
On-line Learning
– Where to next?
Jack M. Wilson
CEO UMassOnline.net
www.UMassOnline.net
www.jackmwilson.com

UMassOnline:
A Collaborative Campus Model for Distance Education

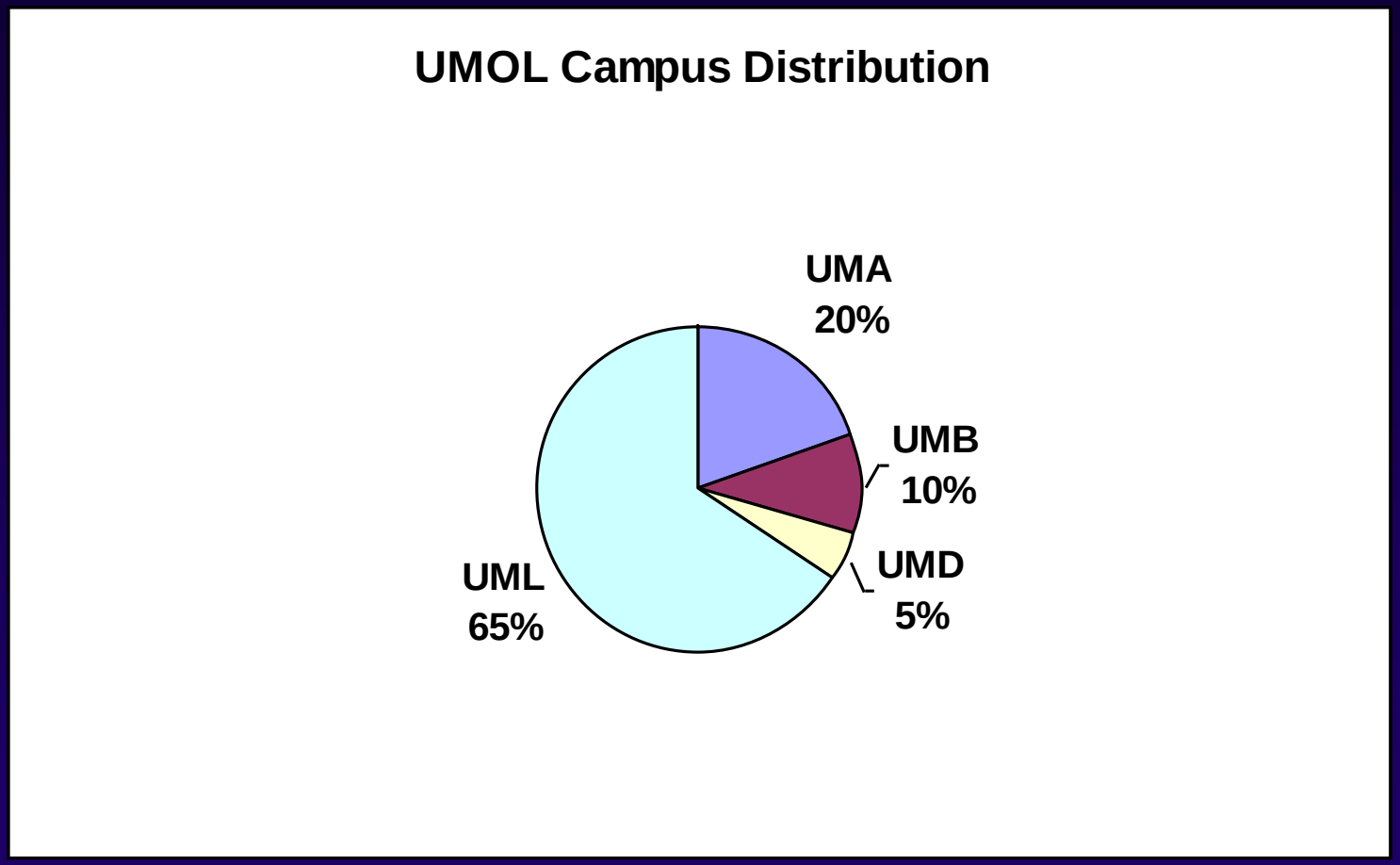
- Non-Profit System-wide Collaboration
  - In cooperation with Continuing Education
  - Follows local governance and existing campus policies
  - Degrees and credit programs from five campuses
- 7824 enrollments in FY 2001-2002.
  - Growing at 58% per year
- Estimated revenue of over $6.1 million
  - Growing at 86% per year
- Staff of 5.5

Technology Infrastructure

UMITS and campuses are contributing to the development of the portal

- IntraLearn and Prometheus share LMS duties
- Prometheus's customizable portal will serve as a common portal for both LMS's
- Video Servers to be acquired: Real and Quicktime
- Synchronous capability is next.
  - Live On line education
    - Audio, video, collaborative document sharing, polling, application sharing ……..

Enrollment Distribution



Revenue History

Revenue		UMA	UMB	UMD	UML	495	UMO Tot.	Online
FY01		$456,375	$0	$135,525	$2,386,200	$481,400	$3,459,500	$2,982,477
FY02		$1,439,395	$487,645	$155,775	$3,471,120	$567,883	$6,121,818	$5,560,199
Growth yr-yr		215.4%	*	14.9%	45.5%	18.0%	77.0%	86.4%
Distribution		23.5%	8.0%	2.5%	56.7%	9.3%	100.0%	90.8%

Is it over?

- Is all the excitement over eLearning over?
  - Question from a reporter at the Chronicle of Higher Education.

High hopes for eLearning

- Pensare teamed up with Duke.
- Click2Learn teamed with NYU Online.
- Fathom teamed with XanEdu.
- U. of Penn Wharton School teamed with Caliber, a spin-off from Sylvan Learning.
- Cornell spun off eCornell
- UNext created Cardean University and partnered with Columbia, the London School of Economics, Stanford, and the University of Chicago.
  - Reportedly Cardean had pledged to pay Columbia, and perhaps the others, $20 million dollars if they failed within five years.
- North Carolina, Harvard, and USC went to University Access for help in getting online.
- Harcourt Higher Education was launched as a college in 2000 and confidently predicted "50,000 to 100,000 enrollments within five years."

And Now?

- Pensare is gone.
- Fathom had to obtain $20 million in financing internally.
- Cardean laid off over half its work force and asked universities to restructure arrangements.
- Temple University quietly closed its spin-off without really ever activating it.
- NYU folded NYUOnline back into the campus.
- Harcourt is gone after enrolling a total of 32 students in 2001.
- eCornell is open now, but with very small programs and drastically reduced expectations.
- Caliber has filed for bankruptcy.
- University Access has changed its name and withdrawn from higher education.

Models for Virtual Universities

- For Profit Universities
  - Pure plays: Phoenix, Capella, etc.
  - Joint Ventures: Cardean, Caliber, Pensare, U21
  - Internal: UMUC, eCornell, etc.
  - Outside VC (Original Fathom plan) versus internal
- Not for Profit
  - Internal Collaborative (UMassOnline etc.)
  - Independent (WGU, etc)
  - Solo or Consortia

Questions

- What are the advantages and disadvantages of various financial models?
- Are joint ventures between universities and for-profits viable (Pensare, Caliber, NYUOnline, U21 Global, etc)
- Can one borrow brand equity from one institution to another: (Cardean, Pensare)
- Can one transfer brand equity from a different business to eLearning (Harcourt)
- Given that content is a commodity, how much to invest in content?

