Technology takes time and effort to integrating into the classroom.

[Deb Streeter]

Start with the end in Mind.

Key question, Is there anything in your teaching experience that you have always wanted to do, but could not find a way to do it?

Begin with a good teaching idea.

Use technology only if it addresses a particular pain, faculty or student.

Note: Equally true for online learning.

Examine your pain:

Guest speakers can have issues. Sometimes they are racist, not timed well with students, other issues.

What if you had a remote control for speakers?

Deb interviewed and video taped guest speakers to augment classroom use. Doesn’t replace rich interactivity of live speakers.

[Audience to take time to brainstorm their own pains.]
Attendees were asked to write down one of their own pains in teaching.

Three places to consider using technology.
Preparing to teach
Being in class (teaching in physical or virtual classroom or lab)
Out of class activities.

What pains are being addressed?
What technologies can help?
What are the costs of these fixes?

Using examples, did it work? How was pain treatment? What are hidden costs?

Pain – Acquiring Content (note on course management)

Lack of time in preparing class.
Need to access a broad scope of knowledge,
Physical search of resources.

*Possible Technologies that help*
  - Google search - not qualified sources.
  - Metasites (see handout)
  - Bibliographic or numerical databases, etc…

*Example – Katherine did a case study of technology use in the classroom.*
  - E145, intro to high-tech entrepreneurship
  - Juniors and seniors, 70 students a year.
  - Weekly assignments, case studies, lectures, workshops, etc.

*Defining the challenge*
  - Staying current with trends and content in THE
  - Exploring creative approaches for teaching Ent to Engineers and Scientists
  - Making course design and resources easily available to other educators.

*Technology: Online resources*
  - HBS
    - Case studies archive
    - HBR Articles
  - Fast Company
    - Collection of internal publications
  - Inc.
  - Entreworld
    - Collections from multiple sources
  - Stanford Library System
  - Course website
    - HTML vs. Coursework
  - List serv
    - Teaching team
    - Entire class and instructors

The discussion shifted to include course management tools used by various colleges in response to the fact that E145 does not yet make use of Coursework.

Many folks have used extensive course management tools.
  - Prometheus, Ecollege, WebCT, Blackboard
Coursework is password protected. It’s evolving to allow public display. The code will be available for free in 2003.

**Costs associated with E145 on the web**
- Subscriptions to most online newspapers and magazines
- HBSP cases
- Time required to build website
- Software to prepare materials for web

Discussion of the benefits and costs of Coursework implementation. Sure the code is free but what kind of institutional overhead is required to support such a system as compared to the current entrenched commercial systems.

*Is it working?*
- Next phase
  - Look into coursework
  - Include videos from Educators Corner as part of reading assignment
  - Modules/courselets for certain workshops such as accounting

*Hidden Costs*
- TA with HTML expertise

Then Deb Streeter did a case study on her development of virtual guest speakers for her classes.

*Setting 2: Using Technology in the Classroom*
- What is the pain?
- What technologies are useful?
- What are the costs?

**Specific Example**
- Did it work?
- Hidden costs/benefits?

*Pain*
- Link real world context to classroom theory
- Creating dynamic means to show cause and effect
- Illustrating concepts that are hard to learn via traditional methods
- Connection geographically distant audiences
- Avoiding expense of guest speakers.
- Multiple debates in classroom with various viewpoints

*Videos of guest speakers*
- Video tape interview
- Move it to computer
Cut into pieces by topic
Catalog
Use selectively in class

*New Potential*
Diversity
Debates
Memorable points
Real world anecdotes

*Costs*
Equipment costs are huge
Personnel: technical person and support staff
Other: travel and transcription
My time
   Contacting and shooting interviews
   Editing clips
   Etc.
Deb then showed some example videos she has used in class to illustrate the usefulness.

Trying to teach the importance of proofreading
Anita Stevens – Health Services VC
   Business plans are TOOOOOO long.
   50-60 pages, go on and on and on
   They don’t tell you what they want till the last page.
   Spelling and grammar are important
Drives the lessons home to students.

Trying to get students to do valid market research.
   Entrepreneurs need to listen to themselves.
Trying to get students to see the various pathways into entrepreneurship.
   Teaching creative materials

Looking for a business planning mantra
   Prior Planning prevents piss poor performance
   Students remember five years later

*Did it work?*
   Anecdotal evidence
   Fantastic results
   Quantitative evidence to show impact

*Hidden Costs/Benefits*
Costs
   Time (content and processing)
   Equipment
   Building a personal stockpile vs. scholarly collection

Benefits
Students feel personal connections to speakers
Students reaction more honest/open
Preserved nicely some of the dot-com era views
Interest of interviewees

Question from Audience.
When speakers sign release, do you tell them that you will sanitize them?
   Speakers review clips prior to use.

