It's About Teaching and Learning

Isa Zimmerman 7.2003 LIFT^2

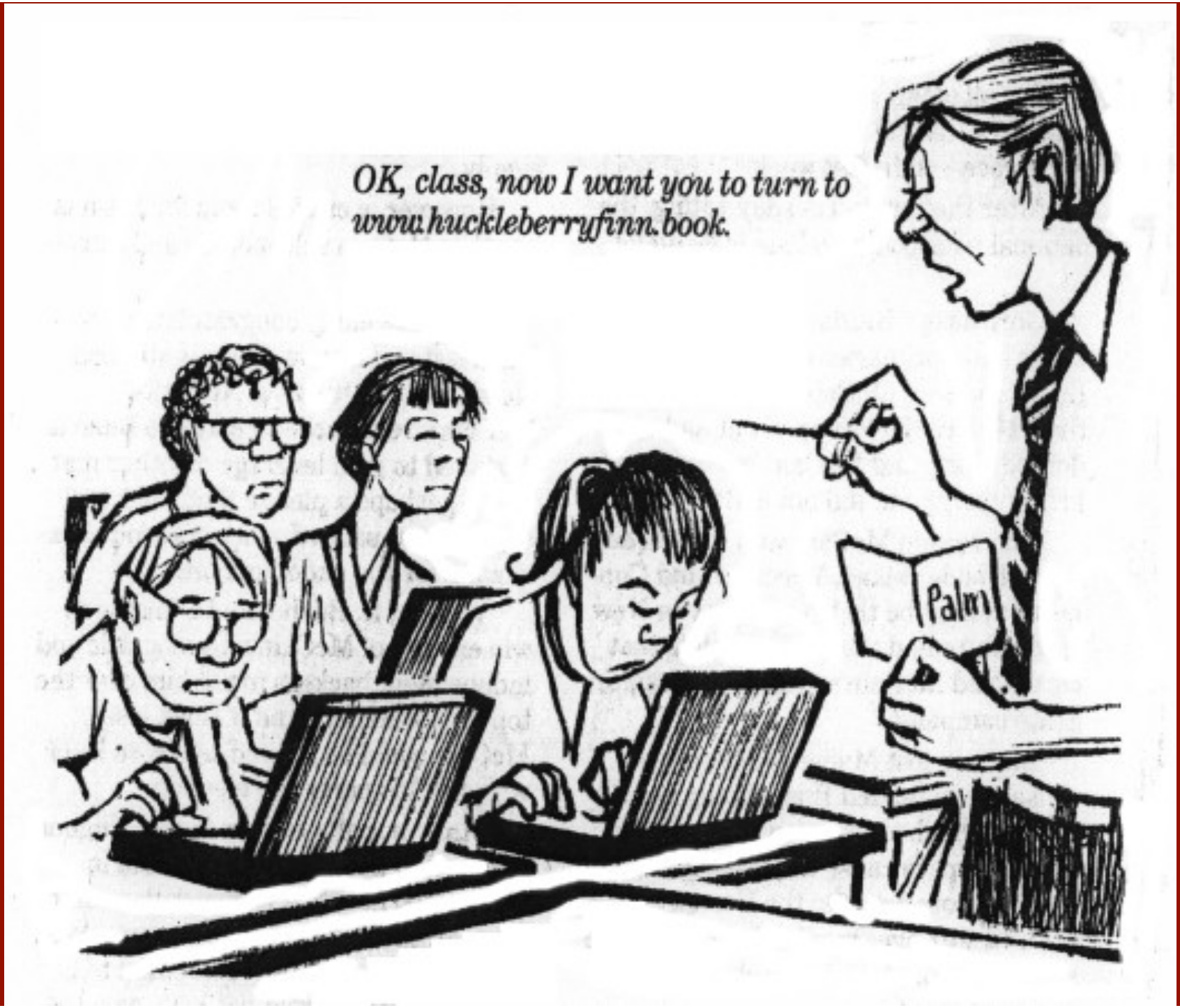
“Students are different today. They are natives in this technology land and age…”

John Bailey June 2003


OK ... let's check my father's stocks ...