Content and the Value Chain

- Given what MIT has done, how can UMassOnline compete? – Boston Globe reporter

What MIT provides

- **Course materials**

No access

- **Reputation**
- **Courses**
- **Faculty**
- **Credentials**
- **Students**
- **Alums**
- **Library**
- **Facilities**

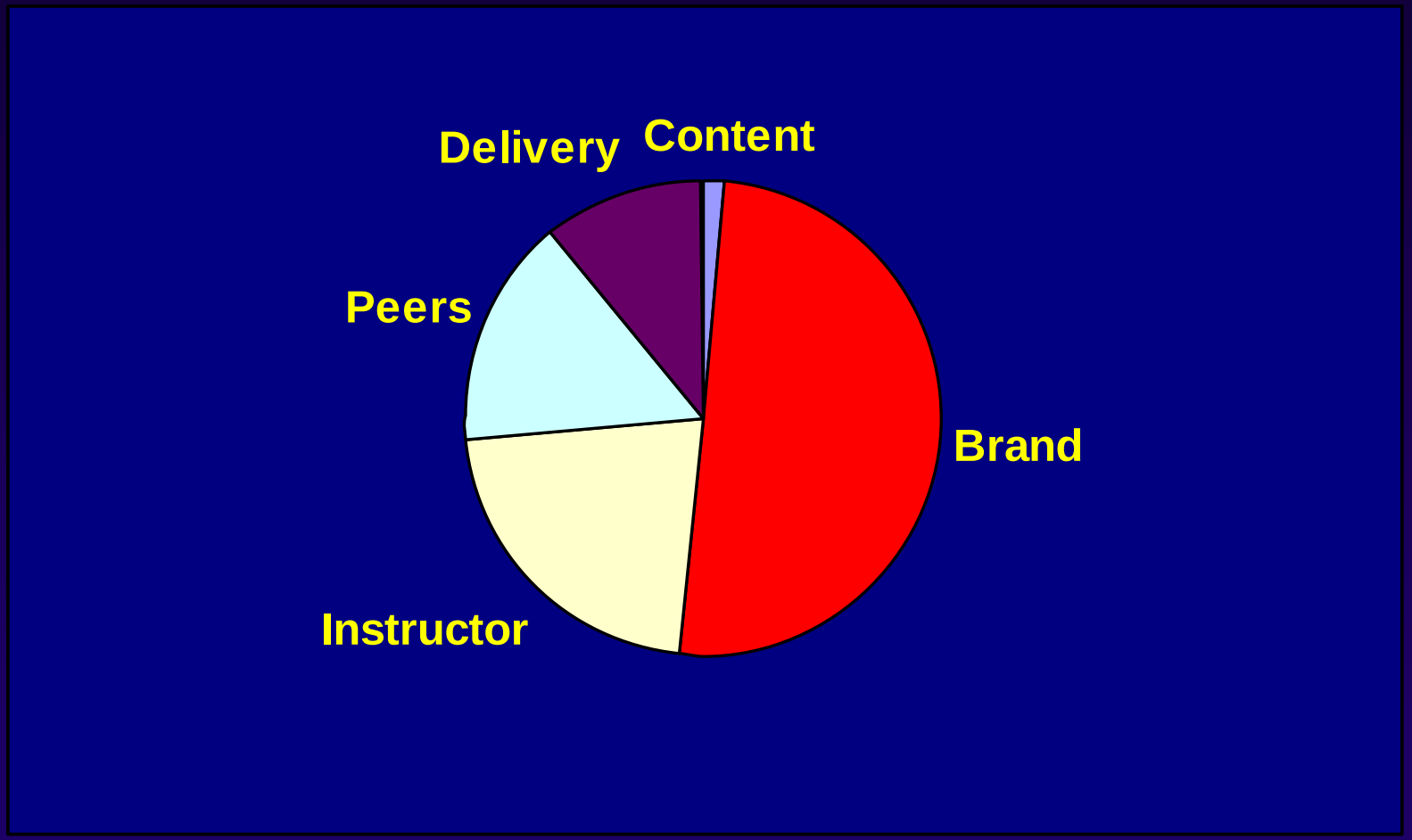
Content?

- The smallest part of the value chain.

- Introduction to eBusiness
  - 75-125 students (business execs)
  - $ 3000 per student (indicator of value?)
  - A book might be $50 (content)
  - Web site is open and free
  - Revenue: $225,000 - $375,000
  - One faculty, one full time TA

The Value Chain

Brand ~ Reputation



NY Times Midnight Question

- “Dr. Wilson, Governor Kean told me that all this technology emphasis was fine but the the best education was:

  Mark Hopkins on one end of a log and the student on the other.”

- “Could you comment on that?”

  – Rosalie Stemer, New York Times in a late night call

The Electronic Log?

- "Rosalie, I couldn't agree more…… as long as you will allow me to make it an electronic log."
  - A sleepy Jack Wilson:

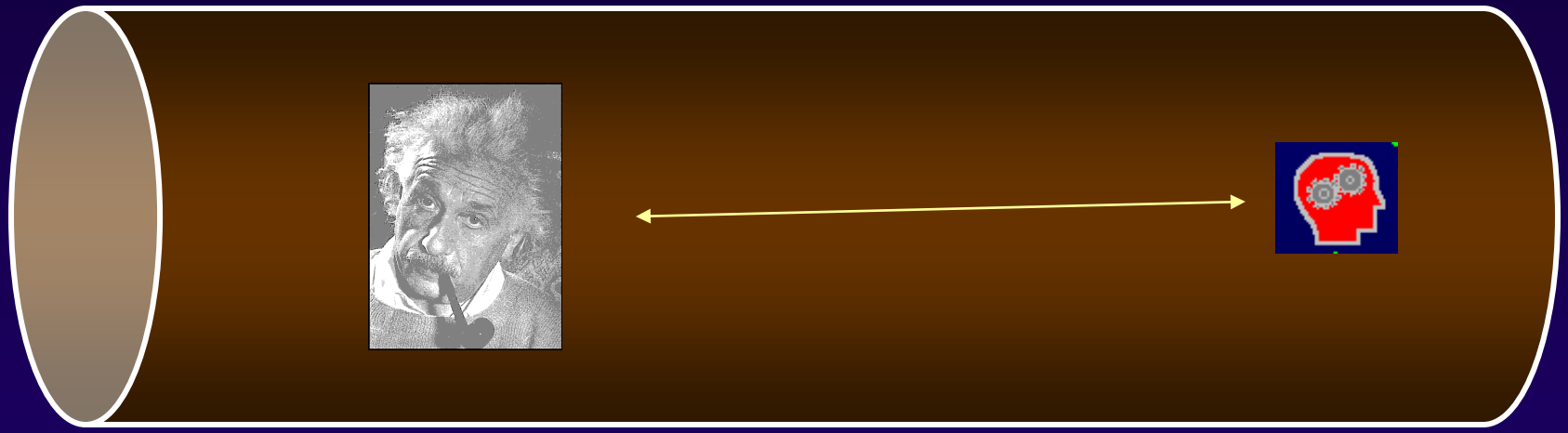
- This became the lead for the NY Times piece.

- My other hours of interviewing at other times did not appear.

  - **NY Times:** The Virtual Classroom: Colleges face tough questions about using technology to teach more students. Can video lectures and E-mail offer the give-and-take of real learning? By Rosalie Stemer; The New York Times, Sunday, January 8, 1995

