

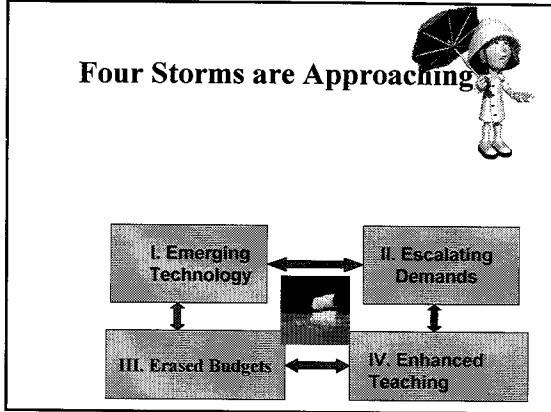


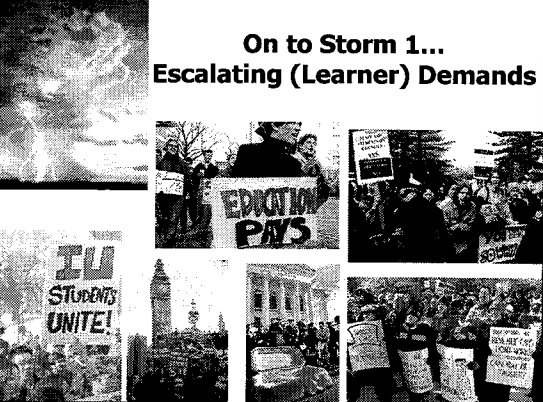
**Active Learning with Technology:  
Myths, Magic, or Just a Lot of Bonk**



**Dr. Curtis J. Bonk**  
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President, SurveyShare, Inc.  
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**On to Storm 1...  
Escalating (Learner) Demands**



**K-12 Online Learning and Virtual Schools:  
Expanding Options and Opening Access  
(Susan Patrick, NACOL, 2006)**

- There are 147 virtual charter schools with 65,354 students in 18 states.
- In 2002-2003, 36% of public high school districts in the United States offered distance education courses.
- 72% of school districts with distance education programs planned to expand online offerings in the coming year.

**K-12 Online Learning and Virtual Schools:  
Expanding Options and Opening Access  
(Susan Patrick, NACOL, 2006)**

- 2000: 40,000-50,000 enrollments in K-12 online education.
- 2002-03: Eduventures reported 300,000 students in virtual learning in US; 4,766 in Canada.
- 2002-2003: NCES reported 328,000 distance education enrollments in public K-12.
- 2005: Peak Group online enrollments of 500,000.
- 2006: Peak Group projects 1 million enrollments.

**K-12 Online Learning and Virtual Schools:  
Expanding Options and Opening Access  
(Susan Patrick, NACOL, 2006)**

- According to recent research from the *Silent Epidemic* study, 47% said a major reason for dropping out was that "classes were not interesting" and they were "bored"; 88% of drop outs had passing grades.
- 90% of the fastest growing jobs in the economy require a college degree
- 94% of students say that doing well in school is important to future success.
- College degree = 130% more income

## Risky Business, Edutopia April 6, 2006, by James Daly

[http://www.edutopia.org/magazine/ed1/article.php?id=Art\\_1497&issue=apr\\_06](http://www.edutopia.org/magazine/ed1/article.php?id=Art_1497&issue=apr_06)

- Despite being the wealthiest country on Earth, America maintains a public education system in which 30 percent of high school students don't graduate, one out of every four reads below basic grade levels, and, compared to students from more affluent backgrounds, few of their low-income counterparts are adequately prepared for college.

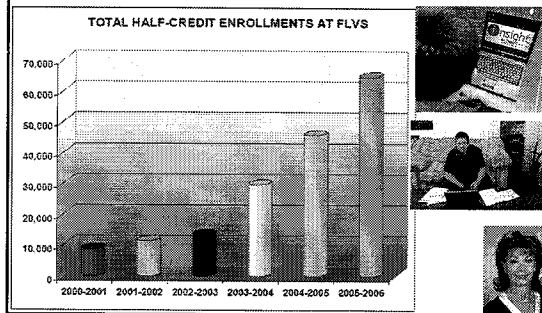


- "Silent Epidemic"
  - Gates Foundation commissioned first study of high school drop outs
  - 88% had passing grades
  - 69% were not motivated to work hard
  - 66% would have worked harder if more had been demanded of them
  - 81% called for more real world learning opportunities

