The Future of Learning

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Is the future of learning about…

- Exhibitionism?
- Voyeurism?
- Convenience?
- Multitasking?
Web 2.0

- Creating, not just consuming
  - “Leveraging the collective intelligence of the group”
- Instant manipulations of data
- Mash-ups
Learning 2.0+

- Leveraging the capabilities of Web 1.0 and Web 2.0 to enhance education
- Not new technologies but *the creative use of novel and traditional technologies*
- With goal of exciting and engaging learners
Overview

- 3 examples of online courses
- 3 more examples of online courses
- 1 final example – online health community
- Conclusions
My hobby: “Taking” online courses

- More of a heuristic evaluation
  - What is done well
  - What is done poorly
  - What is innovative or creative
  - What to avoid

- 3 highlights of my collection
Example 1: Taking a course for “fun”
Example 2: Observing a learner

- My friend offered to have me observe him take a mandatory ethics course
  - Think aloud protocol
- Logged in with his employee number
- Course included multiple choice questions, mouseovers, video of the CEO, audio/text…
- What was the most interesting observation?
“The ethics of tracking”

- Behavior was almost entirely guided by the assumption that he was being tracked
  - How long he spent on each slide
  - Whether he followed optional links
  - How he answered multiple choice questions

- Without even knowing about LMSs
Example 3: Being an online learner

- Mandatory course on workplace harassment
- Despite good intentions…
  - Took course on a Saturday afternoon
  - Last possible day
What did I learn?

- Less than I might have learned from a well-written handout because
  - Saturday afternoon
  - Didn’t resonate
  - Clean instead of messy examples
  - Multiple choice questions required little thought
  - No opportunity to interact with peers or mentors

- Pivotal experience
Improving the learner experience

- Constructive – improving not redesigning
- Small changes could have dramatically improved these courses
  - Organizational changes, to improve receptivity
    - Time off
    - “Carrot” instead of “stick”
    - Course evaluation
  - Design changes
3 examples: Hepatitis, Ethics, and Sexual Harassment courses

- Online courses should provide:
  1. Opportunities for reflection
  2. Opportunities for demonstration of understanding
  3. Peer discussion about “real” problems
  4. Guidance from an expert or mentor

- 3 more examples – and more principles
Example 4: Virtual worlds

- Orchestrated social encounters
- Encouraging active learning
Example 5: Teamwork skills training for clinicians

- Textual explanations
- Video scenarios
  - Authenticity
- Questions
  - Compare with expert response
  - Feedback from peer leaders
- Reflection exercises
- Discussion with peers
Example 6: “You Are the Historian: Investigating the First Thanksgiving”

- Plimoth Plantation and the “First Thanksgiving”
- Needs analysis
- Competitive analysis
- Scenario building
- Formative evaluation
Plimoth Plantation

- Recreated 1627 village in Plymouth, MA
Online Learning Center (OLC)

- Received Federal appropriation and private funding to build an online learning center
  - Centered on the “Myth of the First Thanksgiving”
  - Meet 3rd and 5th grade social studies standards
  - Children & teachers
  - Understanding
  - Cultural awareness
  - First OLC
Project Team

- Museum staff
- Assisted by outsiders
  - Project manager
  - Designer(s)
  - Developer
  - Teachers
- Harvard Graduate School of Education
  - Teaching for Understanding (TfU) framework
  - Formative Evaluation course
- Photography, Audio, Video, Editor, …
Design Goals

- Capture essence of Plimoth Plantation
- Not just Thanksgiving but two cultures
- Performances of “understanding”
- Needs assessment: fit lab slots & lessons
- “Interactive” for children
- Competitive analysis: find balance between education and fun
  - Led to: making learning fun
You Are the Historian: Investigating the First Thanksgiving

- Challenge children to become historians
  - What is an historian?
- History as a mystery
  - “What really happened?”
  - Interpretation of sources
  - Mystery in the design
Children as guides and interpreters

- 1621 children offer information about their lives
- Modern children guide
- Modern children and home page morph into 1621 children and...
Questions

- Loading page
- Only one of these is a fact… Can you tell which one?
‘The game’

- What are the myths that exist and why?
- Activity: drag and drop captions
- Sounds
- Reward at end and text update
- Issues about gaming
“Visit the expert”

- Expertise of Plimoth staff
- Audio and text

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Nicely done! Now you know what's not true about the 1621 harvest celebration.