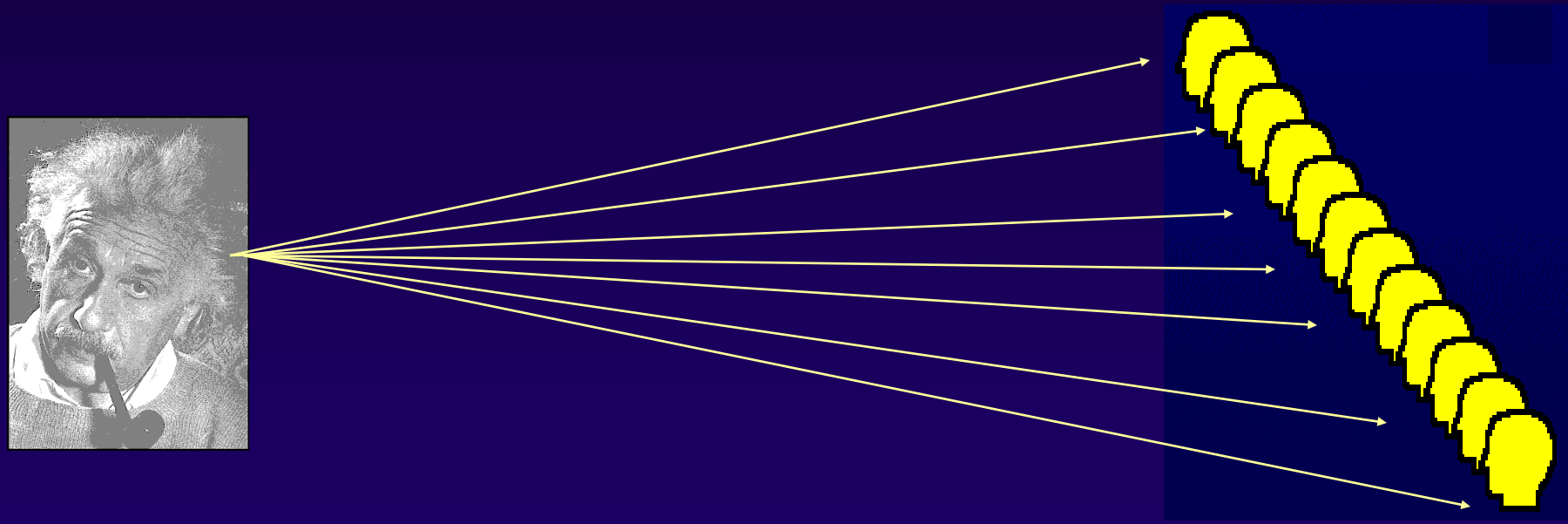
One to One Learning

The (electronic) Log

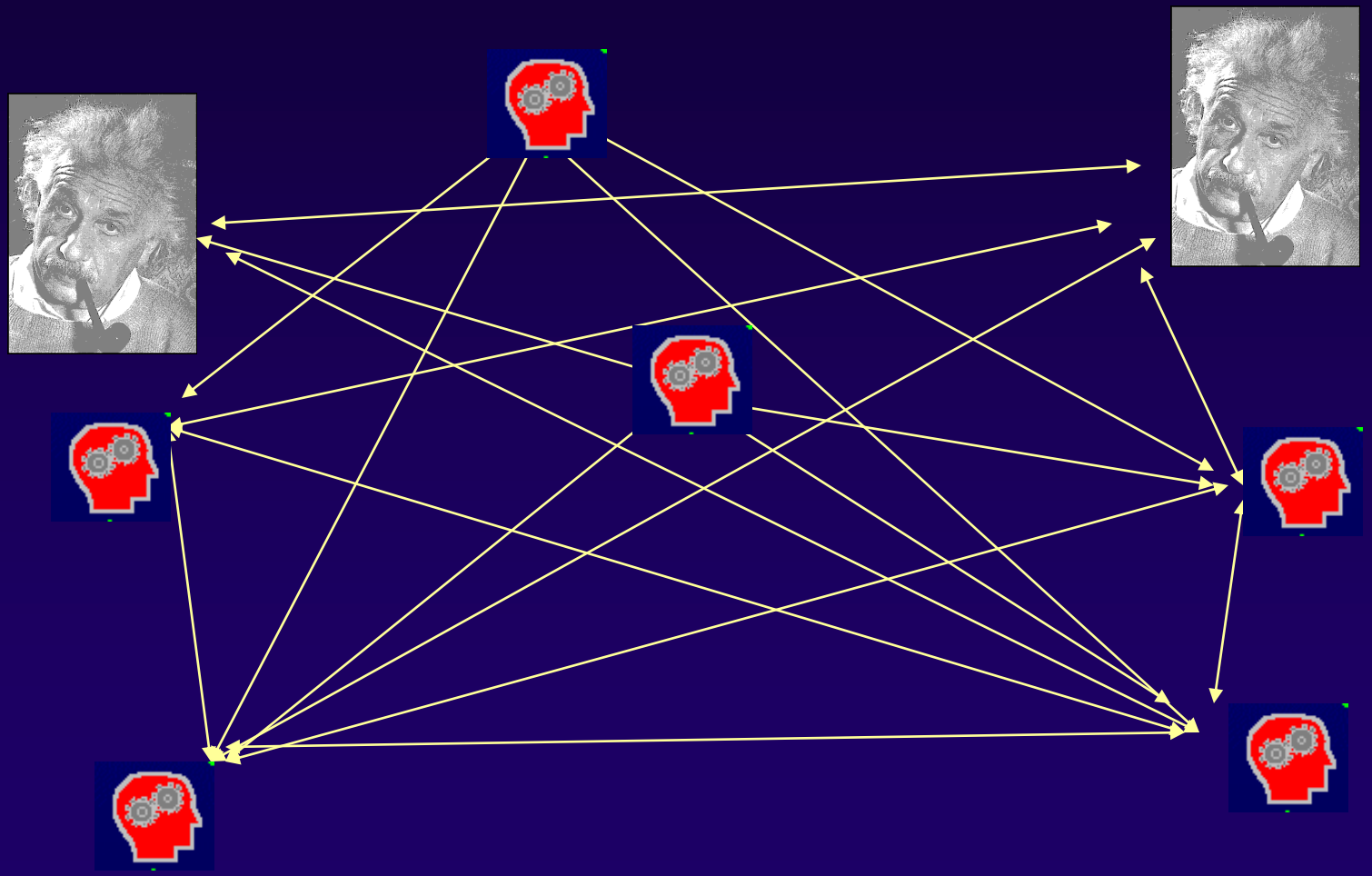


The transmission model

- The mainframe approach
  - Face to Face: The Lecture
  - Distance: TV (Cable or Satellite)
    - Pushes the back wall out a few thousand miles



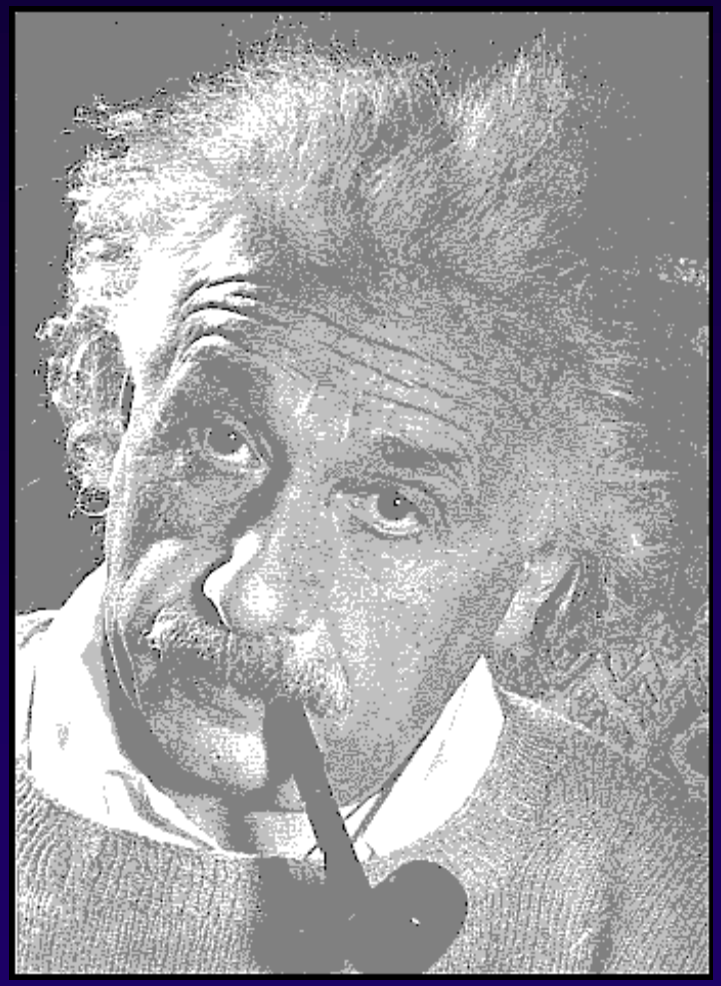
Distributed Collaborative Model



Faculty fears and legislators hopes

- Prism: "If a student can zoom the best professors into his or her living room, then what is to happen to the rest of the countries professors?" (the mainframe model!)
  - In a word: hogwash.
- Presenting is not teaching!

What happens to me?



- Will a

  Web site
  or a CD-ROM
  (or a videotape)

  replace your <Blank>
  Instructor?

