

## Learning in the Network Age



### Pedagogies of Abundance



ah, imagining  
new possibilities.



Leveraging the  
resources of the  
net for learning.



## Some challenges we all face

- ◇ education is more costly than ever. Are there new ways to improve quality & decrease cost?
- ◇ today's digitally experienced students learn differently and have new vernaculars. Can we both honor and leverage that?
- ◇ key classes are over subscribed. How do we enable non majors and auditors to enroll?
- ◇ students need to be able to think systemically, learn how to learn and think career trajectories. How well do we do in educating them for such 21<sup>st</sup> century skills?

## What Can We Do To Meet These Challenges?

### Some possibilities:

Explore how today's digital students actually learn.  
Tap the natural curiosities and passions of students.  
Leverage peer-based & distance learning communities.  
Leverage the open resources of the net in part to  
re-conceiving schooling and learning for and in  
the digital age.



Ah, can we find ways to leverage the emerging  
Participatory Culture of the net generation?

So let's start off by looking at some  
success models of learning

The architecture studio--  
the atelier form of learning  
a powerful social learning environment



where work  
in progress  
is made public.

learning as  
enculturation  
into a practice.



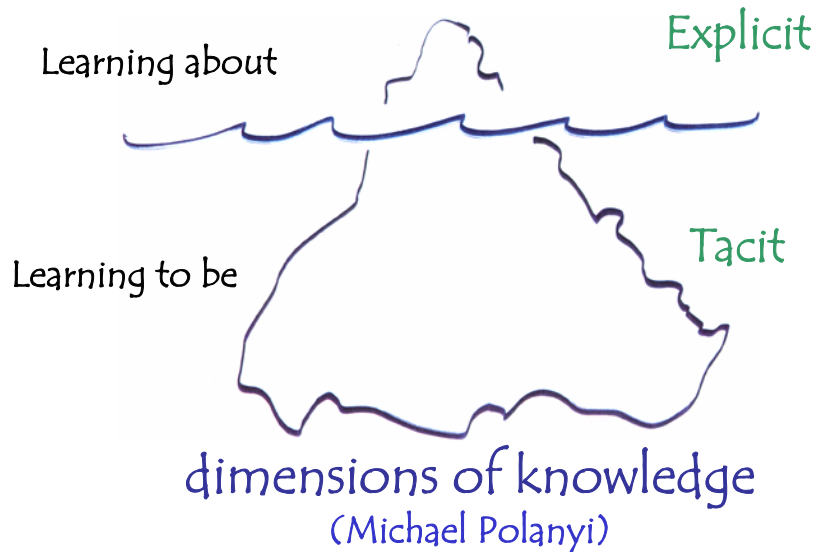
Does this generalize or scale?

MIT's studio for 8.02 electricity and magnetism --  
technology enabled active learning (teal)  
following RPI's studio physics



moving seamlessly between lecture, experiment & discussion  
and addressing the drop out rate

'Learning-to-be' sooner rather than later!



## Learning to be – in an epistemic frame

Enculturating into the practices of a field often via legitimate peripheral participation – apprenticeship

- a way of seeing
- a way of knowing (and exploring a problem)
- sensing what constitutes an interesting problem
- knowing what constitutes an elegant solution
- being able to engage in productive inquiry

*Productive inquiry is that aspect of any activity where we are deliberately (though not always consciously) seeking what we need, in order to do what we want to do – e.g. leveraging the net.*

New kind of learning/scholarship platform:  
the specialized scholar's portal  
(allows for mini-papers as well)

New ways for students to engage in research  
New forms of peer review – a view into a practice  
But, of course, what will this mean for tenure?



## Uncle Tom's Cabin & American Culture

WELCOME! You can use this site in three different modes.

**BROWSE MODE** provides access to all the primary material in the archive  
-- texts, images, songs, 3-D objects, film clips, &c. -- one at a time.

**SEARCH MODE** allows you to search all the primary material at once. You can either use or cut across the site's organizational categories.

**INTERPRET MODE** includes an interactive timeline, virtual exhibits designed to suggest ways of exploring and understanding the primary material, as well as lesson plans for teachers and student projects.