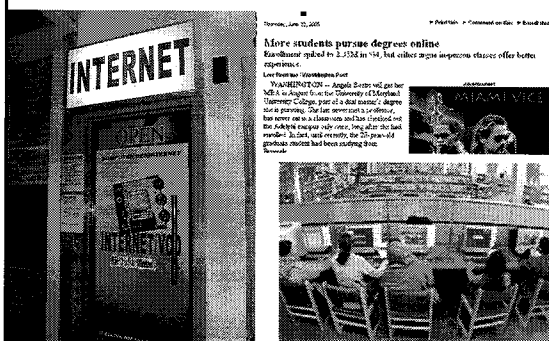
## K-12 Online Learning and Virtual Schools: Expanding Options and Opening Access (Susan Patrick, NACOL, 2006)

- In April 2006, Michigan became the 1st state to require online learning for high school graduation.
- 80% of K-12 school districts cited "the course was otherwise unavailable" as the number one reason for offering courses at a distance.
- According to the Manhattan Institute, 70% of all students in public high schools graduate, and only 32% of all students leave high school qualified to attend four-year colleges.

## Growth of Online Learning in Secondary Schools



## The Growth of Online



## No Child Left Behind Summit,

Learning and Students Today: Options for No Child Left Behind  
Susan Patrick, Director, Office of Educational Technology, U.S.

Department of Education

[http://www.ncbttechsummits.org/summit2/presentations/p\\_Patrick.pdf](http://www.ncbttechsummits.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.



### Report of the Michigan Dept of Ed on the Development and Growth of the Michigan Virtual High School (1999-2005); April 13, 2005 (provided by Daniel W. Schultz)

Figure 1 Summary of MVHS Courses and Online Enrollments

MVHS Courses and Online Enrollments: 1999-2005							
Number of	99-00	00-01	01-02	02-03	03-04	04-05 <sup>a</sup>	Total
Schools Served <sup>b</sup>	18	101	194	281	385	345	711 <sup>c</sup>
Districts Served	18	95	179	221	242	263	453 <sup>c</sup>
Enrollments	100	676	2302	5299	6805	5277	20,460
Unique Course Offerings	6	17	27	128	142	141	167 <sup>c</sup>
Test Preparation Users	0	7657	9513	21,337	37,513	49,741	125,561
Online Instructors Enrolled	0	81	87	87	100	21	375

a) All agreements public schools, non-public schools, some schools and public schools at various levels and outside of Michigan.  
b) Does not include Spring 2005 enrollment due to the date of this report.  
c) Unbolded cells.

### 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)

### Online at Fond du Lac High (March 10, 2006)

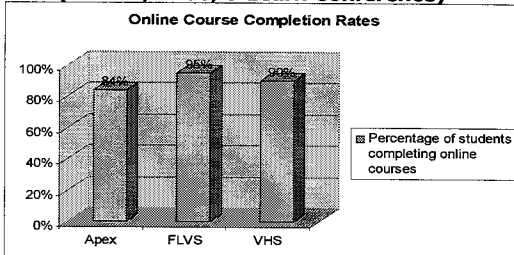
**Enrollments by Gender (2005-06)**  
 Female 59%  
 Male 41%

**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%

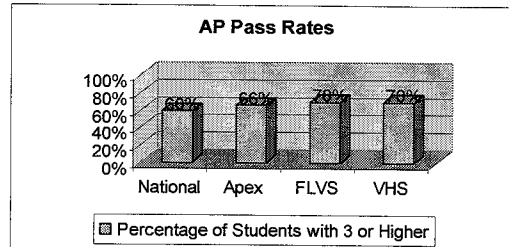
- 174 FLVS full-time and 106 adjunct teachers
- 80 Courses (from GED to 10 advanced placement courses)
- 31,000 students in 65,000 half-credit courses (2005-2006)
- Courses are delivered over the Internet. To assure student success with virtual learning, a variety of web-based, technology-based and traditional 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](http://www.flvs.net/educators/annual_external_evaluations.php)

## Are Online Students Engaged? (Patrick, 2006, e-Learn Conference)



Apex= Apex Learning, Inc FLVS= Florida Virtual School VHS=Virtual High School

## Are Online Students Learning?



Apex= Apex Learning, Inc FLVS= Florida Virtual School VHS=Virtual High School

## Virtual School Leaders Encourage Growth of K-12 Online Learning; Discuss High School Reform at Regional Summit (June 26, 2006)

<http://sev.pnewswire.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."