Katherine is speaking on the educator’s corner feature sets
   Use of Virage to allow instructor editing of clips for the classroom environment.
   These tools are extremely expensive.

Deb
   You’ve got to make this incredibly easy for the faculty involved in this. They
   have too many other pressures to deal with. How can we easily make this available in a
   simple way for faculty to utilize.

If you are going to use technology in the classroom, make sure you practice.

All of Deb’s is homegrown. That’s fine for a educational environment.

How much time do you work with the speakers beforehand to integrate speakers
comment with course topics and readings?
   Send them material on course.
   When they get there, they will talk about whatever they want.
   Now Deb knows where the real holes are. Now she can target speakers to fill
   those holes.
   What is unique about their story?

John Bourne, what is the view of the institution of making this media available online?

Deb
   Under NSF, media will be treated a scholarly collection. It is concerned about
   institute level branding. Potential for private and subscription based viewing.
   You’ll be surprised at what people sign!
   Stanford changed the form to be too expansive.
   There is an opportunity to get a timeline.
   Interesting to compare speakers over time.
   Deb has at least one speaker that she has interviewed over several years, during
   all the highs and lows of their experience.

How do you achieve balance between these great video clips and the rich didactic?
   Deb feels that you have more control to achieve balance by having the clips. Her
   rule of thumb is no more than 10 clips used during a single class session. She’s really big
   on using technology to motivate interaction. She rarely has clips more than 2 minutes.
   Katherine spoke on the need not to replace the classroom with video.
Folks tend to use it as live case studies.

*John Bourne: How to include distant students in course interaction?*
Discussion focused on the various distributed communication tools available through the various course management environments.

**Pain**
- Promote interaction
- Perform experiments
- Observe dynamic processes
- Execute broad, unstructured searches
- Practice scholarship

Katherine did another case study based on Dr. Tom Kosnik’s new course, Global Entrepreneurial Leadership.

*Thinking about learning outside the classroom.*
*As much learning takes place outside of the classroom.*

**Global Entrepreneurial Leadership**
Tom Kosnik and Lena Ramfelt (KTH Sweden)

**Context**
- Experiential based course
- Create trustworthy relationships
- Audience
  - 33 students form NUS
  - 18 students from KTH Sweden (remote)
  - 5 students in Silicon Valley (through SCPD professional students)

In dream state since 1998.
Course credit is assigned.
Most of the learning takes place out of classroom
10 90 minute sessions. Monday mornings during quarter.

**Student/Student or faculty interaction**
- Course website
- Online learning environment, Microsoft Sharepoint
- Internet based teleconferencing for class sessions (through Ssharepoint only for 90 min class sessions) [too expensive for daily student interaction]

**Student/Mentor Interaction**
- Email
- Telephone
- Face to Face
- Website

Mentor’s commitment is 10 hours
Different communication channels are being used to support collaboration.

Costs

- 2 instructors
- 2 real world entrepreneurs
- 1 TA 8-10 hours per week
- 50 mentors
- Facilitators – 3 teleconferencing operators
- Administrative 2 website developers (1.5FTE for 3 months) and 1 program manager

Costs:

- Budget of $20,000 to development and maintain website
- Microsoft donated Sharepoint
- Set-up and maintenance of video conference rooms

Is it working?

- Still in initial phase
- Team and mentors are very excited by what is going on.
- There are testing metrics in place.

Hidden costs and benefits

- Website took longer to develop than demonstrated
- Beta software has hiccupped
- Students from Sweden are truly global, from 23 domains and regions
- Witnessing more active engagement in dialogue across countries through multiple channels

Vignette: During a class discussion, students in Singapore and Sweden were asked to watch Star Wars, choose a leader they require, and define the qualities demonstrated by a key leader. One of the students from Sweden reported that Hans Solo performed well under crisis, and as a result he received a kiss from Princess Leah. A student from Singapore replied, asking whether it was appropriate to fall in love in the workplace…

Final Words of Wisdom (these were available on a handout that can be requested from the presenters)

Streeter’s Principles

- Look back to your earlier response
- Identify the pain
- Survey the available technologies
- Find a good mentor (avoid NIH) not invented here
- Assess the costs
- Choose simplicity whenever possible
- Do a small pilot and evaluate whether you are effectively addressing the pain
- Refine approach; seek funding
- Roll out in stages
- Keep assessing your outcomes and looking for new approaches.