Want to learn more about what myths are? Go to Visit the Expert. Historian Kathleen Curtin is waiting to talk to you. Return Home to choose your next task as a historian.

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Kathleen Curtin, Food Historian
Plimoth Plantation

Many people think that “history” and “the past” are the same thing. But they aren’t! The past is what actually happened. The past can never change. You would’ve had to have lived at the time to truly know about the past. History is how we think and write about the past. History is always changing. So events that occurred in 1621 (the past) will never change. But how we think about these events (history) has already changed a lot!
Primary sources

- Text and audio
- “Magic lens” for translation
- Explanation of phrases
Wampanoag

- Audio, photographs, and video
- Map/words in background
- Seasons and circular thought
- Role of nature
- “Giving thanks”
- Reward at end
Early Colonists

- Layers
- Mouseovers and hidden areas
- Q&A to provide more depth about aspects of daily life

Governor Bradford wants the colony to celebrate its first harvest. How will Remember and her neighbors celebrate?

A. hold a day of thanksgiving

B. start hanging up their Christmas decorations

C. invite Massasoit and other Native people

D. feast and play games
Point of view

- **Timeline of events and perspectives intertwined**
- **Audio, text, and graphics**
  - Sand dunes
Culminating Activity

- Create
- Demonstrate knowledge and understanding
- 3rd and 5th grade options
- Print
- Share in gallery (eventually)
Testing

- Formative evaluation by Harvard GSE class using ~100 teachers and children
  - visual richness and audio
  - more activities, more audio, stronger role for children
- Heuristic evaluation by experts
- Usability testing, also measuring learning
- Teachers: appeal, would you adopt
- Children: appeal, use for fun, understanding
Before and after: Myths

1. For thousands of years the Wampanoag celebrated many days of giving thanks to the Creator throughout the year. And they still do today.
2. The English who came on board Mayflower in 1620 kept “days of Thanksgiving” by going to church all day. No turkey or pumpkin pie for dinner!
3. During the Pequot War, English settlers entered a Pequot village and killed all of the Native inhabitants. The English celebrated with a day of Thanksgiving.
4. In the 1700s and 1800s Thanksgiving was the last holiday of the year with lots of food and family for the corn-fed soul!
5. During the Civil War Abraham Lincoln signed a proclamation making Thanksgiving a yearly National holiday.
6. In 1841, a festival named the 1841 Harvest Celebration in Plymouth “The Rise Thanksgiving.” It wasn’t until the late 1800s that Pilgrims became a Thanksgiving image.
7. By 1900 Thanksgiving was used as a tool to teach immigrants and school children about American values of prosperity and plenty.
8. In the 1920s sports and other recreations like parades became part of the family celebration.
9. Today’s Thanksgiving celebrations blend many of these early traditions. For many people the highlight of the holiday is a large family dinner with a big meat turkey.
Before and after: Wampaan-noag
Status

- Available at www.plimoth.org/olc
- Award winning!
- Future directions include adding online communities
  - Children can share online exhibits
  - Teachers can add to the Teacher’s Guide or comment on their use of the site or the Teacher’s Guide
Themes

- Visual and auditory richness
  - Replicating museum, even ocean
- Layers of information to explore
- Relevance of activities
- Rewards and surprises
  - Audio, video, animations
- “Interpreters” with clothing and dialects
- Draw in children with children, mystery, historian challenge
Back to example 3

- Self-paced course on Workplace Harassment
- Used audio, graphics, and text with multiple-choice questions
## Themes

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Making learning engaging

- What works for children works for adults!
  - Variety, layers, rewards, and challenges

- Design online learning
  - So that students are learning, not gaming

- Bring creativity and innovation to course design
  - Instructional design for e-learning is in its infancy
  - Techniques to incorporate: storytelling, peer learning through online communities, role
3 examples: Virtual World, Teamwork Skills, History courses

Online courses should provide:

1. Opportunities for reflection
2. Opportunities for demonstration of understanding
3. Peer discussion about “real” problems in different “roles”
4. Guidance from an expert or mentor
5. Storytelling to share experiences
6. Support for formal and informal learning
7. Visual imagery and multimedia as appropriate
8. Culturally sensitive design
9. Layers of information to encourage exploration
10. Formative evaluation: appeal, usability, and learning
Online health communities

- Educate and support patients and families
- Challenge because population less constrained and more needy
  - Technology and Internet access and literacy
  - Literacy and language
  - Health literacy
  - Emotional state
  - Culture
  - Ability/disability
Health literacy

- Common problems for patient or caregiver
  - Scared, isolated, or embarrassed
  - Don’t know what to ask
  - Don’t understand disease or options

- Online health community can offer
  - Peers instead of or in addition to experts
  - Support on emotional level through peer stories
  - Replay or seek clarification
  - Less time constrained than consultation
Learning from the successes of social networking sites

- **Motivation**
  - Many online health communities heavily used because of need
  - Provide better support given health literacy needs

- **Challenge**
  - Capitalize on social networking successes
Social networking sites

- **Purpose**
  - Connect people with shared interests or needs

- **What (some) social networking sites do well**
  - Indicate expertise and participation levels
  - Provide presence awareness
  - Rate value of information
  - Highlight information and send alerts
  - Data mining
  - Update and integrate Web 2.0 technologies
Membership indicators

- Indicators of expertise and participation
  - Level of participation
  - Duration of involvement
  - Relevant expertise

- Participation rewards and incentives
  - Peer ratings

- Growing one’s own community
  - “Invite a friend”
  - Size can be indicator of status
Provide presence awareness

- Who else has read this
  - Popularity indication
  - Sense of connectedness
- Who is there and what are they doing
  - Combats isolation
  - Facilitates synchronous communication
Rate value of information

- Peer ratings
  - Accuracy
  - Helpfulness

- Peer review
  - Comments and feedback
  - Value in perspectives, reflection, questions, and insights
Highlight information

- Recent contributions
- Interesting contributions
- Editor or peer
- Alerts to new information
- Subscribe to threads

womenheart.clinicahealth.com
Data mining

- What was contributed
  - How to increase accessibility

- What do contributions indicate
  - Interests
  - Questions
  - Needs

- Example from roadback.org: antibiotic therapy for rheumatic diseases
Update and integrate new technologies

- Static vs. updated
- Technology to provide better functionality
- Web 2.0 promotes user control
  - Example of mash-up to display members on a map to bridge virtual and physical worlds
CareHub.org: Educate, support, and connect Latino Alzheimer’s caregivers

- 4.5 million Americans have Alzheimer’s, projected to grow to between 11.3 and 16 million by 2050
- Almost 75% of care is at home but uninformed, unsupported, and isolated caregivers face an elevated risk of physical and psychological illness
- Latinos are more likely to provide home care
- Burden is exacerbated by a shortage of culturally-sensitive services and Spanish-language information about dementia
- Phase I
  - Bilingual (Spanish and English) high and low literacy (text and audio) educational website
  - 2 evaluations conducted
CareHub.org Phase II

- Expand upon Phase I with convenient, accessible, and culturally sensitive online education, peer and expert support, and opportunities for social networking
CareHub.org Innovations

- Culturally competent design developed through the participation of providers, consumers and their families, and community stakeholders
- Flow between site components
- Indicators of caregiving expertise and contributions
- Presence awareness and geographical awareness
- Brokering strategies to reach primary caregivers and members of caregiving clusters
- Multiple formats
- Fotonovelas
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CareHub.org Goals

- Better understanding of
  - The role of culture, language, and demographics in online health community use
  - How the disease impacts design
  - How online health communities can enhance health literacy
Online learning goals

- Better understanding of
  - The role of culture, language, and demographics in online courses
  - How the topic impacts design
  - How online courses can enhance learning and engagement
Online courses should provide:

1. Opportunities for reflection
2. Opportunities for demonstration of understanding
3. Peer discussion about “real” problems
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5. Storytelling to share experiences
6. Support for formal and informal learning
7. Visual imagery and multimedia as appropriate
8. Culturally sensitive design
9. Layers of information to encourage exploration
10. Formative evaluation: appeal, usability, and learning

*Creatively using novel and traditional technologies to excite and engage learners*