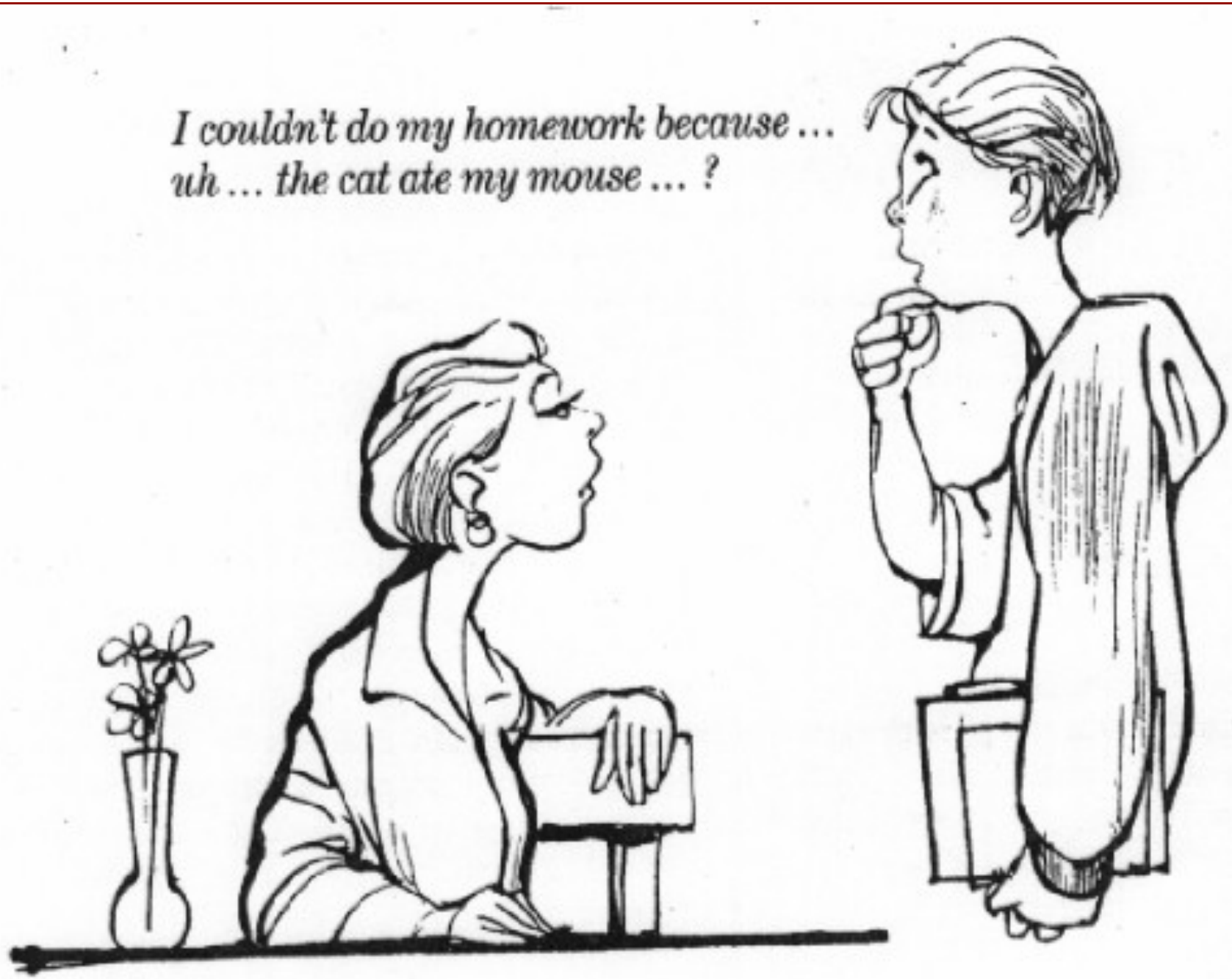
“Kids today expect to learn substantive subjects with technology. Not to see it; simply to have it there!”

Linda Roberts 2003


OK, class, now I want you to turn to www.huckleberryfinn.book.
Palm

But how different are they really?