The horrible mismatch

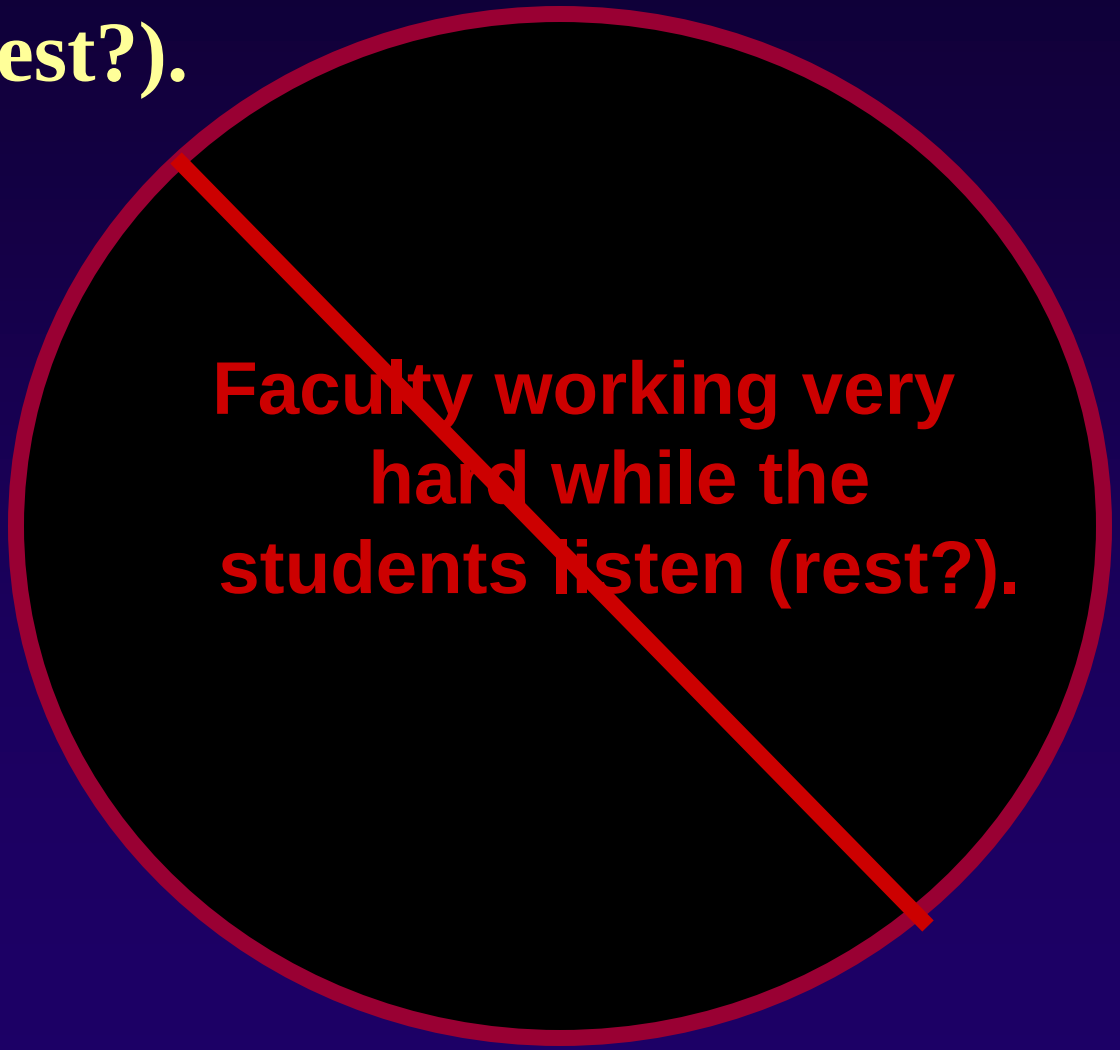
- People change very slowly
  - Both a comfort and irritant!
- Technology changes very rapidly

The old model

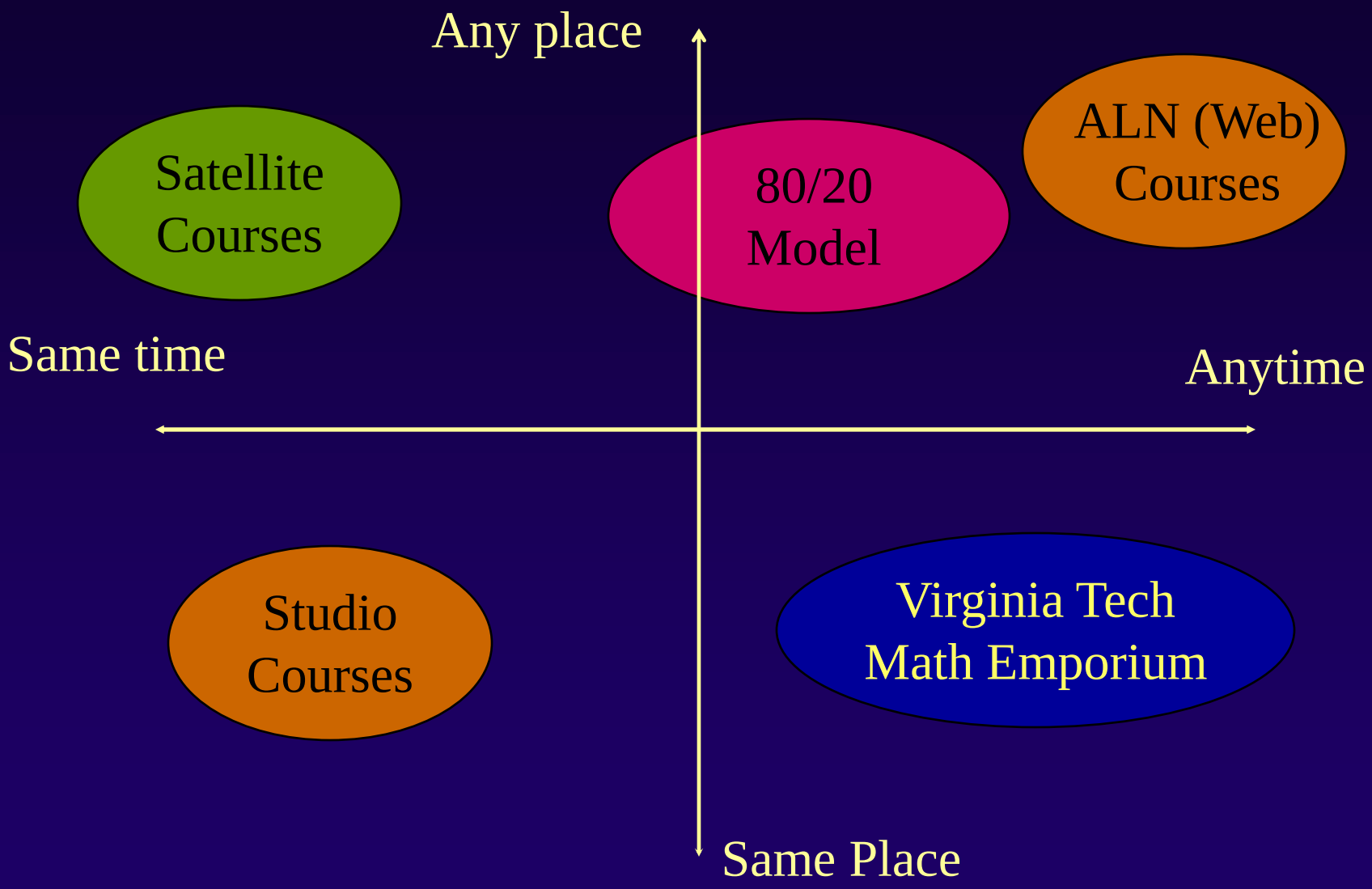
Faculty working very hard while the students listen (rest?).

The New Model

Students working very hard while the faculty listen (rest?).

