Shaping (Digital) Scholars: Design Principles for Digital Pedagogy

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August 12, 2014
Driving Questions

- How can **digital research methodologies** be used to improve **undergraduate engagement**?

- What are the best methods for teaching students **digital skills** so that they can participate in the creation of digital research?

- How can faculty members shift from transmitting knowledge to **facilitating projects, co-inquiring and co-learning** with students in activity-centered projects?
My colleagues and I are on a quest...

...to understand the **skills** important to digital scholarship
Defining Terms

**Digital scholar:** “someone who employs digital, networked and open approaches to demonstrate specialism in a field” (Weller)

**Digital pedagogy:** “engaged and reflexive practice and scholarship of teaching and learning through digital technologies.” (THATCamp Liberal Arts 2012)
What are three things that researchers need to know in the digital age?

Inspired by Cathy Davidson
From Learning About to Learning to Be

Sund, “UCLA School of Medicine”

See Brown & Adler

Wikimedia Commons
Outline for Today’s Workshop: How to Put Digital Pedagogy into Practice

I. Define what students need to know: What are we trying to do?

II. Sketch preliminary design principles & provide concrete examples: How do we do it?

III. Discuss obstacles: & practical solutions: What obstacles should we anticipate?

IV. Draft assignments: Let’s put this into action.

Overall objective: Experience the ethos of digital pedagogy: learning by doing and reflecting, collaboration, play
I. Defining What Students Need to Know

(Or What We Want Them to Become)
What do digital scholars need to know?

- How to approach research questions and understand research methods
- How to collaborate across disciplines and roles
- How to apply technical skills to create and share new knowledge, e.g. database design, web design, GIS, text markup
- How to manage projects

*Initial findings of Digital Scholarship Skills Study*
What habits of mind do digital scholars demonstrate?

- Openness and flexibility
- Continuous learning
- Creativity
- Collaboration

See Costa and Kalick

Anders Sandberg, “Open mind”
# A Framework for Twenty-First-Century Skills

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<thead>
<tr>
<th>Partnership for 21st C Skills</th>
<th>DS Skills Study</th>
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<tr>
<td>Critical Thinking/Problem Solving</td>
<td>• Exploring research questions</td>
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<td>• Applying technical skills to problem-solving</td>
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<td>Creativity &amp; Innovation</td>
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<td>• Flexibility</td>
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<td>Communication &amp; Collaboration</td>
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See also [Clement; Assessment and Teaching of 21st Century Skills](#)
Of course, learning isn’t just about developing skills. It’s also about...

- Cultivating curiosity & wonder
- Inspiring passion
- Shaping selves (even souls)
II. Preliminary Design Principles for (Digital) Pedagogy

1. Hands-on/ Minds-On: We learn by making, connecting theory and practice.

2. Social & Networked: We learn by sharing our questions and understanding with each other and the network.

3. Playful: We learn through play and experimentation.
Sources of These Design Principles

- My 2011 study of digital humanities syllabi and further work synthesizing trends in DH classes
- Analysis of model programs (e.g. Praxis)
- Research into learning science (e.g. How People Learn) and digital pedagogy
- Other learning principles (e.g. Connected Learning)
1. Hands-on/ Minds-On: We learn by making and reflecting, connecting theory and practice.
Examples of Hands-On Digital Learning from Yesterday

Simple Text Analysis

Interactive 3D Models of Molecules

Boyd & Humphries

Hadzovic
Digital Pedagogy Often Involves Project-Based Learning

Buck Institute for Education, via TIPS
“be uncomfortable but not paralyzed” (McClurken)
In this section, we examine how the software MALLET can be used to analyze and identify subtopics within our set of runaway ads. Through the use of this tool, we found that ads could be reliably sorted into specific categories, such as runaway ads and captured runaway notices, where they could be analyzed separately.

http://ricedh.github.io/
Why Project-Based Learning?

- Improves critical thinking as students figure out how to solve problems.
- Develops students’ sense of responsibility and confidence.
- Students retain learning longer.
- Hones students’ skills at collaboration.

