

Learning, working & playing in the digital age - - Creating learning ecologies



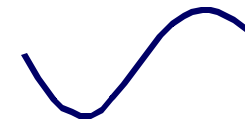
Aahe 1999 conference on higher education
March 23, 1999



What's a learning
ecology ?



Shaping chaos .



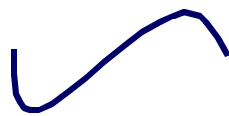
Copyright jsb & seh

outline

- a view of the web
- growing up digital
- distributed intelligence
- capturing & leveraging knowledge assets
- learning ecologies



**Whew ! Is
he serious ?**



**A collage
of topics.**

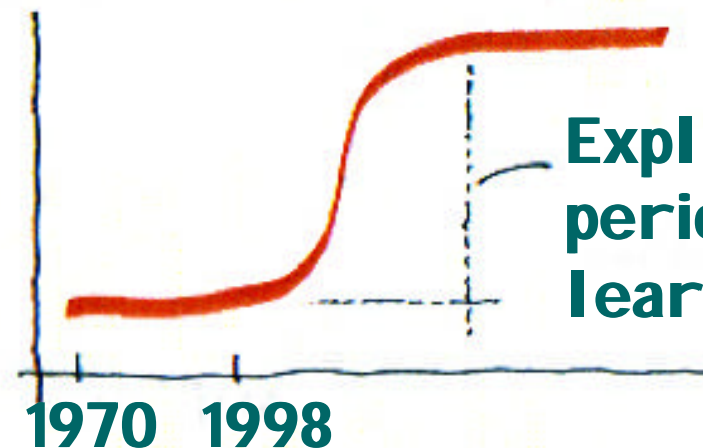


Copyright jsb & seh

Web+ as a transformative learning technology

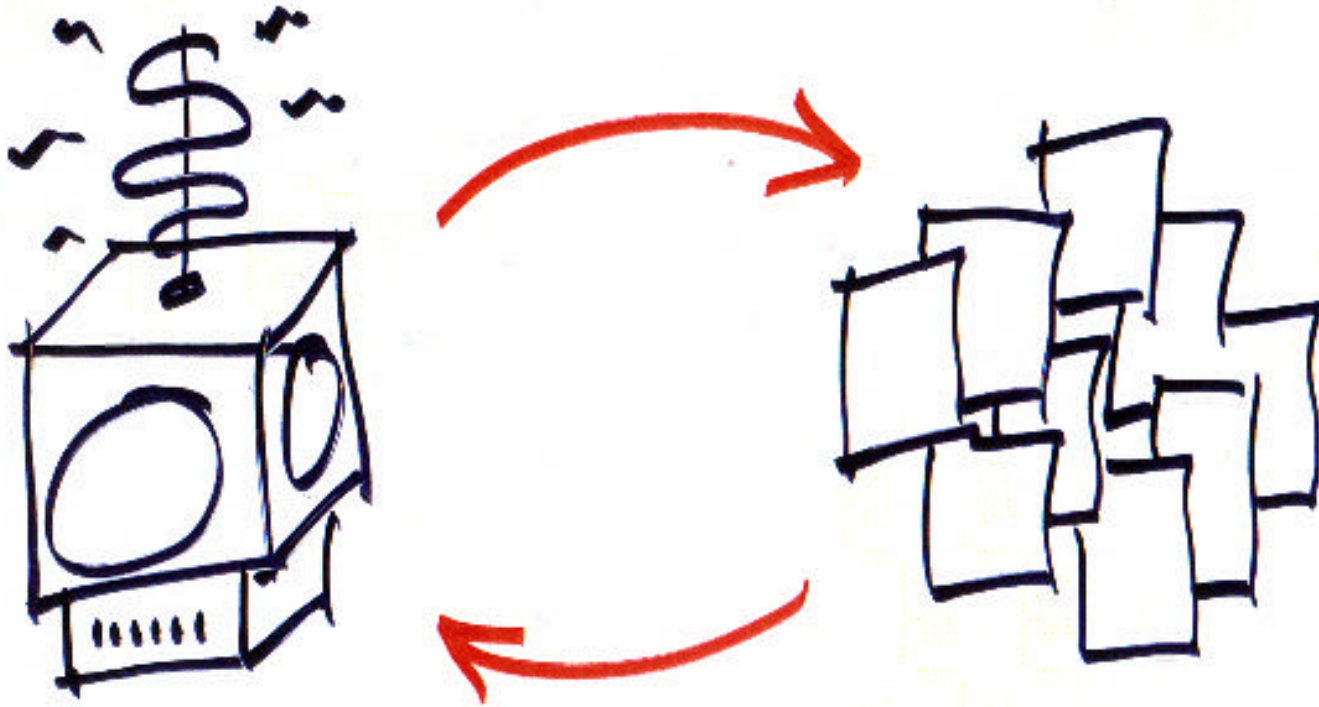
- internet / web as a network of computers → Internet / web as a medium
- a medium that honors multiple forms of intelligence
- a medium that leverages the small efforts of the many and the large efforts of the few