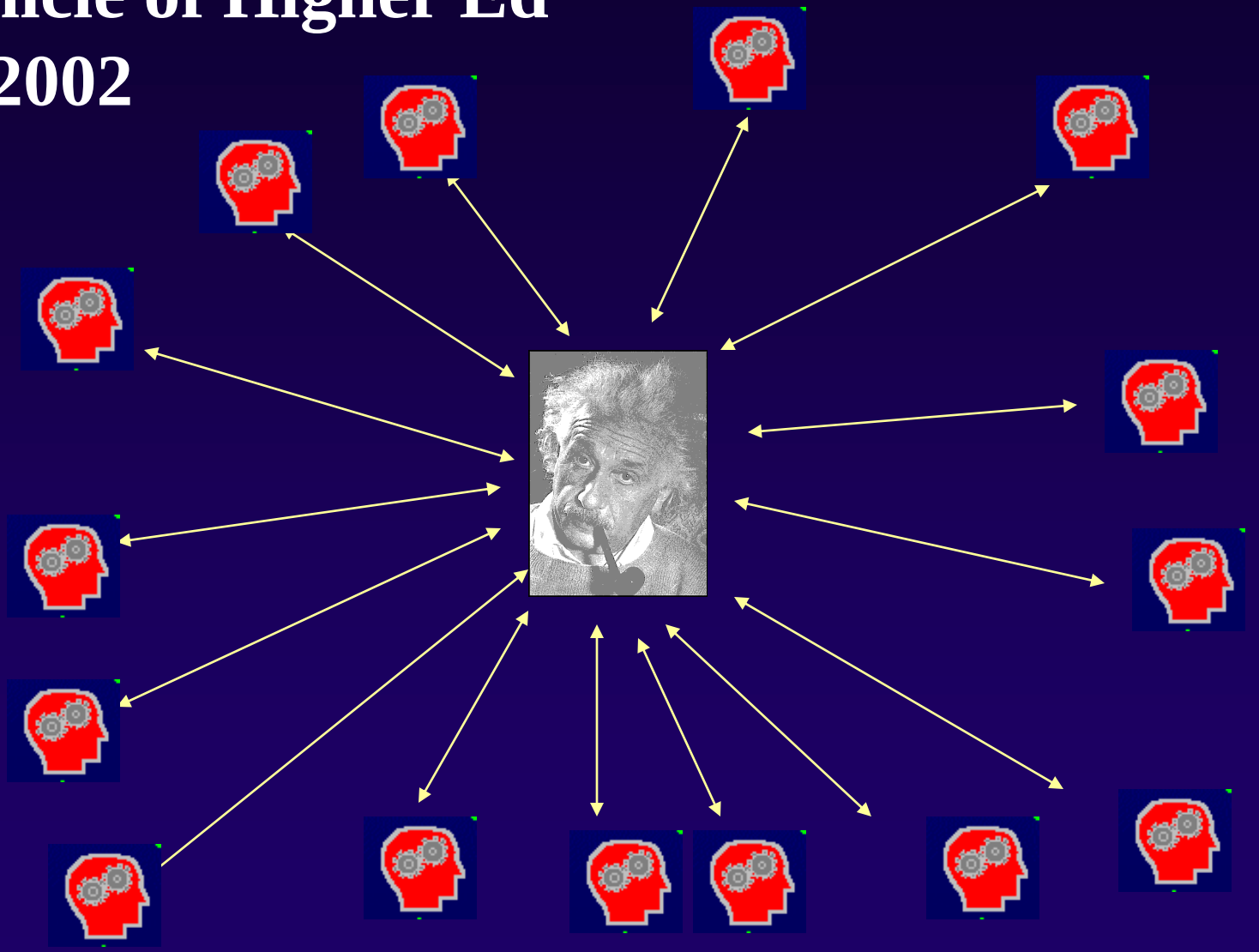


The Studio at a Distance

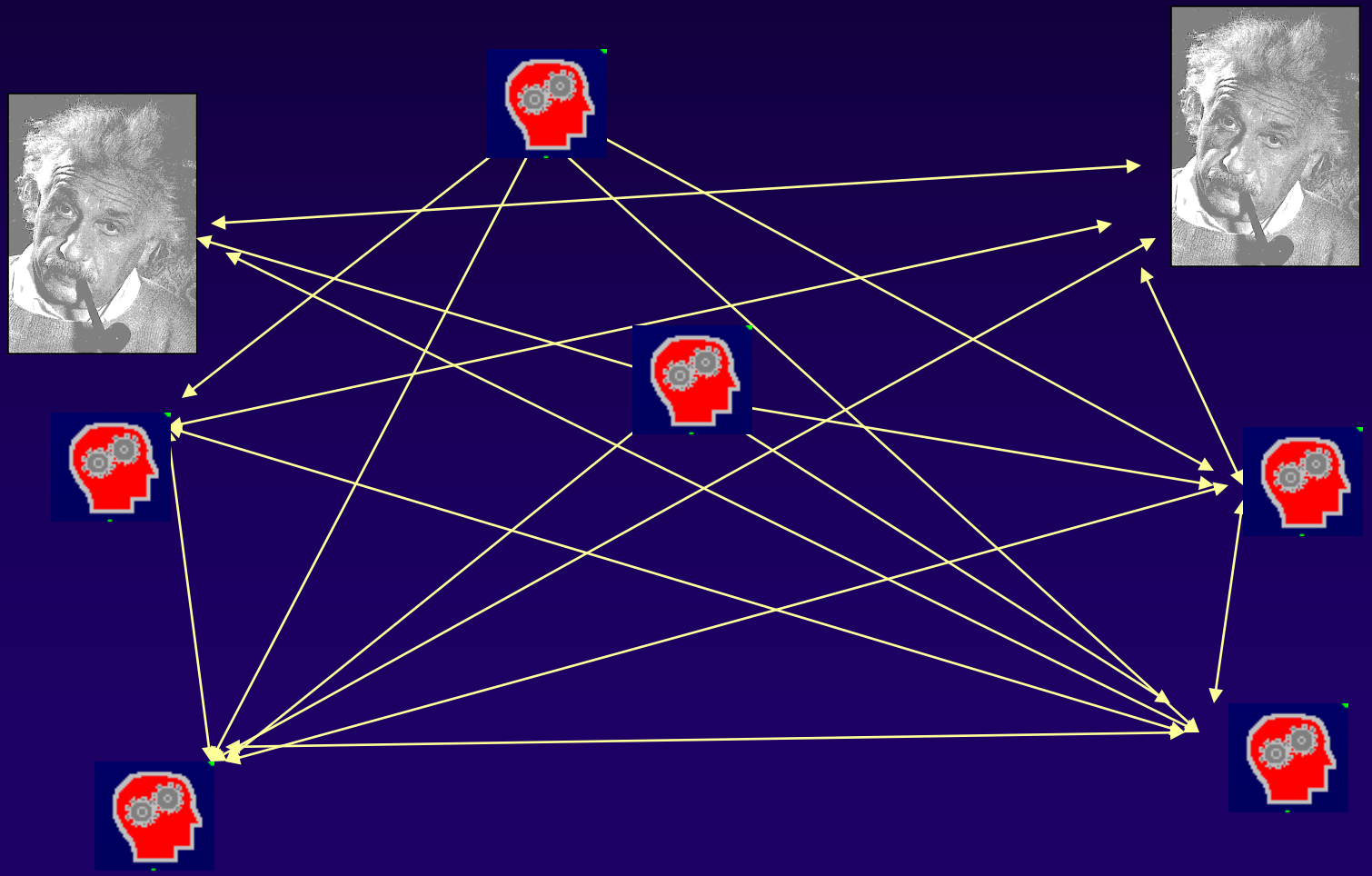


Usual On-line course organization

Chronicle of Higher Ed
June 2002



Distributed Collaborative On-line Model



UMassOnline

- www.UMassOnline.net
- Virtual University for the State of Massachusetts
- Intellectual capital of the UMass system.
  - Amherst
  - Lowell
  - Boston
  - Worcester (Medical School)
  - Dartmouth
- Collaborative Non-Profit model
- Financed by $15 M loan at 7.5%
- Grant of $ 2.25 M this summer for platform
- Will consider:
  - Independent non-profit
  - For profit

History?

- Take the railroads. The 1880s saw more miles of track built than in any of period.
  - By the 1890s, more miles were bankrupt than at any other time.
- From 1904 to 1908, more than 240 companies entered the automotive business.
  - In 1910, a big shakeout occurred because too many companies were operating at inefficiently low scale. Today only two US companies remain.

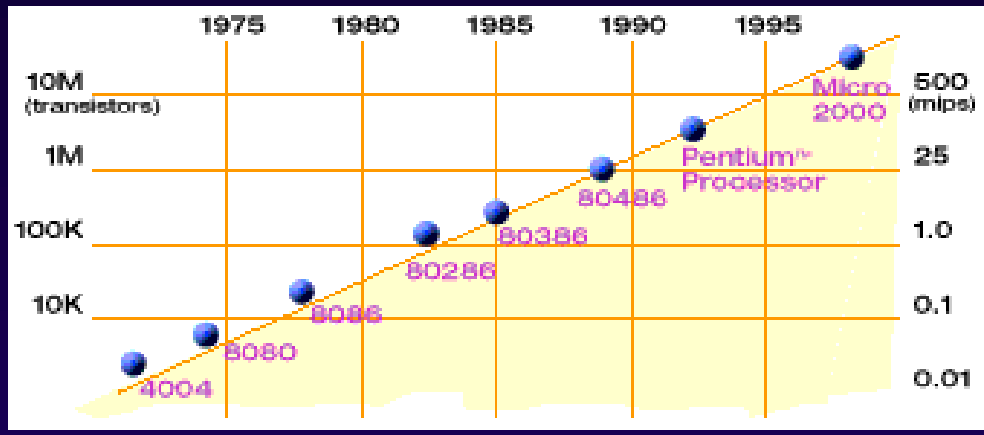
Is it over?

- Hardly!

- No one has repealed Moore's Law
- The Bandwidth Law (Gilder's law) is slower but still on track
- Metcalf's law remains the a key indicator for success.
  - Microsoft, AOL-TimeWarner, eBay, Amazon all demonstrate the power of the large network.