Isa Kaftal Zimmerman July 2003


I couldn't do my homework because ...
uh ... the cat ate my mouse ... ?

And the message is…

What you can do now that you could not do before:

Visit virtually

Experience that which is unavailable in the current school setting

David Thornburg

The Thornburg Institute

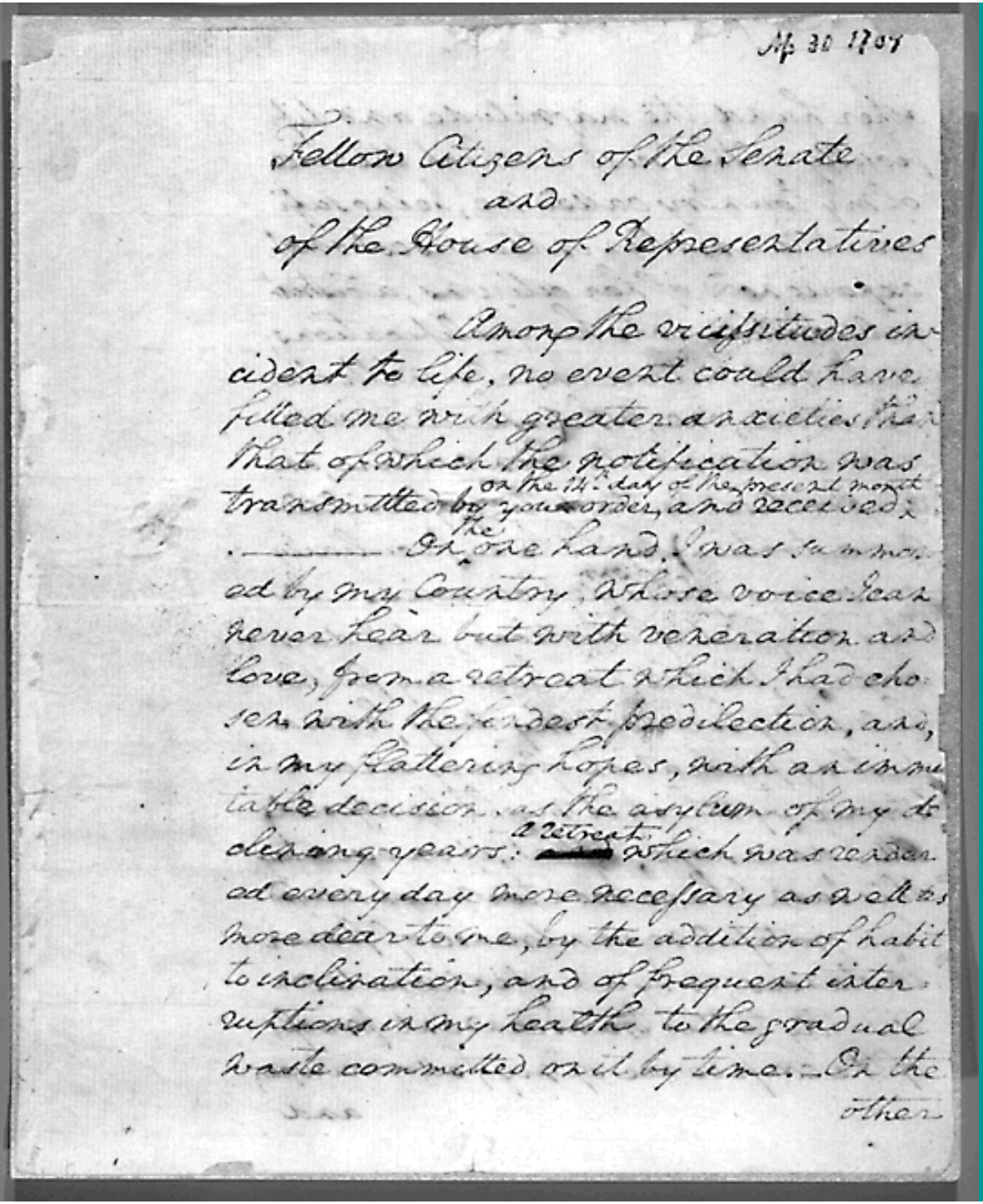
- *California & Brazil*

American Memory

Captions for above images

New images will load automatically or upon reload (requires JavaScript)

Page 1 of Washington's Inaugural Address.



