000 half-credit courses (2005-2006)
- Courses are delivered over the Internet. To assure student success with virtual learning, a variety of web-based, technology-based and traditional resources are provided. Teachers communicate with students and parents on a regular basis via phone, email, online chats, instant messaging, and discussion forums.
- http://www.flvs.net/educators/annual_external_evaluations.php

Virtual School Leaders Encourage Growth of K-12 Online Learning; Discuss High School Reform at Regional Summit (June 26, 2006)
<http://sev.prnewswire.com/education/20060626/NYM25126062006-1.html>

- "We know firsthand that demand for virtual education is growing," said FLVS President & CEO Julie Young. "For the past five years, we have seen double-digit growth at FLVS."

MICHIGAN VIRTUAL UNIVERSITY

about us | courses | high school | news | teaching community

enroll today!

MICHIGAN LEARNPORT
www.mlearnport.com

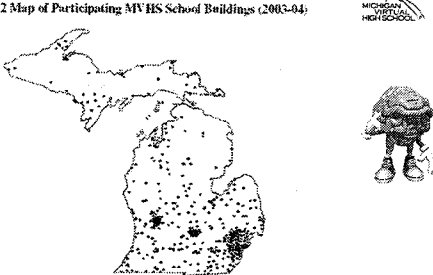
by the state of MICHIGAN
EXPLORER MOIS

Michigan's first state to require Online Learning
Michigan's first state to require Financial Responsibility
Michigan's first state to require Making it Happen Award

© 2006 Michigan Virtual University

Report of the Michigan Dept of Ed on the Development and Growth of the Michigan Virtual High School (1999-2005); April 13, 2005

Figure 2 Map of Participating MVHS School Buildings (2003-04)



MICHIGAN VIRTUAL HIGH SCHOOL

Fond du Lac High, Wisconsin (March 10, 2006)


Posted March 10, 2006

Open enrollment popularity grows

By Sharon Retnik
The Reporter
sroznie@fireporter.com

One of Jamie and Kathy Makewitz's three children didn't fit in at Fond du Lac High School — known as having one of the largest enrollments in the state, about 2,400 students.

"We opted for school choice with Kaitie. She's now a senior at Oakfield High School, plays varsity soccer and loves the atmosphere at a small school," Kaitie said.



Though Wisconsin's open enrollment period — Feb. 8 to 24 this year — parents were able to choose which public school system in the state they wanted their children to attend.

A student helper Thursday awaits Highway 125 in the parking school bus just south of Bygon in northern Fond du Lac County, Patricia Probst

50,000 Utah Students Earning High School Credits Online!

(June 20, 2006)

Utah's online Electronic High School leads the nation in student enrollment

By Tiffany Erickson
Guest Columnist

More than 50,000 Utah students are earning high school credit from their bedrooms, cars, and kitchens. And though the Electronic High School may not be the easiest way to earn credits, students are flocking to the program to catch up on classes, graduate early or just fit a few more electives into their school days.



Currently Utah has the largest online learning program in the country. Florida is a distant second with just over 20,000 enrolled.

Richard Sidmore, principal of the Electronic High School, said Utah had a jump on the rest of the nation in establishing the program. Utah's other states started creating online courses in the late '90s, the program debuted in Utah in 1993 - before Hecscope, Explorer and other providers.

Students had then used the transfer protocol.

"There was a great deal of skepticism when we began that we were going to be a diploma mill," Sidmore said. "But when they learned that courses were equally rigorous or more so, that went away - from public skepticism to finally embracing it."

The program has doubled each year since 2000, the year officials established a 60-91

University of Miami Online High School


attend high school online, anytime, anywhere.

UNIVERSITY OF MIAMI ONLINE HIGH SCHOOL

Programs To Fit Each Student's Needs


University of Miami Online High School offers college and career-ready programs for all students in grades 9 through 12. Our courses, materials, assignments, and assessments are designed to challenge high-achieving students and provide the opportunity to learn anytime, anywhere. Please visit www.uonline.miami.edu

Watch the UM OHS Video! Complete College Counseling!