Wilson's Favorite Laws!

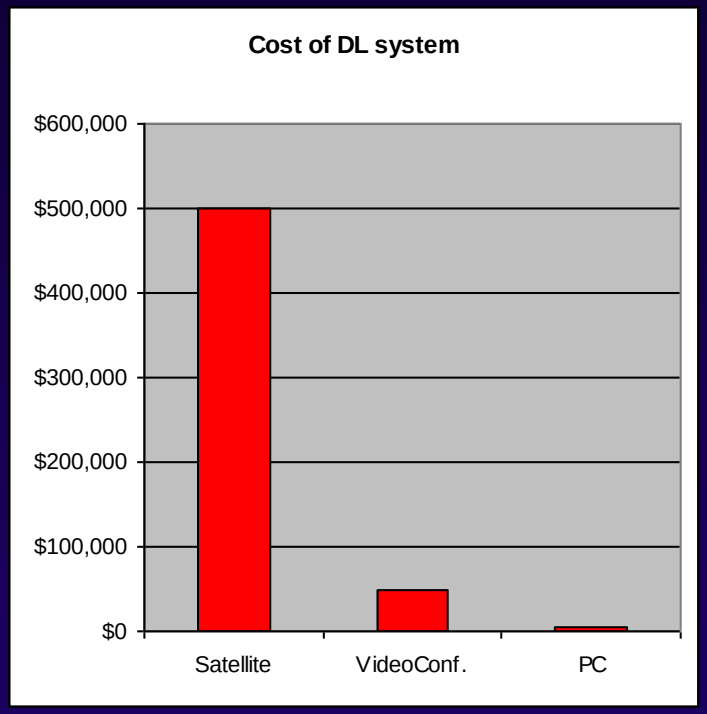
- Moore's Law:
  - CPU performance doubles every 18 months



- Bandwidth law:
  - Bandwidth is doubling even faster!

- Metcalf's Law:
  - the value of a network scales as n^2 where n is the number of persons connected.

Distance Learning Technologies



- Satellite Video ($500,000)
- ISDN Videoconferencing ($50,000)
- PC Collaborative (LearnLinc, Centra, Interwise, Placeware, etc) ($5,000)
- Web Based Asynchronous (ALN: Prometheus, WebCT, BlackBoard, eCollege, etc.) ($5,000)

Coping with change

- Design for the future not the present
- Design based upon human learning and not technical limitations
  - Focus on the student experience
  - And also the faculty experience
- When forced to compromise by technology
  - Remember it is a compromise
  - Do not enshrine compromises
  - Watch how technology changes can eliminate need to compromise.

Components from which to select

- Live-online mini lectures & discussions (VOIP)
- Live polling
- Java applets for interactive simulations
- Microcomputer based data acquisition
- Web based multimedia
- Online texts
- Customized homework.
- Threaded ALN discussion
- Live Chat
- Virtual laboratories and team based case studies
- On-line surveys and tests.

Models of eLearning

- The Satellite Model
- IVC: Interactive Video Conferencing
- ALN: Asynchronous Learning Network
  - Especially popularized by the Sloan Foundation
- Live eLearning on networked PC's
  - Voice and video over ip – multicast
  - Often use voice and no video
- Blended Models
  - Live or ALN plus face-to-face
  - Live or ALN plus IVC

The ALN model

- Advantages
  - Flexible: Anytime and anyplace
  - Cheap
  - Allows anonymity
- Disadvantages
  - best for highly motivated discretionary learners
  - Completion rate is often a problem
  - Larger upfront investment in time and resource
  - Chat is a poor substitute for live interaction
  - Does not allow for visual cues and interactions

The IVC Model

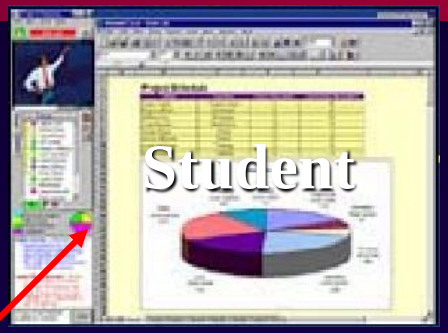
- Advantages
  - Allows visual and audio interactions
  - Widely available
  - Adapts to usual faculty approaches
  - “Made fresh daily”
- Disadvantages
  - Not anytime and limited anyplace
  - Poor quality video, awful graphics
  - Often leads to poor faculty student interactions
  - No access to polling, chat, threaded discussion….
  - Expensive

Live On Line Learning

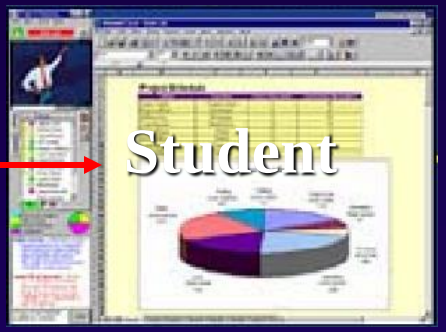
- Advantages
  - Inexpensive PC based
  - Requires only 33kB reliable connection
  - Allows spontaneous live audio interactions
  - Allows live polling and discussions
  - Also accommodates all ALN functionality

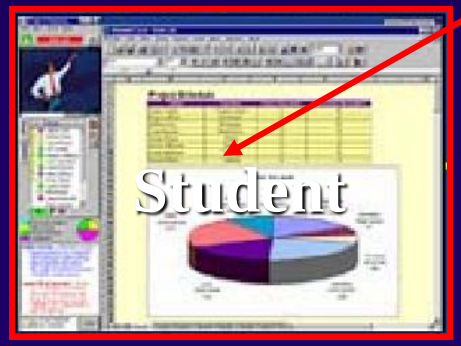
- Disadvantages
  - Anyplace but only partially anytime
  - Requires that student PC's have sound cards and microphones.

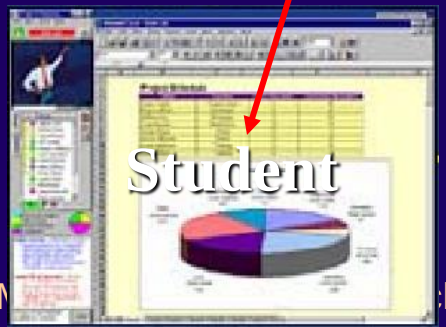
Instructor

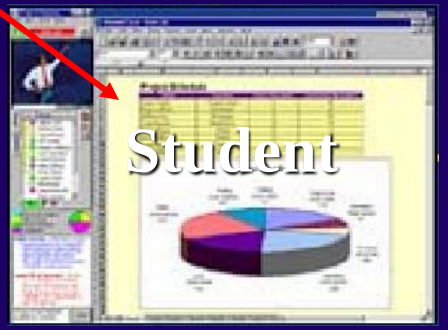


The Internet
Voice & Data





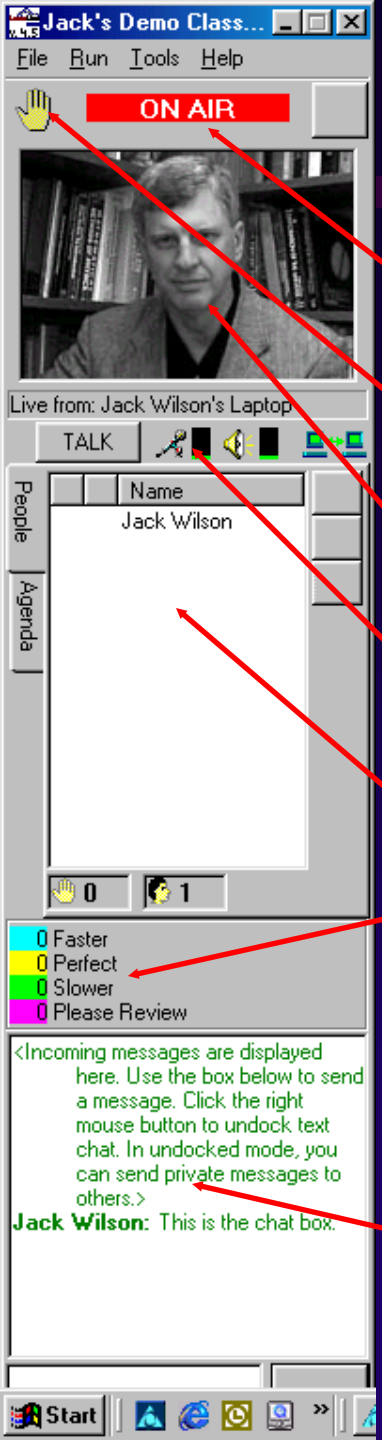




Introduction to eBusiness

The hope, the hype the power, the pain

- Live Online Learning
- Fall 2000: 125 (50 on/75 off) campus students
  - IBM, Ford, GE, Lockheed Martin, Pratt and Whitney, Ford, Consolidated Edison, NY Power, J. P. Morgan, Carrier, Otis, etc.
- Extensive Website:
  - http://www.jackmwilson.com/eBusiness/Syllabus-Spring2001/
  - MBA, MSIT, MS
  - On-line studio style miniLectures, Discussion, Student presented cases, & asynchronous interaction (ALN)



- On- Air indicator
- Raise your hand
- Picture or video of speaker
- Audio and Network controls
- Agenda or class roll
- Feedback section
  - (can be pace, agreement, T/F, Yes/No, etc.)
- Chat Window

Rensselaer and Hong Kong City U.