Ap 30 1789

Fellow Citizens of the Senate
and
of the House of Representatives

Among the vicissitudes incident to life, no event could have filled me with greater anxieties than that of which the notification was transmitted by your order, and received on the 14th day of the present month. On the one hand, I was summoned by my Country, whose voice I can never hear but with veneration and love, from a retreat which I had chosen with the fondest predilection, and, in my flattering hopes, with an immutable decision, as the asylum of my declining years: a retreat which was rendered every day more necessary as well as more dear to me, by the addition of habit to inclination, and of frequent interruptions in my health to the gradual wastes committed on it by time. On the other

Fashion tailored resources

Easily
Comprehensively
Constantly updateable

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Netscape: What is a Community?

Back Forward Reload Home Search Netscape Images Print Security Stop

Location: http://ab.mec.edu/abrhs/community/ What's Related

PhotoMail Login Blue Mountain A THE MONSTER BOA

What is a Community?

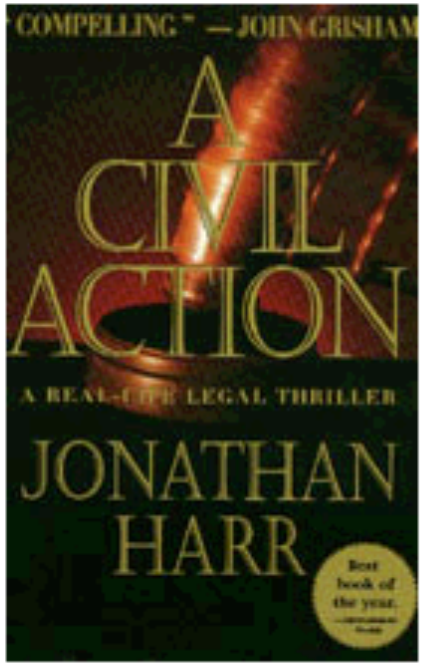
A Civil Action

The Ordinary Hero-An Oxymoron?

Public Health and Bioethical Issues

Music and the Movies

Who's Responsible for Our Environment?



In the early part of 1999, I was asked by my superintendent, Dr. Isa Zimmerman, if I could assemble a group of high school teachers to design an interdisciplinary curriculum which models good use of technology integration. Charged with this mission I solicited three departments at the high school to help me begin writing this grant. One of the teachers, Dorothy Johnson, had just returned from a conference at Harvard University concerning the water pollution in Woburn. She introduced the idea of using Harr's book A Civil Action as a focus for our curriculum. All of us were sympathetic with this community in Woburn and were reminded that there had been water pollution in our community by one of the

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Netscape: Welcome to Jamestown 1607-1630!

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Location: http://ab.mec.edu/jamestown/jamestown.html What's Related

