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# College Teaching and the Network Paradigm

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What is the nature of knowledge and learning in the 21st century?

The media tells us we now live in a digital world, of course, but what does this mean? The answer: There has been a radical ontological shift, and accordingly, the nature of teaching, learning, knowledge production, knowledge storage, and publishing are completely altered, although many academics and institutions remain print-centric. The Internet and Web 2.0 utilities, as transformative catalysts, have rewritten the rules for what knowledge is and what knowledge does, and how people engage in intellectual production. Essentially digital scholarship and teaching express the evolution of the library and academia in the 21st century and demarcate the knowledge “commons” or public and private resources provided by the Internet.<sup>1</sup>

The new network enterprise is a phenomenon comprising not only shifting internal hierarchies but also changing patterns of competition and cooperation across institutions. Additionally, the sheer quantity of information now permeating our environment is astounding, creating super-complexity that requires a transition from an epistemological and hierarchical emphasis of knowledge production to an ontological and interconnectedness emphasis. But more importantly, networked digital information is also qualitatively different than print information. It has the potential to be created, managed, read, critiqued, and organized very differently than information on paper and to take forms that we have not yet even imagined. Indeed, the knowledge commons nurtures and sanctions idiosyncratic experimentation and creativity that is often too risky and costly for other knowledge production (such as print) venues to undertake.

So what does this mean for knowledge production, teaching and learning? In short, *the development of specific skills and mindsets becomes as critical as, or even more so, than the possession of existing knowledge.* The ability to continue to learn and develop new knowledge replaces the importance of existing knowledge. To understand the true potentials of this “information revolution” on pedagogy and intellectual production, it is necessary to look beyond the framework of “digital information.” For at the base of this “information

revolution” are new ways of relating to one another, new forms of discourse, new ways of interacting, new kinds of groups, and new ways of sharing, trading, and collaborating.

In academia and research, the network creates the following changes:

21<sup>st</sup> century knowledge production is open and inexpensive, inter-disciplinary and trans-disciplinary, multi-site and mobile, social and reflexive, proliferating and mutable.

For our purposes here, let us now briefly consider how this network paradigm works itself out for students, college teachers and knowledge production in computerized instruction.

### **How the Network Paradigm Can Benefit Students and Teaching**

The network paradigm is greatly beneficial to students and knowledge production if an online class is designed and facilitated to allow the following features. (*Nota Bene*: Several of the classroom features below are not limited to computerized instruction).

- *Student ownership of learning.* All students in a class, not just three or four, actively participate and take ownership of their learning in order to pass a class. No one can sit in the back row and be silent. Everyone has to post and have a voice. Digital tools, used to construct knowledge, place students as active learners. The instructor acts as steward of the learning environment.

- *Democratic classroom.* Good teaching entails a democratic, egalitarian and multicultural classroom, where everyone in the class has a voice. The instructor may be the leader or facilitator in this classroom, but his or her voice does not dominate. Furthermore, a democratic classroom empowers the instructor and students to engage in more egalitarian actions and power relations and objective knowledge production, mainly by way of the communicative activities that take place.

- *Individualized instruction.* Computerized instruction allows for individualized instruction that takes into account learning styles, learning disabilities, and learning anxieties. For example, software can act like a private tutor, quizzing students constantly as they work through linear lessons and adjusting in accordance with how quickly they show they are grasping different concepts. The idea is that learning is not paced so much by the instructor as it is by the student’s own capacity to acquire the material.

- *Augmented learning.* This is a learning technique, closely related to individualized instruction, where the environment adapts to the learner. Instead of focusing on memorization, supplemental information is presented to the learner based on the current context. The augmented content can include text, images, video or even playing audio (music or speech).

- *Multi-sensory stimulation.* Based on brain research and cognitive psychology, as well as by the accelerated integration of technology in education, multi-sensory education makes use of artistically enhanced multi-sensory teaching–learning strategies. One example: teaching students in a human sexuality class to dance the *paso doble*, using a how-to dance video, in a unit on the ethnography of communication, gesture and interaction.

- *Hypertext.* Hypertext allows the instructor to structure and manipulate content and ideas in a radically new way, while also reinforcing traditional scholarly activity. Hypertext inherently lends itself to inter-textual linking. In terms of reading tasks, inter-textual linking opens the reader to a virtually infinite body of literature that is related to the original document in some way. Hypertext creates the possibility of dramatically reorganizing text in networked ways, de-linearizing and interlinking the text both within its own boundaries and in relation to other texts, especially non-canonical texts.