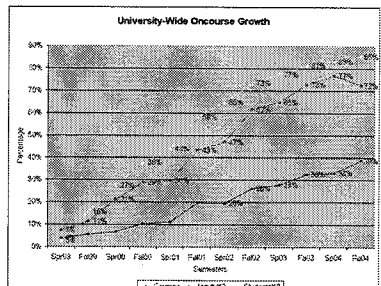


Indiana Univ (8 campuses): Spring 2005

Students: 89,413 loaded; 78,549 logged in (88%)
Faculty: 7,014 loaded; 5,441 logged in (78%)
Courses: 22,419 loaded; 9,206 active (41%)



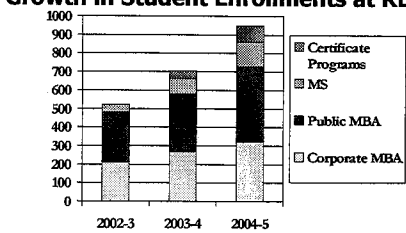
University-Wide Oncourse Growth






Kelley Direct Online Programs

Indiana University Kelley School of Business

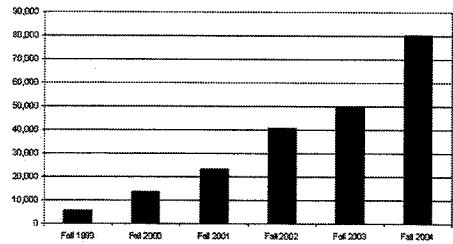
Growth in Student Enrollments at KD



Illinois Virtual Campus

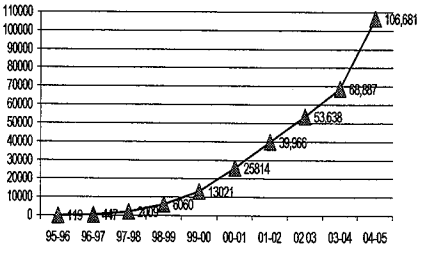
Enrollment in online classes tops 80,000 for Fall 2004 semester



http://www.ivc.illinois.edu/pubs/enrollment/Fall_04.html

SUNY Learning Network (SLN)


Online course enrollments




<http://sln.suny.edu/>

The OUM


(Abtar Kaur, 2005, Ed Media)




- Started August 2001 : approx. 800 students
- Total students (2005): approx. 33,000
- Total full-time academic staff : 60
- Total part-time academic staff (tutors) : approx 3,000
- 33 Learning Centres (7 Regional Centres)
- Pedagogical approach : Blended Learning



Of course, they are using computers too!



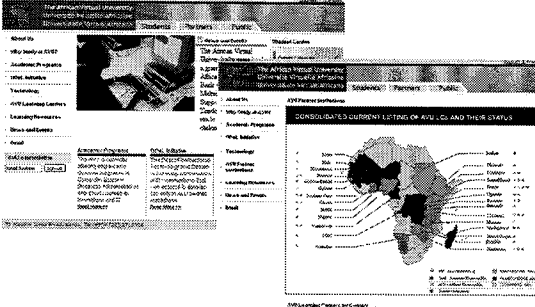
Open University of Israel (overall enrollment growth)