Usually the best place to enter is the **BROWSE MODE**, which gives you the most direct access to the story of Stowe's story as an American cultural phenomenon. If you're new to the site, the best place to start is probably the **Timeline** in the **INTERPRET MODE**, which provides a quick overview of both that story and the various kinds of resources the archive contains. Throughout the site you'll have constant access to the **SEARCH MODE**.

IATH  
site



## Uncle Tom's Cabin & American Culture

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Usually the b  
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A key thrust here:  
is a sense of doing history  
as an act of uncovering...  
"ask what got uncovered  
rather than  
what got covered"

...e. You can

...al exhibits  
...primary  
...cts.

...the most direct

... If you're new to the  
...**MODE**, which provides  
...e archive contains.

IATH  
site



## Tinkering, Learning and Sharing Galore

The Open Source Movements – e.g. Linux, ...

- ◇ writing code to be read
- ◇ engagement thru useful additions
- ◇ social capital matters

A form of apprenticeship  
(cognitive apprenticeship)  
apprenticing to a virtual  
community of practice



open code, open system, open community discussion

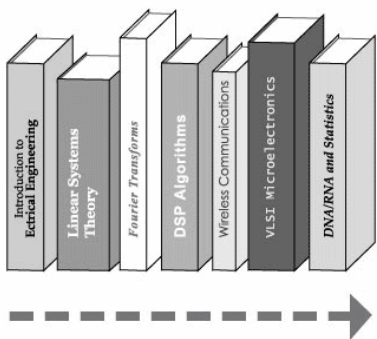
100k projects, over one million folks engaged

# A New Approach to Learning – Connexions: sharing knowledge & building communities

http://cnx.org - Connexions Web Tour: A new approach to learning

CONNEXIONS

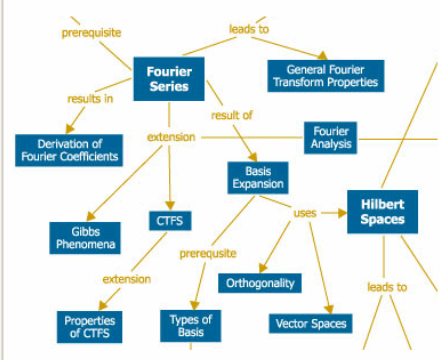
traditional learning methods



material is disconnected, learned linearly

**143 courses and 3106 modules**

**Connexions**



links between concepts are explored

'Modern' kids from the global world  
growing up with mobile phones and internet

Do We Understand Them?



What creates meaning for them?

## The Emerging Vernacular of the Digital Age

Screen language  
of cinema  
(cuts, montage, flashbacks)

Screen language of interactivity,  
entrainment and persistence -  
game ecologies

Navigation  
skills over  
the web



rich, immersive, participatory media



How are today's professors prepared  
for students who live in this kind of  
experiential media? And are we preparing  
them for writing in this media - literacy!

## Game Play

includes

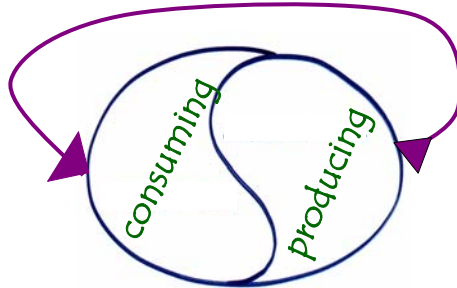
- ◇ Pattern recognition & sense making galore
- ◇ Continuous decision making
- ◇ Conquering immense complexity
- ◇ Immediate feedback
- ◇ Joy from mastery of skills
- ◇ Bottom line oriented - scores matter! (bragging rights)

No learning -----> No fun



Hmmm, doesn't remind me  
much of life in a 30 student classroom.