## 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  
Deseret Morning News

More than 50,000 Utah students are earning high school credit from their bedrooms, desks and kitchens. And though the Electronic High School may not be the easiest way to earn credits, students are choosing 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 30,000 enrolled.

Richard Siddoway, principal of the Electronic High School, said Utah had a jump on the rest of the nation in establishing the program. While other states started creating online courses in the late '90s, the program debuted in Utah in 1993 — before Newscape, Explorer and other learners.

Students back then used file transfer protocol.

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

The program has doubled each year since 2000, the year officials established a solid



## 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 a range of online programs for all students in grades 9 through 12. Our programs include:

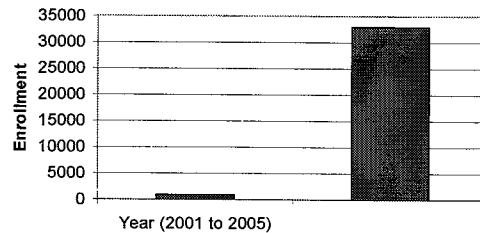
- Flexible Learning: 24/7 access to courses and content.
- Personalized Instruction: Tailored to each student's needs.
- Complete College Counseling: Guidance on college selection and application.

Watch the UMOHS Video! [Click here to watch the video.](#)

Complete College Counseling! [Click here to learn more.](#)

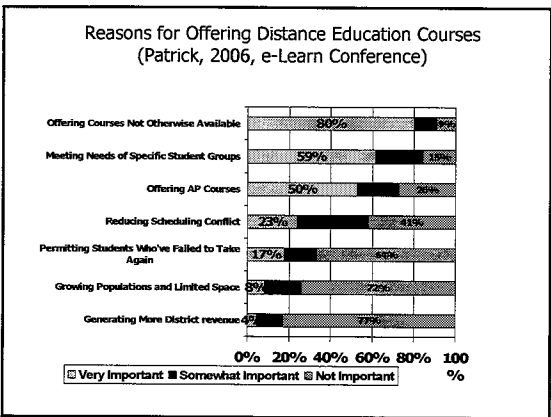
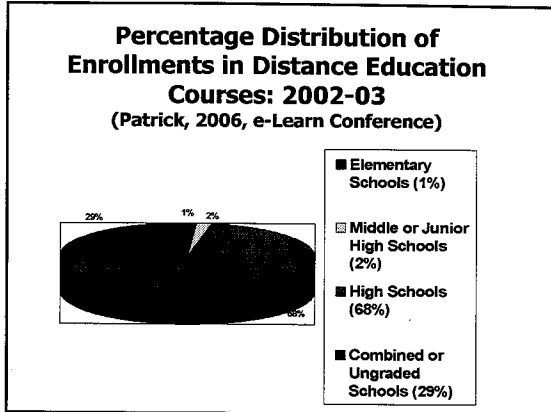
## The OUM (Abtar Kaur, 2005, Ed Media)

### Enrollment Growth at the UOM



## The African Virtual University

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

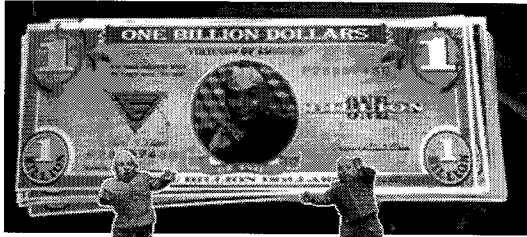


- ### Distance Education at Degree-Granting Postsecondary Institutions: 2000-2001
- (Patrick, 2006, e-Learn Conference)
- 56% of all 2-year and 4-year institutions offer e-learning courses
  - 127,000 online courses offered
  - 3,077,000 enrollments in distance education courses
  - 90% use asynchronous Internet based courses
  - 51% use two-way interactive videoconferencing