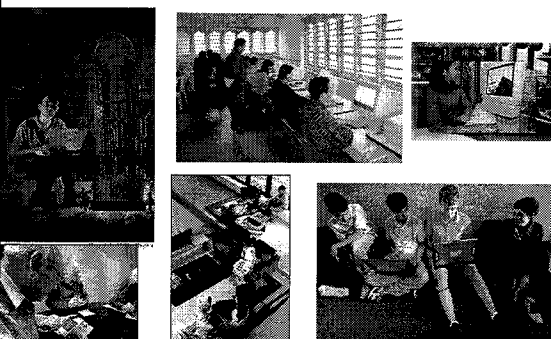
| % | Studying in a course with website | Students | Year |
|-----|-----------------------------------|----------|------|
| 1% | 465 | 31,003 | 1998 |
| 19% | 6,163 | 32,297 | 1999 |
| 61% | 20,294 | 33,033 | 2000 |
| 73% | 25,596 | 35,100 | 2001 |
| 85% | 31,337 | 36,758 | 2002 |
| 96% | 36,993 | 38,728 | 2003 |
| 99% | 38,765 | 39,249 | 2004 |
| 99% | 39,935 | 40,248 | 2005 |

The African Virtual University

<http://www.avu.org/default.asp>




Who is demanding online learning?



A Different Generation??? Multitasking...

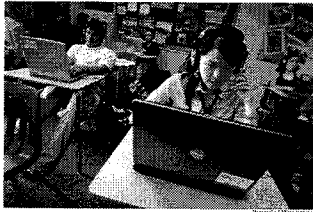
"YOUNG AND WIRED," Katherine Seligman, San Fran Chronicle, Sunday, May 14, 2006



Gloria Kwan listens to her iPod while text messaging a friend who's in class.
Chronicle photo by Mike Kepka

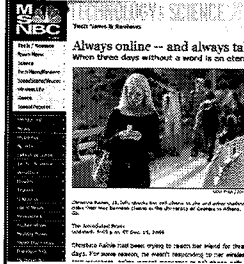
"YOUNG AND WIRED, Computers, cell phones, video games, blogs, text messages -- how will the sheer amount of time spent plugged in affect our kids?"

Katherine Seligman, San Fran Chronicle, Sunday, May 14, 2006



Harker student Stephanie Lil (wearing a false nametag), during language class, recording her voice in Spanish for the teacher to evaluate later. Chronicle photo by Mike Kepka

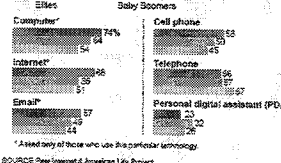
Demand for Internet in US (Special MSNBC report, Dec 13, 2004)



Difficulty in disconnecting

As technology continues to influence the lives of young people, some are choosing to unplug from the Internet and other high-tech gadgets. Others say it would be hard to disconnect.

Percentage who say it would be "very hard" to give up...



"Learning that takes place in the classroom isn't as important as time studying on your own."
-Dziuban, Moskal, & Hartman (2005)

Tech creates a bubble for kids

By Mike Anagnos, USA TODAY

Alejandro Gonzalez, USA TODAY, Updated 6/20/2006 10:34 AM ET

Differences between Boomers and Gen Xers

Generations: Dealing with Boomers, Gen-X, and Beyond
N. Boyce Appel, April 1, 2005, Practice Management Digest

Generalizations about Generations—Categorizations vs. Stereotypes

| Generational Group | Born | Age | Stereotype |
|---------------------|-------------|---------|------------|
| Silent Generation | 1925 - 1942 | 61 - 78 | Adaptive |
| Baby Boomers | 1943 - 1960 | 43 - 60 | Idealists |
| Thirteenth (Gen. X) | 1961 - 1981 | 22 - 42 | Reactive |
| Millennial (Gen. Y) | 1982 - ? | 13 - 21 | Civic |

Gen Y Learners???

**Boomers, Gen-Xers, and Millennials:
Understanding the "New Students", Diane
Oblinger, Educause, July/August, 2003**

**Millennial Learning Preferences:
(study of students age 12-17)**

1. Email—81 percent
2. Instant messaging—70 percent
3. Internet for research—94 percent
 1. Also blogs, PDA, cell phones, wikis, etc.