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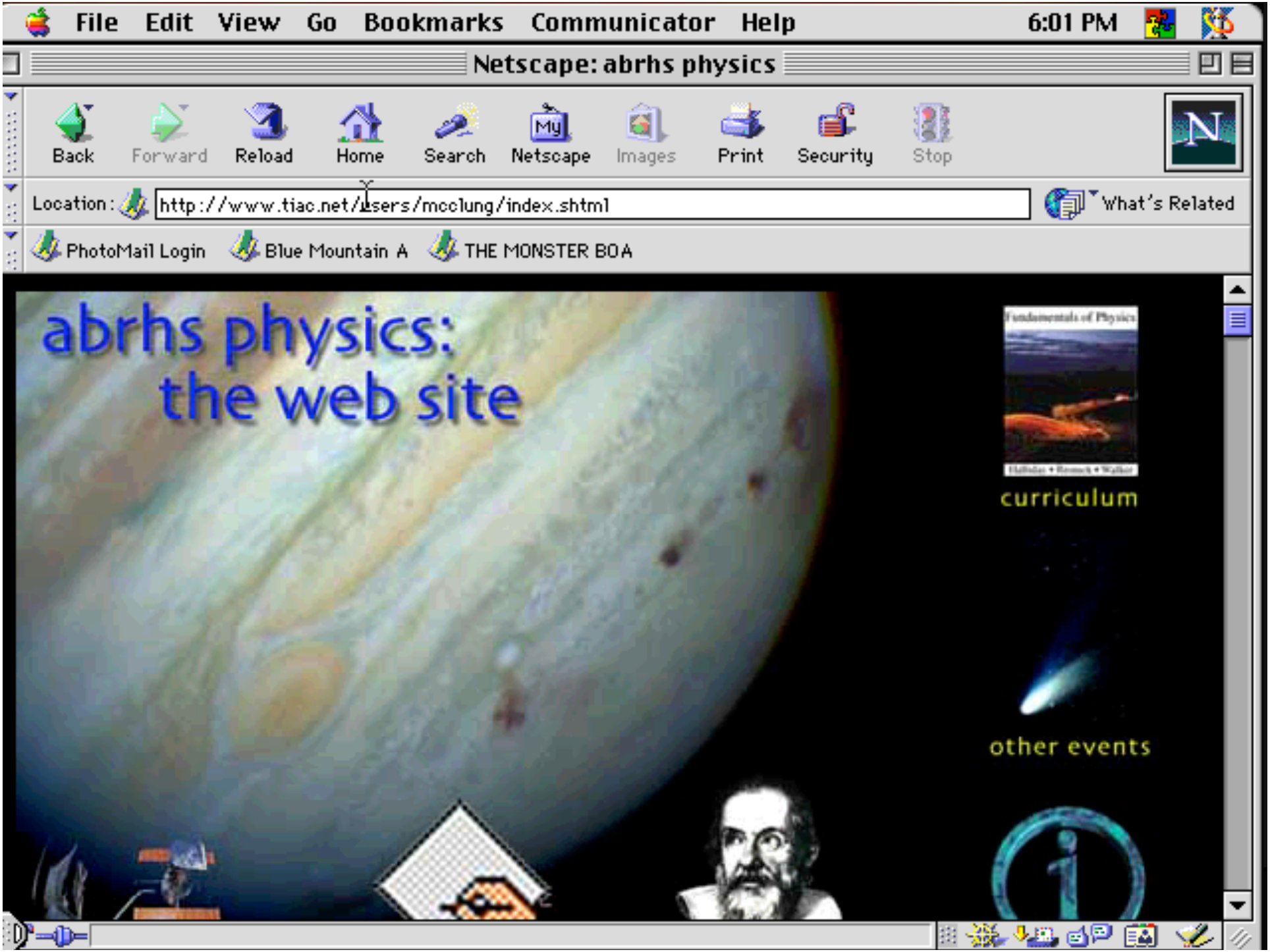
Jamestown 1607-1630

About This Site

At this site you will be able to:

- see photographs of the Native American Settlement of the Powhatan Tribe,
- explore the ships (replicas) which brought the English settlers to Virginia in 1607,
- view colonial life in James Fort, a recreation of the 1610 fort described by an early English colonist.