## Life in the Digital Age - Building, Tinkering, Learning And Sharing (essence of a participatory culture)



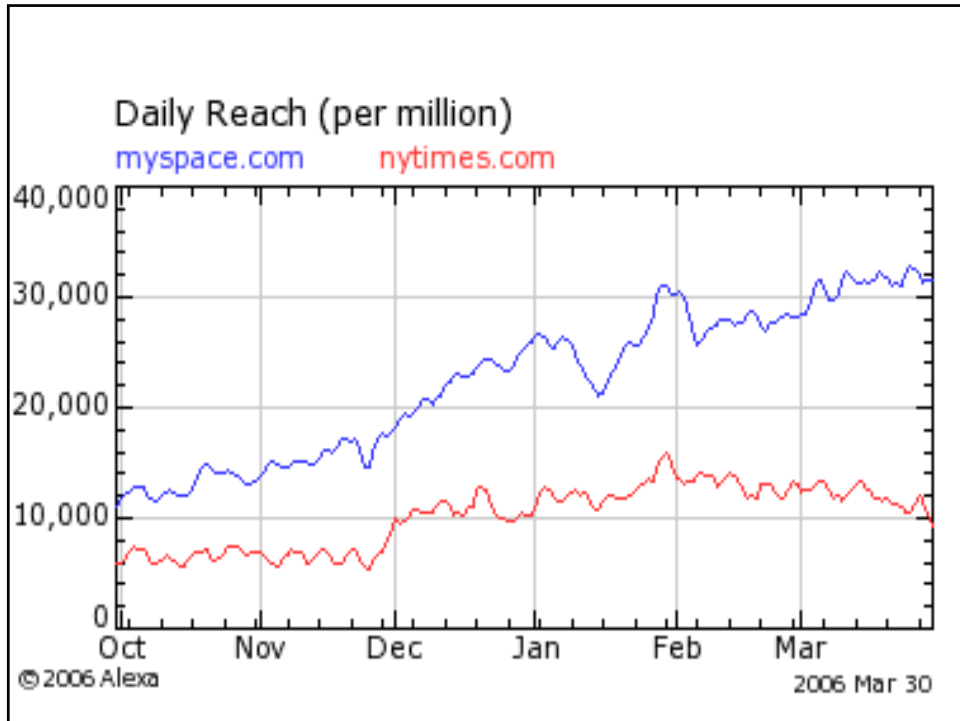
Creating meaning by what I produce  
and others build on – a remix, open  
source culture, blogs and even  
doing homework with IM.

## Blogs, MySpace, Facebook, Flickr, Tagging

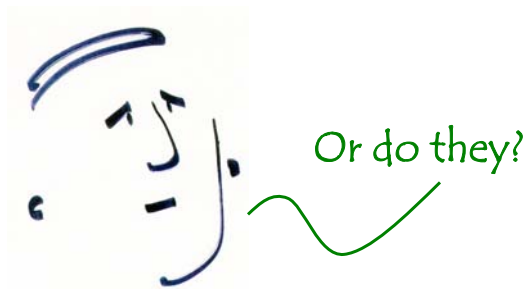
- ◇ classroom blogs: writing for/with your peers
- ◇ circumventing the cheating plague
- ◇ power tool for grad students,  
especially cross-disciplinary