University students:

1. Own a computer—84 percent

**Generation Raised on the Internet
Comes of Age, MSNBC, Dec., 13, 2004, Martha
Irvine**

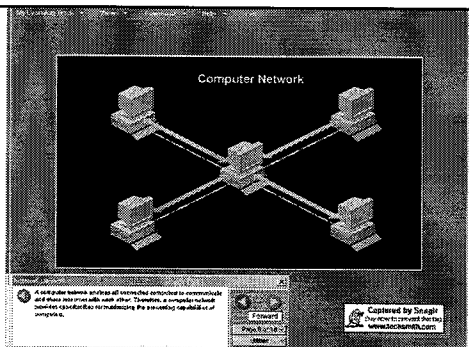
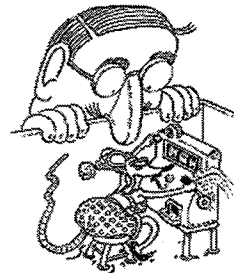
- For 21-year-old William Herbert, the Internet has replaced newspapers and TV weather reports (he visits Weather.com every morning). He pays his bills online, registers for classes, books airline and train tickets, checks TV listings, buys movie tickets and gets travel directions.



Simulation: Boomer

- Life experienced at a slower pace promotes an expectation of "it's ok to wait." Learning experienced from an early age as lecture with drill and practice without stimulation/response. Gaming as part of a learning context may be considered less effective because it is less "serious" and in some cases can be distracting.
- Older people prefer less interaction than younger people in distance education (Kearsley, 1995).

Behaviorist Interactivity



Online PowerPoint?

Simulation: Xer

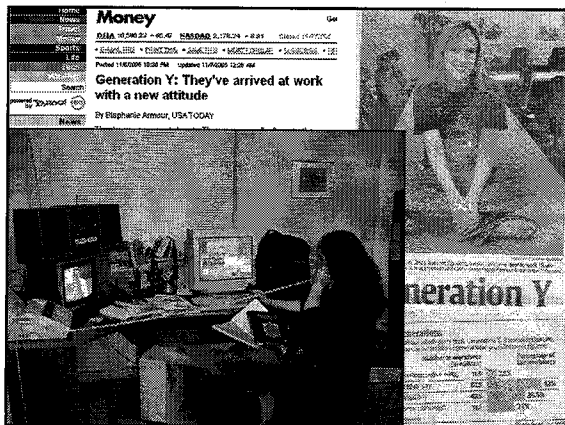
- Conditioned to expect immediate gratification (they grew up with drive-through fast food, remote controls, automatic teller machines and microwave ovens), and an expectation that learning should be stimulating and fun (Sesame Street). Generation Xers crave stimulation and expect immediate answers and feedback.

Simulation: Xer

- Genxers have a rapid-fire information consumption capability. Rushkoff argues that many of the things for which this generation is maligned, such as short attention spans and lack of ability to concentrate on a single task at once are not problems but actually brilliant coping mechanisms for a world overloaded with information.

Simulation: Xer

- "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)



Learner Control: Boomer

- The traditional instructor-focus is what is expected. The instructor determines what is important to learn and how it should be learned. Consistency and control are maintained with the "tell me, tell me, tell me" approach.

Learner Control: Xer

- Xers expect a range of options, in terms of what they learn and how they learn it. They require autonomy and flexibility for their own learning. They demand a variety of instructional methods from which they can choose to learn, e.g., videotapes, self-paced modules, interactive CDs.
 - "Online gives me something to do when I'm bored with the professor."
 - "I respect myself more as a self-teacher."
- Dziuban, Moskal, & Hartman (2005)