Main Menu Powhatan Village English Ships James Fort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Netscape: abrhs physics
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Location : http://www.tiac.net/users/mcclung/index.shtml
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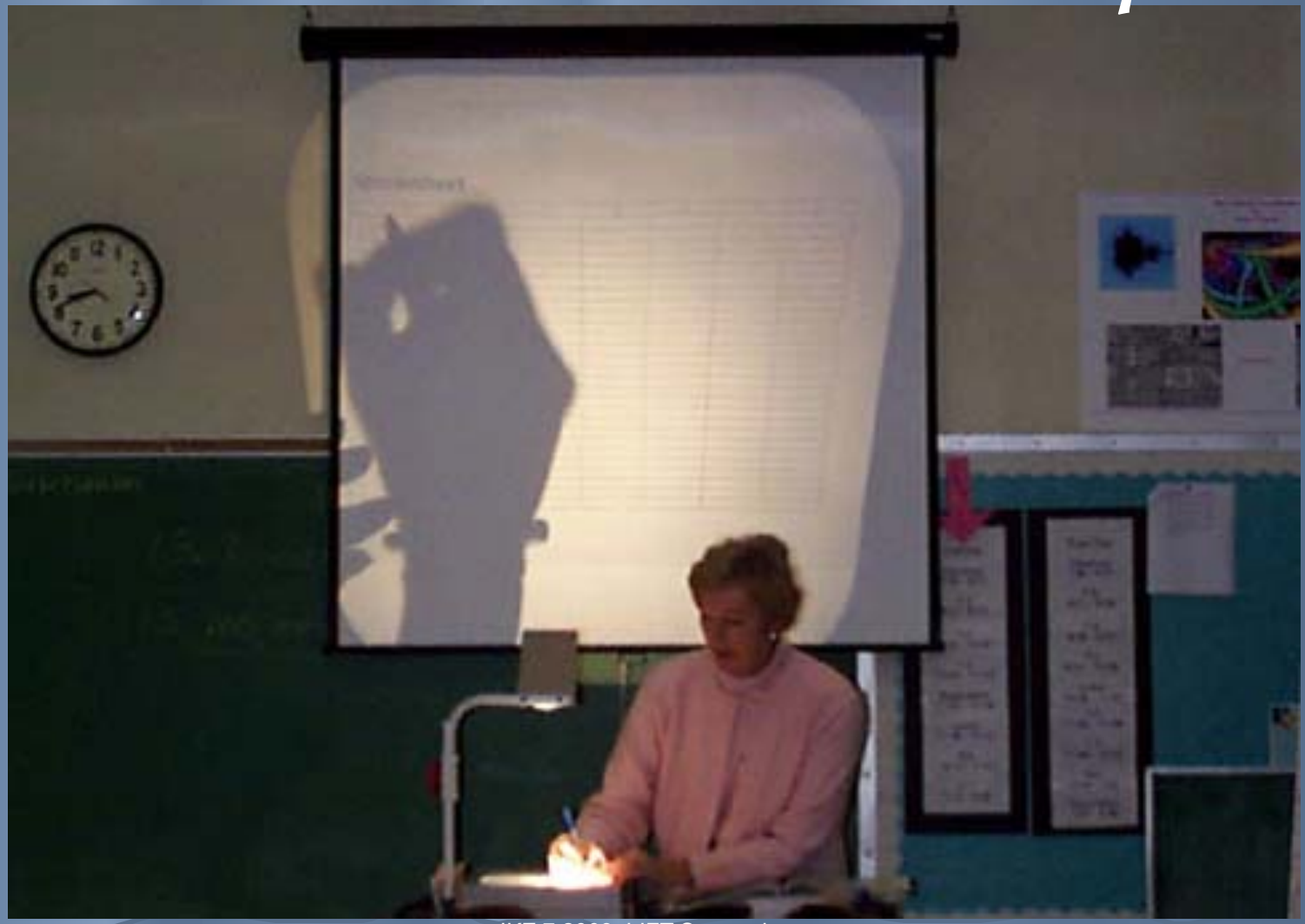
abrhs physics:
the web site
curriculum
other events

Teach collaboration and sharing graphically in the classroom


ABERCROMBIE AND FITCH

Teach topics which are difficult to teach and/or learn in the conventional way.