- Survival Skills for Astrophysics
  - Graduate Students in Astrophysics
  - Video/Audio/ LearnLinc Web Data Conf.
  - Both ISDN and Internet connection
  - 7 am Eastern (6 Hong Kong)
  - Student Collaborative Presentations
  - One Semester length
- Two classrooms with live video wall of the other
- Blended Live Online and IVC

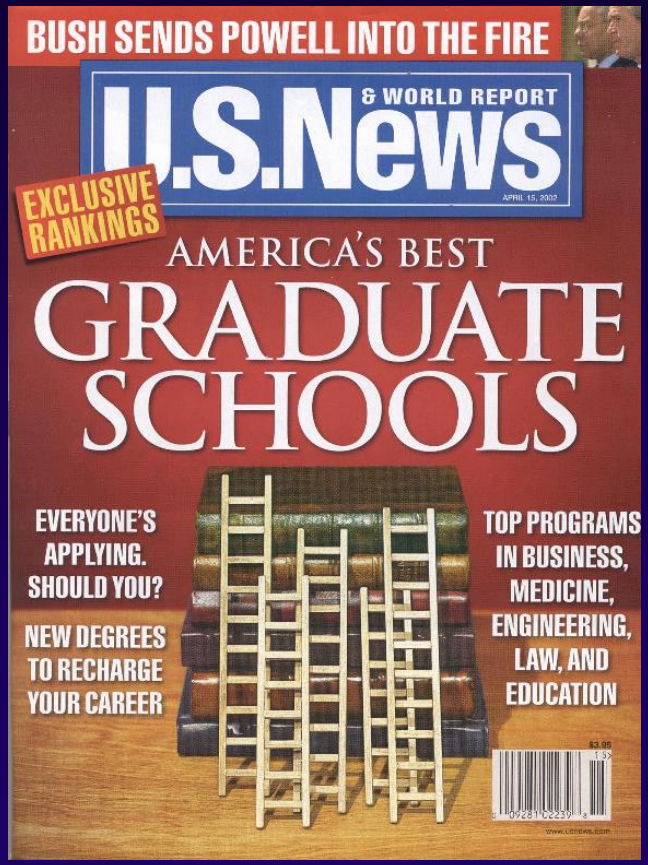
NTU-Rensselaer Course

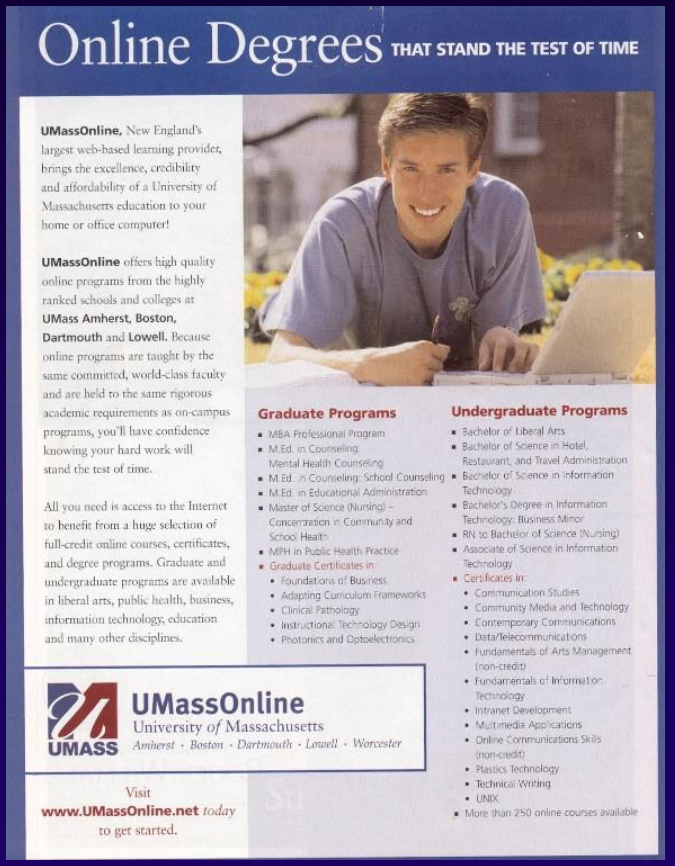
- “Hands On World Wide Web”
- Blended Live Online and Satellite
- Feb. 10 & 17, 1998
- 8000 participants
- 500 sites
- Most successful NTU course ever
- “The future of satellite based education.”
  - Lionel Baldwin, President, NTU
- Certainly the largest!

Advertising

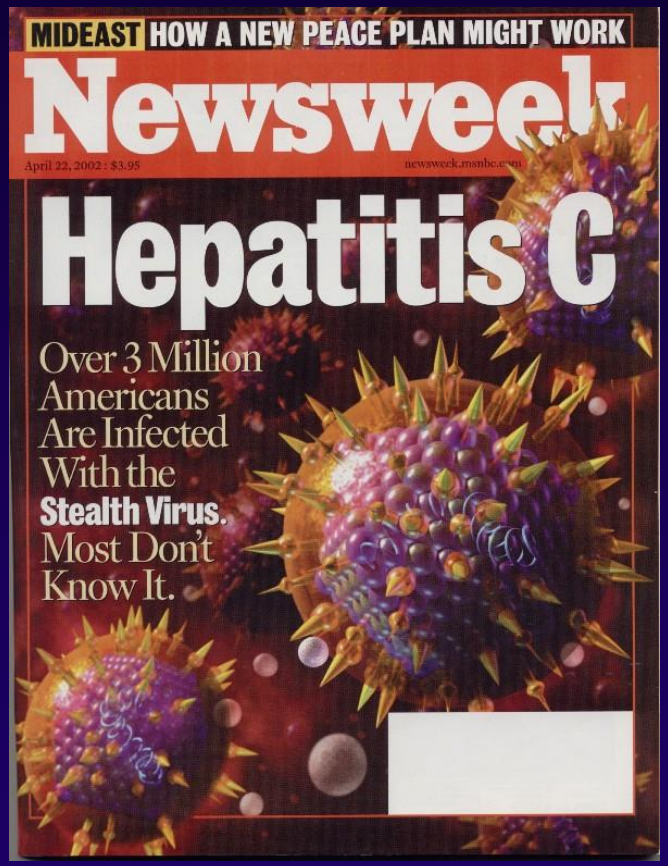
- National
  - US News and World Report, Newsweek, Business Week, Wall St. Journal, NY Times
- Regional
  - Print and radio in the northeastern US (Hartford Courant, CT; WHEB, NH; WINS & WAMC, NY)
- Local:
  - MBTA commuter rail ads
  - Print and radio (Boston Globe, Springfield Union, Worcester Telegram, WBZ, WBUR, WBOS)
- Online:
  - Petersons.com, MonsterLearning.com, AOL
- Events:
  - Key meetings and trade shows