Neomillennial 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



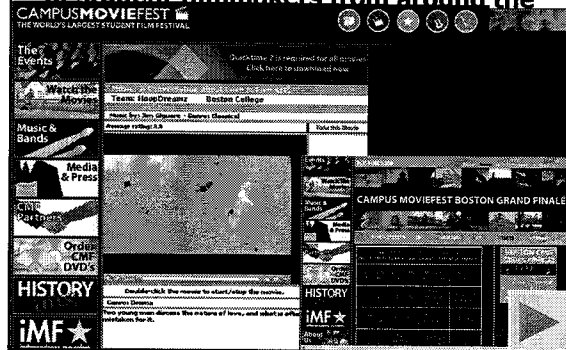
Neomillennial Learning Styles

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

- Blended/personalized places (not specialized computer labs)
- Mobile wireless computing
- Avatars and personal agents
- Smart objects
- Virtual worlds
- Augmented reality



the collaborative work of tens of thousands of student filmmakers from around the



How P2P Will Change Collaborative Learning By Judith V. Boettcher Campus Technology, June 2006

"Teams of five to 10 people are loaned laptop computers, digital camcorders, and technical support for a week, to produce a five-minute film. Films receive awards in four categories: Best Comedy, Best Drama, Best Documentary, and Best Picture. The CMF Web site stores much of the student work online, and sells DVDs of the movies from each school."

How P2P Will Change Collaborative Learning By Judith V. Boettcher Campus Technology, June 2006

- The CMF project is the type of learning experience that builds hands-on skills and teamwork, and really gets students' juices going—or in the jargon of instructional design, "involves active, engaged learning experiences." It hearkens back to the days of guilds and the apprentice model: immersion experiences integrating learning with experts and hands-on production. In the process of creating a movie, students share and build their knowledge about planning, designing, and editing films.

How P2P Will Change Collaborative Learning By Judith V. Boettcher Campus Technology, June 2006 (Prepackaged, Guided, or Spontaneous?)

"As learning experiences shift from a focus on reading prepackaged content to more active learning where students explore, research, problem solve, and create, the P2P capabilities of file sharing and collaboration become ingrained in the learning process. Teenagers use these types of technologies naturally and almost automatically."

Dual Coding Theory (DCT)

- Dual Coding Theory (DCT), proposed by Paivio in 1972, is a model that is based on Cognitive Information Processing Theory. DCT model assumes that information is processed and stored in memory by two separate, but interconnected systems - one visual, the other verbal. DCT claims that pictures are faster and easier to recall since they are coded in both memory systems and the visual system is continuous and parallel in its organization. Verbal memory, on the other hand, is structured in discrete, sequential units.

Use Google Maps Mashups in K-12 Education
By Jeffrey Branzburg, May 15, 2006
<http://www.techlearning.com/story/showArticle.jhtml?articleID=187002846>

Use Google Maps Mashups in K-12 Education
By Jeffrey Branzburg, May 15, 2006
<http://www.techlearning.com/story/showArticle.jhtml?articleID=187002846>

Maps: Earthquakes in the last week

Use Google Maps Mashups in K-12 Education
By Jeffrey Branzburg, May 15, 2006
<http://www.techlearning.com/story/showArticle.jhtml?articleID=187002846>

- The **Google Planimeter** measures areas. Click on three points on a map, and the Planimeter connects them in a triangle and computes the area. Click on additional points and the triangle expands into a many-sided polygon; the program recomputes the area. *Suggested activities:* Have students estimate the area of a geographical region; plot many points to obtain increasingly accurate estimates. For example, a lake in New York state is first bounded by using 3 points, then by 19 for increased accuracy.

Use Google Maps Mashups in K-12 Education
By Jeffrey Branzburg, May 15, 2006
<http://www.techlearning.com/story/showArticle.jhtml?articleID=187002846>

- With **YourGMap** you can identify your own choice of locations, add comments, create a map of them, and make it available on the Internet. *Suggested activities:* For elementary school students, create a tour of the neighborhood. Identify the school, grocery store, firehouse, park, and so on. You can even use the Google maps satellite view to see the actual buildings.

2. Clickers: Innovation is but one click away...

Trend #3. Online Tutoring and Mentoring
(Simon Fraser University News: <http://www.sfu.ca/mediapr/news/2001/Sept6/hightech.html>)