Some Mathematics Concepts



Lessons which are transformed with the use of technology

Physics Lab

Lessons which simply did not exist before…

Robotics in Junior High

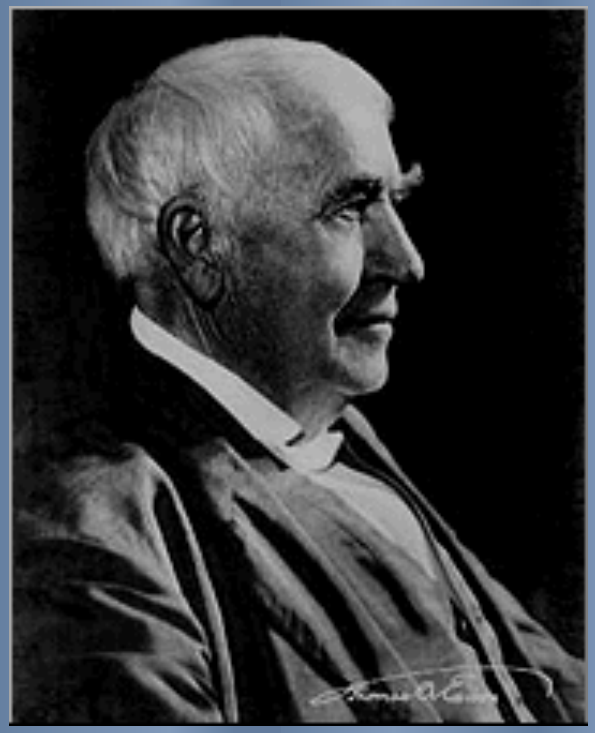
Using PowerPoint, a 21 c. skill

- Not a speech on the screen!!!
- Ask:
  - Is this the right medium for the message?
  - Are the elements contributing or distracting?
  - Will the audience get it?
  - Do you know how to use it?

    - *Katherine McMillan (EDC) 2003*

Making claims is always a risky business…

“Motion pictures will revolutionize education.”



Thomas Edison, 1922

“Computers will…blow up’ schools as we know them...”

Seymour Papert, 1984

"Education will be more efficient/ less expensive."

B.F. Skinner, 1986

We are so much further along than we were, even two or three years ago…

MA STaR Chart

23 columns

10 benchmarks for 2006

- http://www.doe.mass.edu/boe/sac/edtech/star.html

(also in OnCUE if you belong to MassCUE)

MA/BPS Assessment Tool

You have already received a copy
of the latest version and used
some of it yesterday

MA Recommended Pre K-12 Instructional Technology Standards for Students

- **Recommended Criteria for Evaluating Instructional Technology Materials**
  - ***An evaluation chart that schools can use when selecting software and related materials.***
- **2003 Local Technology Plan Benchmark Standards**
  - ***A guideline for developing your local technology plan (29 pages). A two-page summary of the document is also available.***

- **http://www.doe.mass.edu/edtech/standards.html**

- ISTE Standards
  - Students
  - Teachers
  - Administrators

- (https://ww2.iste.org/standards/)

enGauge
A Framework for Effective Technology Use in Schools

Cheryl Lemke, The Metiri Group

(www.metiri.com)

NCREL

(http://engauge.ncrel.org)

MILE Guide

Milestones for Improving Learning & Education

From Partnership for 21st Century Skills

(www.21stcenturyskills.org)

Not that all the challenges have been met…

Licensure requirements

- IT license
  - Professional Standards for Teachers
    - "Uses instructional technology appropriately"
  - Content Standards
- http://www.doe.mass.edu/lawsregs/proposed/p603cmr7.pdf

Other licenses: Teaching (2003)

- Use of computers:
  - Biology, Business, Chemistry, Earth Science,General Science, Library, Mathematics, Music, Physics, SPED
  - Science/Technology/Engineering and Instructional Technology

Other licenses: Administrators

- “Uses technology appropriately for his or her professional position”

- We now also have useful assessments and reviews…

Measuring the Effects of the Use of Technology (1)

Education Week *Technology Counts* 1997-2003

- Schools and Reform in the Information Age (97)
- Putting School Technology to the Test (98)
- Building the Digital Curriculum (99)
- The New …[Digital]…Divides (01)
- E defining Education (02)
- Pencils Down:Technology's Answer to Testing (03)

Measuring the Effects of the Use of Technology (2)

Factors that Contribute to Improved Educational Outcomes

M. Honey, EDC, 2002

Increased student performance on standardized tests: early literacy skills; key math concepts; scientific simulations

(http://www2.edc.org/CCT/publication_report_summary.asp?numPubld=49)

Measuring the Effects of the Use of Technology (3)