- *Web 2.0 Digital tools.* This involves the use of web applications, such as *Google Docs*, that facilitate interactive information sharing, interoperability, user-centered design and collaboration on the Internet. Forces of technological change provide opportunities to create and share information and an increased ability for students to interact with peers globally, requiring a new model of learning, teaching, and being, based on networks and ecologies.

- *Gaming and simulations.* Don't think of the hyperactivity of *Sonic the Hedgehog*. Think of games that have been specifically designed to teach students about a certain subject, expand concepts, reinforce development, understand a historical event or culture, or assist them in learning a skill as they play.

## **The Disadvantages of Computerized Instruction**

Computerized instruction has its challenges. Here are three:

- Technical difficulties are not uncommon; the Internet has down times. This is stressful for students and for the instructor.

- Teaching online, if done competently, is more time consuming (data entry, learning and applying new software, downloading student essays, inserting evaluative comments, and then uploading papers back to students).

- Retooling is necessary to design online classes and to effectively teach online. This is daunting personally and professionally. Steep learning curves are involved, whereby the instructor may be just one step ahead of students and sometimes the students are ahead of him or her.

## **Retooling for a Digital Age**

Let us assume that, despite the negatives of online instruction, an aca-

demic is interested in teaching online and in networked knowledge production and wants some advice on how to best get started. Briefly, here is what I recommend based on my experiences:

- Begin teaching a hybrid class, which allows you make use of computerized instruction to complement your class or to take on the burden of one aspect of the class so you can focus on what you want to concentrate on with your students. This will also allow you to become familiar with D2L, WebCT, Blackboard, Noodle or other instructional management systems.<sup>2</sup>

- Commit to learning a Web 2.0 tool or new software every term, and integrate it in your classes.<sup>3</sup>

- Write up your use of the software or tool into a case study article, and publish it in a professional journal.

- Attend a professional conference in your discipline, and share your experiences with online tools.

- Go online and locate online journals in your area of expertise and interest. Contact the editor, and volunteer to do book reviews. Next, write an article for the journal.

- Apply to teach online for the University of Phoenix to see what they do well. University of Phoenix (U of PHX) gets bad press; however, their educational model has many worthwhile features. Additionally, in order to teach for U of PHX, you must go through online teaching boot camp, which is highly beneficial.

- Create a blog and write content for it relating to your field, such as an annotated bibliography of recently published articles and books. Cite the blog in your *curriculum vita* (hereafter, *vita*).

- Create a wiki with your department colleagues or your students. Practice collaborative and open-access knowledge production.

- Write an article in some area of your expertise for Wikipedia. Cite the article in your *vita*.

- Create your own Web site or set up an online repository of your writing, research projects, and *vita*.

- Create an avatar (Here I am!), and use your quasi-cyborg self in your classes.<sup>4</sup> Then ponder the questions “What is my essential *I* in teaching? What is



my teaching persona?”

- Learn the basics of HTML (Hyper Text Markup Language), the predominant markup language for web pages. Then teach the language to your students and have them publish their work online.

## Final Remarks

As the preceding discussion makes clear, online instruction screams CHANGE and being a digital instructor is different; however computerized instruction can be as intellectually rigorous an endeavor as the traditional classroom. Additionally, because online instruction is still a relatively new and developing field, there is room for instructors’ innovation, creativity, and experimentation. College teaching within the network paradigm can be rewarding and fulfilling academic work.

## NOTES

1. See *Understanding Knowledge as a Commons: From Theory to Practice*. 2007. Edited by Charlotte Hess and Elinor Ostrom Cambridge, MA: The MIT Press, 2007.

2. For example, *Google Wave*, the upcoming communication and networking tool which Google plans to release in 2010, has educators discussing the opportunities it may bring to computerized instruction. As a web-based service, *Wave* will allow online students to collaborate from different locations, and through increased collaborative learning efforts, students will be able to reach their full potentials by working through problems with other students and institutions worldwide. There is also the possibility of institute-created applications, which could provide students with new, no-cost education software. See <<https://wave.google.com/wave/?pli=1>>.

3. For a list of Web 2.0 tools, see <<http://www.go2web20.net/>>.

4. I created my avatar, who also talks, using *SitePal* software (fee-for-service). See <<http://www.sitepal.com/>>.