- ### What Leaders Need to Know: Four Key Ideas
- (Patrick, 2006, e-Learn Conference)
- **#1 Online Learning Expands Options**
    - "The first impetus to the growth of K-12 distance education was an interest in expanding educational options and providing equal opportunities for all learners." (p.7)
  - **#2 Online Learning Is Rapidly Growing**
    - "Recent Surveys show that K-12 online learning is a rapidly growing phenomenon." (p.4)
      - Growing 30% annually

- ### Online Learning Works
- (Patrick, 2006, e-Learn Conference)
- **#3 Is Effective: "Equal or Better"**
    - "One conclusion seems clear: On average, students seem to perform equally well or better academically in online learning." (p. 17)
  - **#4 Improves Teaching**
    - Teachers who teach online reported positive improvements in face-to-face, too.
    - "...three in four reported a positive impact on their face-to-face teaching." (p. 25)

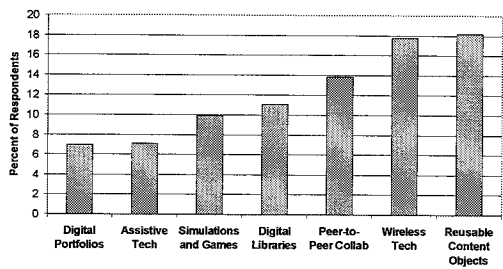
**Ok, Million Dollar Question: Which technology will impact schools the most?**



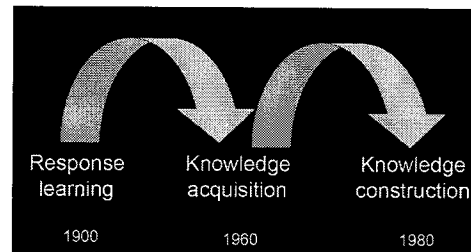
**Storm 1. Emerging Learning Technologies**

1. Assistive Technologies & Talking Computers
2. Blogs and Online Diaries
3. Digital Portfolios
4. Electronic Books
5. Online Communities and Learning Portals
6. Intelligent Agents
7. Online Exams and Homework
8. Online Games and Simulations (Massive Multiplayer Gaming)
9. Online Translation Tools & Language Lrng
10. Course Management Systems
11. Peer-to-Peer Collaboration
12. Reusable Content Objects
13. Videostreaming, IP Videoconferencing
14. Virtual Worlds/Reality
15. Wearable Computing
16. Wireless Tech: Tablet PCs, Handheld Devices

**Technologies Expected to Most Impact the Delivery of Online Learning During the Next Five Years**

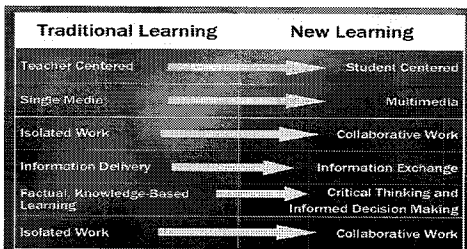


**Evolution of Learning Theory (Bernard Robin, Univ of Houston, 2006)**



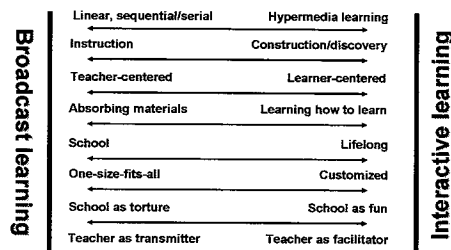
Lambert & McCombs, 1998

**Education in Transition (Bernard Robin, Univ of Houston, 2006)**



ISTE National Education Technology Standards for Teachers

**Industrial Age vs. Info Age Learning (Bernard Robin, Univ of Houston, 2006)**



Don Tapscott

SEDL, Tap into Knowledge, Knowledge Under Construction:  
<http://www.sedl.org/pubs/tapinto/v3n1.pdf>

**"When used appropriately, technology can become a mind tool, functioning as an intellectual partner with the learner to engage and facilitate critical thinking and higher-order thinking."**

SEDL, Tap into Knowledge, Knowledge Under Construction:  
<http://www.sedl.org/pubs/tapinto/v3n1.pdf>

**"Thought processing software allows students to organize ideas, express concepts, map relationships, build idea webs and outline their thoughts in a graphical, visual, and non-linear fashion."**