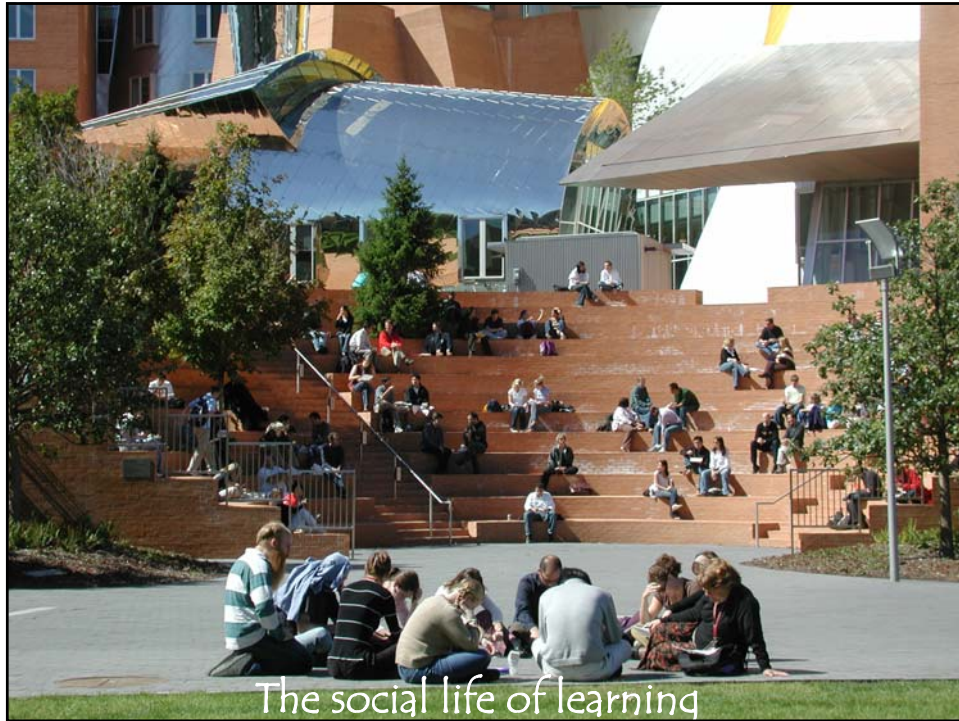


The rise of a participatory media –  
From Web 1.0 to Web 2.0



Some things never change





The social life of learning

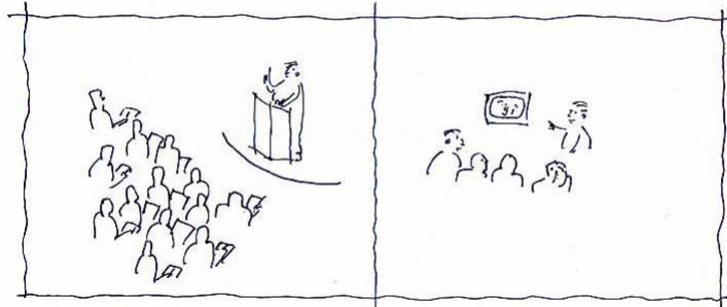
Nothing Beats Collaborative Study Groups –  
The social construction of understanding  
The social life of learning is real.



And this works virtually as well -- IMing

# A Provocative Learning Experiment

## Rethinking Distance Learning - TVI



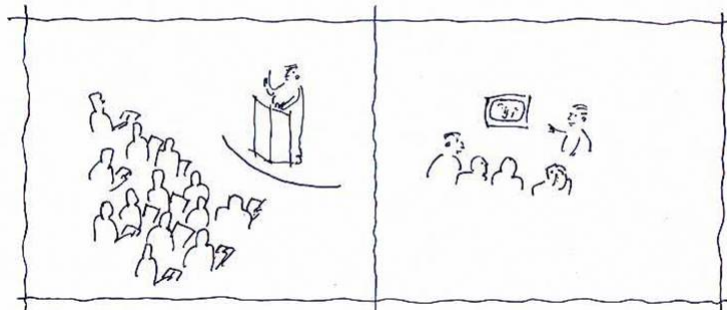
Ah, learning as socially constructed understanding. Doesn't Open Univ. (UK) now do something like this?

A robust result by Jim Gibbons.



# A Provocative Learning Experiment

## Rethinking Distance Learning - TVI



Might this also work in virtual groups?

## Content Discourse And Relational Discourse Go Virtual



Question	TVI n	DTVI n	TVI Mean	DTVI Mean	P-Value
Taking the course in a small group was much more enjoyable than attending the lectures. [1 = disagree, 7 = agree] (EQ3 2)	38	39	6.42	5.82	.046
I learned more in this format than I would have in the lecture section. [1 = disagree, 7 = agree] (EQ3 3)	38	39	5.39	5.03	.366
I would take another lecture class using this method. [1 = disagree, 7 = agree] (EQ3 1)	39	41	5.87	5.15	.083
I would recommend this class (and the way it was taught using technology) to others. [1 = disagree, 7 = agree] (EQ1 24)	119	106	5.73	5.60	.528

Perhaps now class enrollments need never be closed

## Cory Doctorow's book release party in 2<sup>nd</sup> life



*Someone Comes to Town, Someone Leaves Town*

a digitally enhanced collaboratory  
with back channels rendered public.



Pretty weird, jsb. Now the sage on the stage  
morphs into an emergent phenomenon.

usc — interactive media division

The Long Tail In Education..  
Leveraging each segment quite differently



Supporting the rise of an ecology of  
learning/doing niches



Ah, demand pull – I am passionate about  
this niche topic. I want to learn/do more!

## A Grand Transition ?

(Supply) Push -----> (Demand) Pull

Education:

building stocks of knowledge --> participating in flows of knowledge  
(factory model of education ----> learning ecologies model)

Informal learning:

Revisiting constructivist learning but now in (virtual) communities of practice – learning by tinkering, designing, creating, remixing and re-searching

Uniting the cognitive and social basis of learning:  
re conceiving Dewey in the network age and ...

Thank You