See Center of Excellence in Leadership of Learning
2. **Social and Networked**: We learn by sharing our questions & understanding with each other & the network.
Social Pedagogies: Design Elements & Goals

Create opportunities for students to:

**Task**
- Engage with Authenticity and Difficulty

**Process**
- Value Process and Product of Learning

**Social Core**
- Represent Knowledge for an Authentic Audience
- A Sense of Voice and Purpose Specific to a Domain or Community

**Assessment**
- Participate in an Intellectual Community
- Ability to Give and Get Feedback from Multiple Perspectives

**Integration**
- Connect the Affective and Cognitive
- An Integrated Sense of Personal and Intellectual Significance

Such that they develop:

**Deepened and Contextualized Understanding**

**Flexibility with Knowledge in Open-ended Contexts**

Bass & Elmendorf
**Learning as a Research Team: Digital Ethnography**

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**Mediated Cultures: Digital Ethnography at Kansas State University**

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**Video Drafts Discussion**

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**Video Drafts Discussion Day One**

Caitlyn: [http://www.youtube.com/watch?v=](http://www.youtube.com/watch?v=)

- 3 pedagogy
- "good business" quote to be used later, in relation to music
- Good music transition initially
- Example of how education is ineffective in real life
- Say something about/during the girl on the plane and the way she said she
- I like the music... make it a bit softer when
- Who is the British Punk rocker? Please try to
- I like the transition to the different "ages"
- If Dewey gets used here, should it be less
- Need to identify Postman sooner (possible)
- Could cut Postman to be a bit shorter

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[Anonymity Project: The PostSecret Effect](http://www.netvibes.com/wesch#Digital_Ethnography)
Digital Ethnography 2013/2014: Participation, Empathy & Media Creation

To Live in this World

BY WESCH - JUNE 17, 2014

by Jordan Thomas and Kenzie Wade, Digital Ethnography Class of 2014

http://mediatedcultures.net/videos/to-live-in-this-world-3-things/
Networked Pedagogy: Looking for Whitman

“experiment in multi-campus digital pedagogy”
(Jim Groom)

http://lookingforwhitman.org/
3. **Playful**: We learn through play and experimentation.
Open, Playful, Networked Learning: DS 106

“The very essence of ds106 is that it is made of the same stuff that the web is made of, a distributed, open, decentralized connected network managed by participants in the space it inhabits.”

(Alan Levine)
How ds106 Changed My Life

Giulia Forsythe explains and draws visually the effect ds106 has had on her life. See her blog post for the full story.

“students are hungry for studio- or lab-style environments where they work shoulder-to-shoulder with humanities professors. In Literature+ courses, the main ‘content’ delivered is actually the role-model and working habits of an intellectual pursuing humane knowledge with all best passion, skill, and openness to collaboration with others, including students.”

Liu, “Literature+”
Team Project: “Each team will design a project exploring one of the alternative paradigms of literary interpretation discussed in the course (e.g., text analysis, data mining, graphing, mapping, modeling, simulating, gaming, deformance, etc.).”

Product: well-documented prototype

Individual components:
- student bio
- annotated bibliography
- 4 pp. research report on item in bibliography
- 8 pp. essay
Examples of Literature + Projects by Graduate & Undergraduate Students

- **Canterbury Blogs**: converting the Canterbury tales into a blog to highlight social connections

- **The Emigrants Project**: mapping Sebald’s novel using Google Earth

- **The Textones Project**: audio modeling of Shakespeare’s sonnets
Student Project: Ludic Analytics

Claire, History Flow “quilt” of English and Spanish Wikipedia pages José Agustín
Why Is Play Important?

- Motivates through immersion
- Gives freedom to experiment, explore, fail & try again
- Opens up new possibilities & roles
- Sparks imagination and transformation

See Jenkins; Brown & Thomas; Kraus; & Harris

Ed Yourdon, Play Me, I'm Yours Austin
Questions for You...