### Computers as Cognitive Tools

Bank (1989); Robert Kozma (1986)

1. Computers transform, translate, calculate, sort, order, integrate, infer
2. Amplify, extend, and enhance human capabilities
3. Reduce cognitive load, free up resources
4. Internalize overtly modeled processes
5. Limited WM, structure of LTM, and cognitive strats
6. Prompt or model: examples, ask questions, eval answers, pose a hypothesis
7. Organize notes, links, concept maps, outlines, notebook, graphs, self-check

### Role of Technology



- Computers to support not drill
- Use technology to enhance thinking—planning and revising learning goals, monitoring, reflecting on progress, construct knowledge
- Simplify access to research materials
- Autonomy, social support, critique activities, develop problem-solving, connect evidence, organize ideas, rep arguments, make sense
- Facilitate data storage and transfer
- Communication within and beyond classroom.

### Tech Rich Environments Goldman and Vandy Colleagues (1999)

- Jasper Woodbury series (SMART)
  - Problem solve and share solutions
- Little Planet Series
  - Research and write books
- The GLOBE project
  - Global Learning and Observations to Benefit the Environment
  - Collect data, observe, submit data and share results
- The Journey North
  - Ask experts, solve problems, track data, interview, collab
- The JASON Project
  - Interact with expedition team, virtual fieldtrips, explorations

### Authentic Data Analysis (e.g., The Globe Project, Kids as Global Scientists, The Journey North, etc.)

### Knowledge Building Communities Scardamalia & Bereiter (1994)

- Emphasis on problems, depth, open, decentralized, collective, communities.
- More advanced others participate, communal database, live experts, both open & private.
- Computer tools—foster choice of links, nature of relationships
- Asking leading questions, probing for details
- Alternative forms of assessment—group cooperation, design presentations, peer feedback

### Kids as Global Scientists (Nancy Songer, 1998)

- Students learned about local weather
- Developed a proficiency with the Internet
- Communication used to hook students in for deeper science learning
- Students move from consumers to reporters and participants
- Build new idea relationships through greater personalization of information
- Technology problems

### Students as Infotectives

(Jamie McKenzie, *Grazing the Internet: Raising a generation of free-ranging students.* Sept. 1998, pp. 26-31, Phi Delta Kappan)

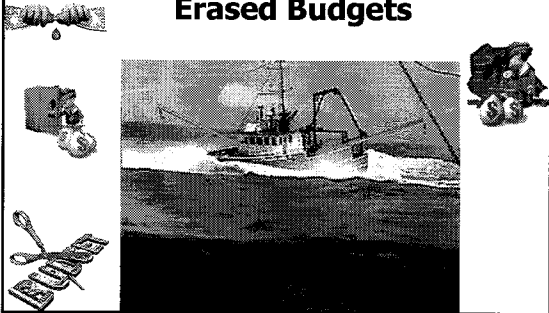
- Envisioning what's possible, invent, rearrange
- Inquiry and Detective Skills
  - changing course, asking for help,
  - framing essential questions and subsidiary questions,
  - planning voyage,
  - screening garbage, analyzing data.
- Suggesting and testing hypotheses
- Seeing what's missing
- Suspending judgment



### Any questions or comments so far?



### We're in the Midst of Storm 3: Erased Budgets



#### Seven Cost-Saving Strategies for the IT Funding Crunch

By Paul Nasti

As school districts across the country face budget cuts, IT departments are being squeezed. Here are seven strategies to help IT departments survive the funding crunch.

**1. Consolidate Hardware**

**2. Consolidate Software**

**3. Consolidate Services**

**4. Consolidate Support**

**5. Consolidate Training**

**6. Consolidate Security**

**7. Consolidate Disaster Recovery**

#### Successful Strategies for Saving & Securing Technology Funding

By Jennifer H. Lewis, Florida Elementary Schools

As school districts across the country face budget cuts, IT departments are being squeezed. Here are seven strategies to help IT departments survive the funding crunch.

**District's IT outsourcing could save \$1 million per year**

By Cathy Murray, Assistant Editor, eSchool News  
January 7, 2004

A Florida school district has announced plans to outsource its entire information technology (IT) department to a cloud provider, communications firm, and IT services company. The district could save more than \$1 million a year for the next 20 years.