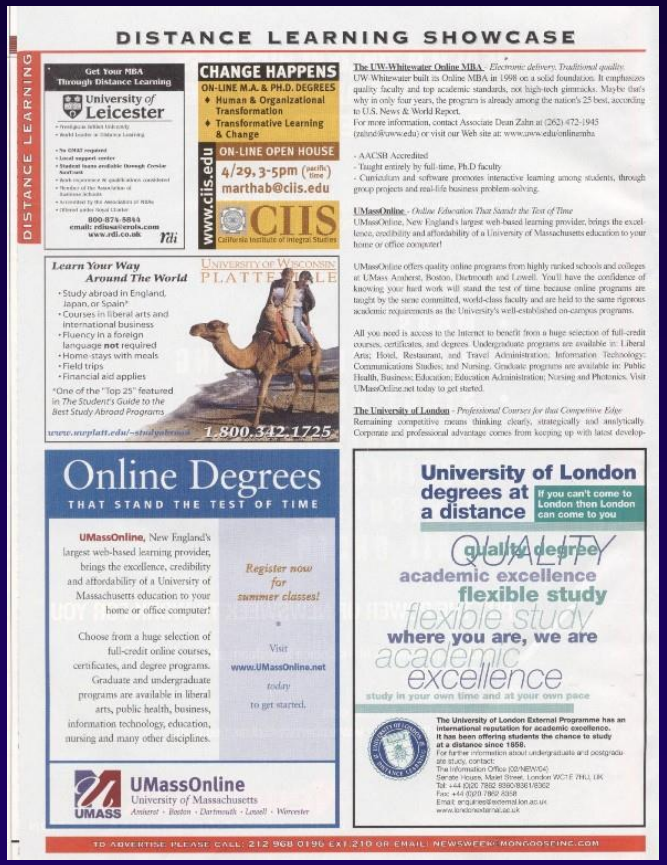
U.S. News and World Report





Newsweek


MIDEAST HOW A NEW PEACE PLAN MIGHT WORK
Newsweek
April 22, 2002 : $3.95
newsweek.msnbc.com
Hepatitis C
Over 3 Million Americans Are Infected With the Stealth Virus. Most Don't Know It.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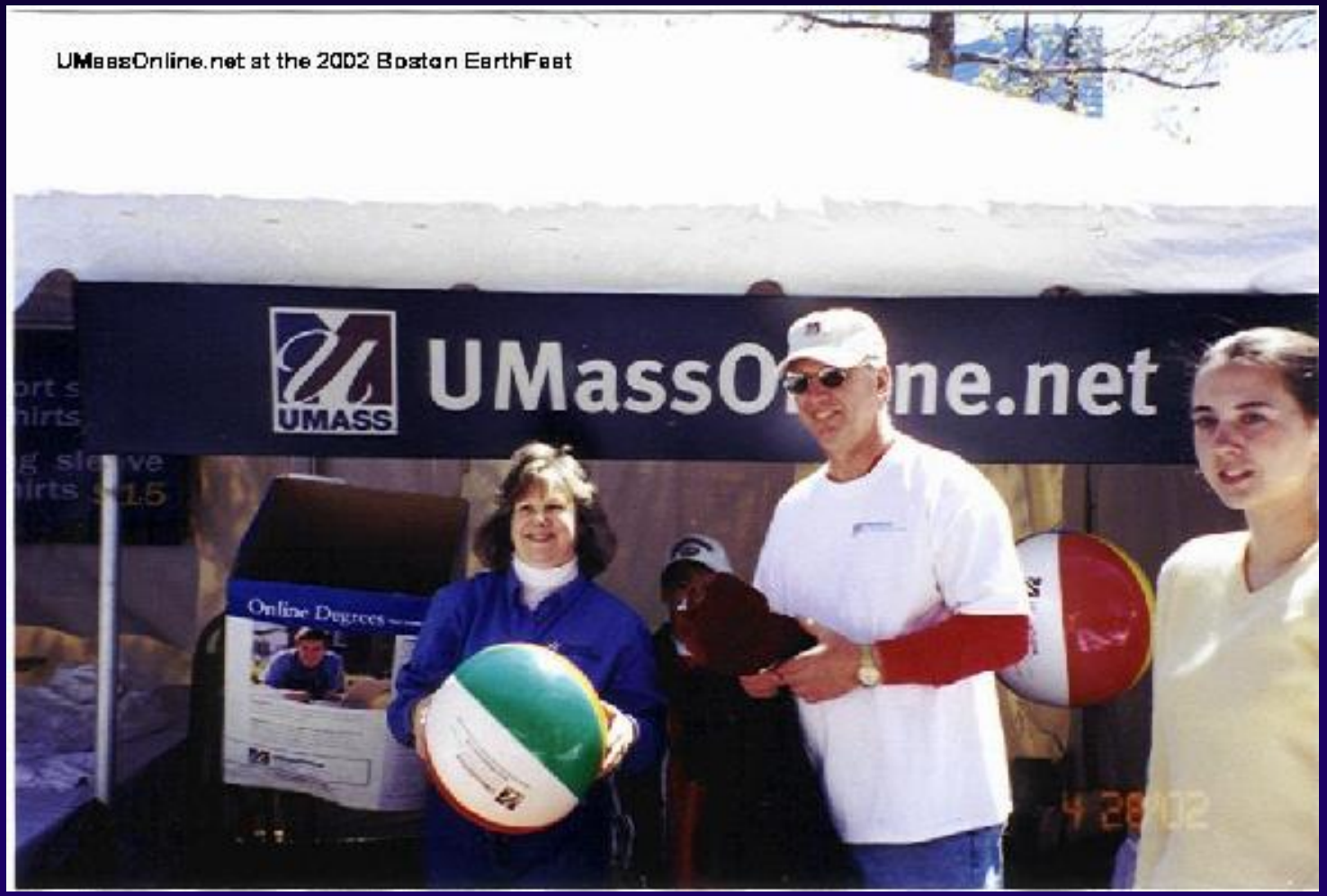
EarthFest 2002 Boston



Current Programs- Graduate

- Master of Education for Science Teachers Program (UMass Amherst)
- Master of Education in Counseling: School Guidance (UMass Boston)
- Master of Education in Counseling: Mental Health Counseling (UMass Boston)
- Master of Science (Nursing) Community/School Health (UMass Amherst)
- Master's Degree in Educational Administration (M.Ed.) (UMass Lowell)
- MBA Professional Program (UMass Amherst)
- MPH in Public Health Practice (UMass Amherst)
- Certificate in Adapting Curriculum Frameworks (UMass Boston)
- Certificate in Clinical Pathology (UMass Lowell)
- Certificate in Foundations of Business (UMass Lowell)
- Certificate in Instructional Technology Design (UMass Boston)
- Certificate in Photonics and Optoelectronics (UMass Lowell)

Current Programs: Undergraduate

- Associate of Science in Information Technology (UMass Lowell)
- Bachelor of Liberal Arts (UMass Lowell)
- Bachelor of Science in Hotel, Restaurant, and Travel Administration (UMass Amherst)
- Bachelor of Science in Information Technology (UMass Lowell)
- Bachelor's Degree in Information Technology: Business Minor (UMass Lowell)
- RN to Bachelor of Science (Nursing) (UMass Amherst)
- Certificate in Communication Studies (UMass Boston)
- Certificate in Contemporary Communications (UMass Lowell)
- Certificate in Data/Telecommunications (UMass Lowell)
- Certificate in Fundamentals of Information Technology (UMass Lowell)
- Certificate in Intranet Development (UMass Lowell)
- Certificate in Multimedia Applications (UMass Lowell)
- Certificate in Plastics Technology (UMass Lowell)
- Certificate in Technical Writing (UMass Boston)
- Certificate in UNIX (UMass Lowell)
- Criminal Justice Series (UMass Amherst)

Jack M. Wilson

http://www.UMassOnline.net

The End

www.JackMWilson.com/eLearning

What shapes my views?

- Service as:
  - 31 years as a professor,department chair, research center director, dean (4 flavors), and provost
  - RPI: J. Erik Jonsson ’22 Distinguished Professor of Physics, Engineering, Information Technology, and Management.
- Founder, CEO, Chairman of LearnLinc
  - a successful eLearning Co
  - Now Mentergy Corporation (NASDAQ: MNTE)
  - Sold in February 2000.

What else shapes my views?

- Industry Consultant (IBM, AT&T, Lucent, Ford, GM...)
- Army TRADOC Advisory Committee
- Pew Center for Academic Transformation ($8.8 M)
- One of founders of the Nat. Learning Infrastructure Init.
- Chair, NY State Task Force on Distance Learning
- Wash. DC: 8 yrs on Science Education: HS. and Univ.
- National Acad. of Science/National Research Council
  - Committees on Information Tech., Physics Decadal Overview Committee, and National Digital Library Committee
- Lots of visits, speeches, writing, reading, and visitors

A personal journey

- Began career as a research physicist
- Research required high performance computing
- Why are students not learning about this?
- How can this help learning?
- Restructuring physics education.
- Computing Communication Cognition -> The Studio Classroom
- Restructuring Undergraduate Program
- How can the studio experience work at a distance?