Improving & Changing Classroom Practice w. Multimedia Learning Technologies

Changing the Face of Education in Missouri,
New Horizons 2002

585 selected classrooms (3-12 grades)
scored higher

(http://emints.more.net/evaluation/reports)

Measuring the Effects of the Use of Technology (4)

Improving Student Writing with Computers

Meta-analysis of research since 1999 by Mike Russell,
Boston College

Positive effect of about

.4 deviation for quality & about

.5 for quantity

(http://www.intasc.org)

Measuring the Effects of the Use of Technology (5)

Maine's Laptop Initiative (MLPI)

- **Student engagement and attendance increased; climate in classroom more interactive**
- **Academic achievement has not suffered**

- *University of Southern Maine, April 2003*

However

The need is great

The time is right

‘Incapacity of talent pool’

- Between 1995 and 2020
  - Over 65 population increase 60%
  - 45-64 increase 34%
  - 18-44 increase 4%

2000

NEA's John Wilson: We are not prepared.

91% of Americans feel we need 21st century skills

2003

Heard at NECC

Michigan legislature proposes all **sixth** graders get handhelds…
That is 132K students!

Those who do not
study history
are bound
to repeat its mistakes.

A little history (M. Honey)

From 21 documents and 15 years,

consistency in:

Goals, priorities, visions,
recommendations that

A little history (M. Honey) 2

- Address important educational challenges
- Transform/improve conditions, practices & content for T & L
- Prepare students for working in 21st global world

A little history (M. Honey) 3
Recommendations

- Ensure equitable access
- Increase funding from many sources
- Involve multiple stakeholders (pub/pri)
- Create high quality content & software
- Support teachers (ongoing, deep, sustained PD)

A little history (M. Honey) 4
Recommendations

- Conduct rigorous research & evaluation (document, describe, detail, prove)
- Establish appropriate regulations *(starts in late 90s with growth of the Internet & security in schools)*

A little history (M. Honey) 5

- Stage One: 80s:
- Teacher centered & grounded
- Investment to support specific & long-term needs of educators
- Technology is flexible portfolio of tools to support depth & scope of teacher work

(from skills to distance learning)

A little history (M. Honey) 6

- Stage Two: 1995-2000 (Period of discontent)
- Transforming education through technology-underscoring what teachers did not do *(shape and shake)*
- Tech as a driver of school reform & change: how to gain traction in schools

A little history (M. Honey) 7

- **Stage Three: Matching Technology to Public Priorities for Educational Improvement**

Technology needs to work in concert: partners, daily practices & assessment tools, productivity, online learning

A little history (M. Honey) 8

- Technology gains traction when:
  - **designed to meet core needs *(distance learning for remote schools)***
  - **designed to fit with prevailing practices *(drill & practice, ILS)***
  - **Ubiquitous, easily matched to existing practices *(WP, PP, Internet)***

National Plan: topics, themes, priorities

- Broadband: value added?
- Virtual schools?
- Data driven decision-making
- School environments which support students

National Plan 2

- From vertical to horizontal silos (integration)
- From technology solution to curriculum/ educational solution
- Not see the technology, only what it can do

John Bailey

Target: 2004 Spring

It is about teaching and learning..

in this Institute about learning and teaching 21c skills..

And what are those?

Lessons from the Texts

Teaching The New Basic Skills

R. Murnane & F Levy

Hard skills: math, problem solving, reading

Soft skills:group work, presentations,using computers well

Teaching the new Basic Skills (2)

- Frontline workers understanding problems to be addressed
- Incentives & opportunities to participate in solutions
- High quality employee training
- Regular measurement of progress
- Perseverance & learning from mistakes

The New Basics
D. Thornburg ASCD 2002

- Abstraction, system thinking, experimentation, collaboration
- Contract work, comfort with ambiguity, lifelong learning, mobility, entrepreneurship

"the future is not an extrapolation of our past"

"we must prepare our students for their future, not our past"

The Teaching for Understanding Guide,

Tina Blythe 1998

Choose a chunk; New or revise;
Begin where you want; Move on;
Less is more

Brainstorm; refine; finalize; expect to revise; assess

Father Sarducci

The Five Minute University