- Are these appropriate design principles?
- What role does the digital play in these approaches to learning?
- What other examples of these principles can you think of?
III. Challenges and Opportunities
Two Challenges for Digital Pedagogy

1. Helping students develop tech skills
2. Evaluating student work
1. Helping Students Develop Tech Skills

- **Survey** students to understand their skills and needs
- Use simple, freely available tools
  - See [DiRT](https://digitalresearchtools.org/) (Digital Research Tools) for examples
- Offer [labs](https://digitalresearchtools.org/) and tutorials focused on particular skills
- Partner with IT and the library for support
- Appoint [student tech mentors](https://digitalresearchtools.org/)
- Turn to the network, e.g. [Digital Humanities Questions & Answers](https://digitalhumanitiesquestionsanswers.org/)
Developing Skills and Critical Understanding through Labs

The Digital Historian's Toolkit

Goals:
- Develop students’ skills in GIS, text analysis & design
- Use these skills to explore bigger questions & develop critical awareness
- Learn by doing—active, reflective

Blevins, Learning by Doing: Labs and Pedagogy in the Digital Humanities
Elements of an Effective Lab Assignment

- Define the goals
  - Examine a historical map & data to create argument about race & space
- Offer clear instructions
  - “preview the DenverED file in ArcCatalog“
- Prompt critical reflection through questions
  - “What kinds of information does it display?”
- Encourage independent inquiry
  - “Brainstorm potential questions you could ask of the data and how you would answer it. “

Visualizing Race in the Urban West
More Elements of an Effective Lab Assignment

- **Promote social learning**
  - “Once you have come up with a question, you will explain it to the group and solicit feedback or ideas for possible ways to analyze and visualize it.”

- **Suggest evaluation criteria**
  - “Do you need labels or legends to convey your argument?”

- **Encourage reflection and synthesis**
  - Write lab report describing your argument, its significance, your process, any challenges, and choices made
2. Evaluation: Use a **Group Contract** to Make Students Responsible

Mary Ball Washington Contract

**Mary Ball Washington Group Contract**

History 471C3

Members

rndt

Donnelly

nie Lefferts

ilson

**I – Mission Statement**

The purpose of our website is to educate the University of Mary Washicksburg community on who Mary Ball Washington was and why she was important to our nation and why she was important not many people can remember. Our group aims to produce a website that follows this.

**Components:**

1. Mission statement
2. Tools
3. Division of labor & structure
4. Milestones

**Features:**

- Check in points
- Individual reflections

Use Authentic Assessment (e.g. Criteria for a Grant Application)

OFFICE OF DIGITAL HUMANITIES

DIGITAL HUMANITIES START-UP GRANTS

Deadline: September 11, 2014 (for projects beginning May 2015)
Questions for You...

- What are some other challenges facing digital pedagogy?
- What are other strategies for dealing with these challenges?

cristinacosta, “question”
“This seminar has allowed me to grow and mutate in directions I had never envisioned as a scholar....I emerge from this seminar with a reawakened energy for scholarship...” (Ludic Analytics student)

“To have the ability to participate in something that is both an experimental learning environment and on the forefront of historical research is a very exciting prospect.” (Digital History student)
IV. Putting Principles into Practice: Creating Assignments
In teams, sketch out a prototype for a digitally-inflected assignment that realizes at least one of the design principles we’ve explored

http://tinyurl.com/DPAsignment

Download these slides from http://digitalscholarship.wordpress.com/
Selected Resources

- *Digital Humanities Pedagogy*
- Harris and Sayers, *Digital Pedagogy*
- *Hybrid Pedagogy*
- *Journal of Interactive Technology and Pedagogy*
- *Learning Through Digital Media*
- *Pedagogy* on DH Questions & Answers
- *ProfHacker*
- SERC Pedagogy in Action
- *UCLA Intro to Digital Humanities*
- DH Education Zotero *collection*
- Lisa’s *digital pedagogy* & *digital humanities pedagogy* bookmarks
Thanks!

Get in touch: lisamspiro@gmail.com

thank you note for every language