- value of computers for learning

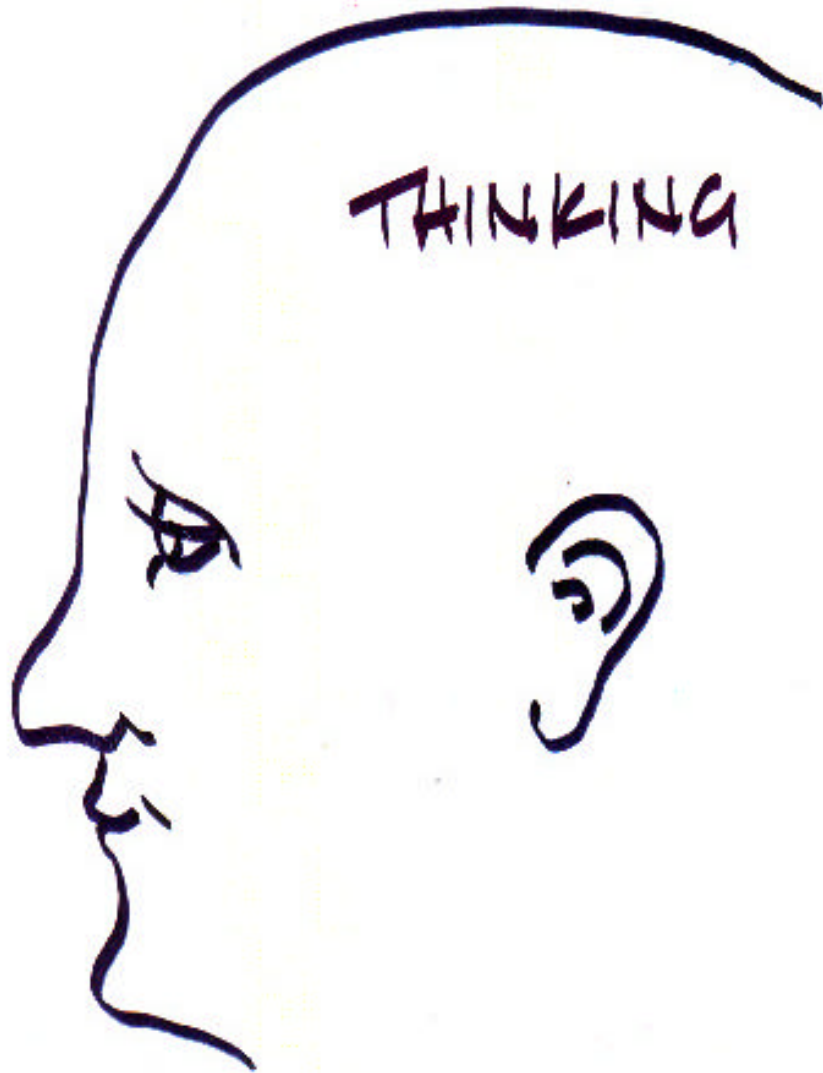


Explosive entrepreneurial period for transforming learning

New media creates new genres



New genres alter new media



Multiple forms of intelligence

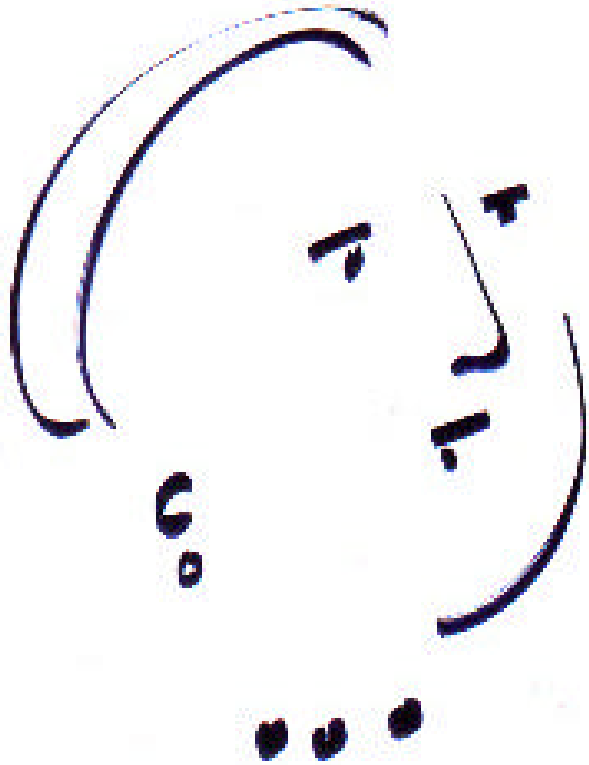
- abstract
- textual
- visual
- musical
- social
- kinesthetic

Linear → **non linear**

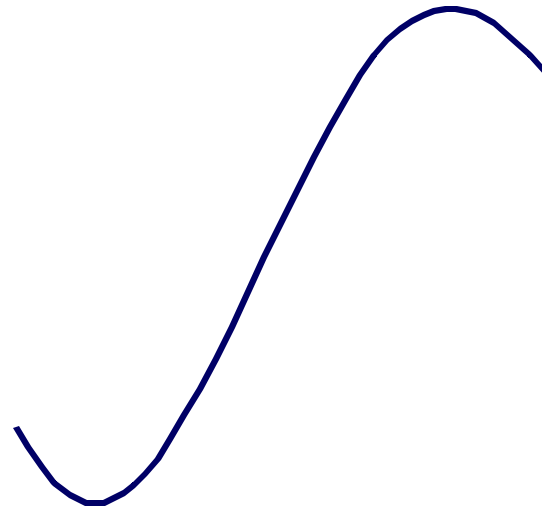
logic → **rhetoric**

a medium for honoring
multiple forms of
intelligence

**Great, mr. Jsb, but
Does growing up
digital make today's
kids different ?**



© 2010 Jsb & Seh



Copyright jsb & seh

The digital kid

Multiprocessing galore








**Ahh, perfect training
for top administrators**

**Web surfing as
a new kind of MTV**



Copyright jsb & seh

Some cyberage shifts

- text **literacy**  | Text + image **literacy**  | Information navigation
- being told **learning**  → Discovery, experiential (authority based)
- deductive (Linear) **reasoning**  → Bricolage + judgement (lateral)
- don't know won't try **action**  → Don't know link, lurk & try



Learning to learn in situ is the key .

Knowledge as iceberg

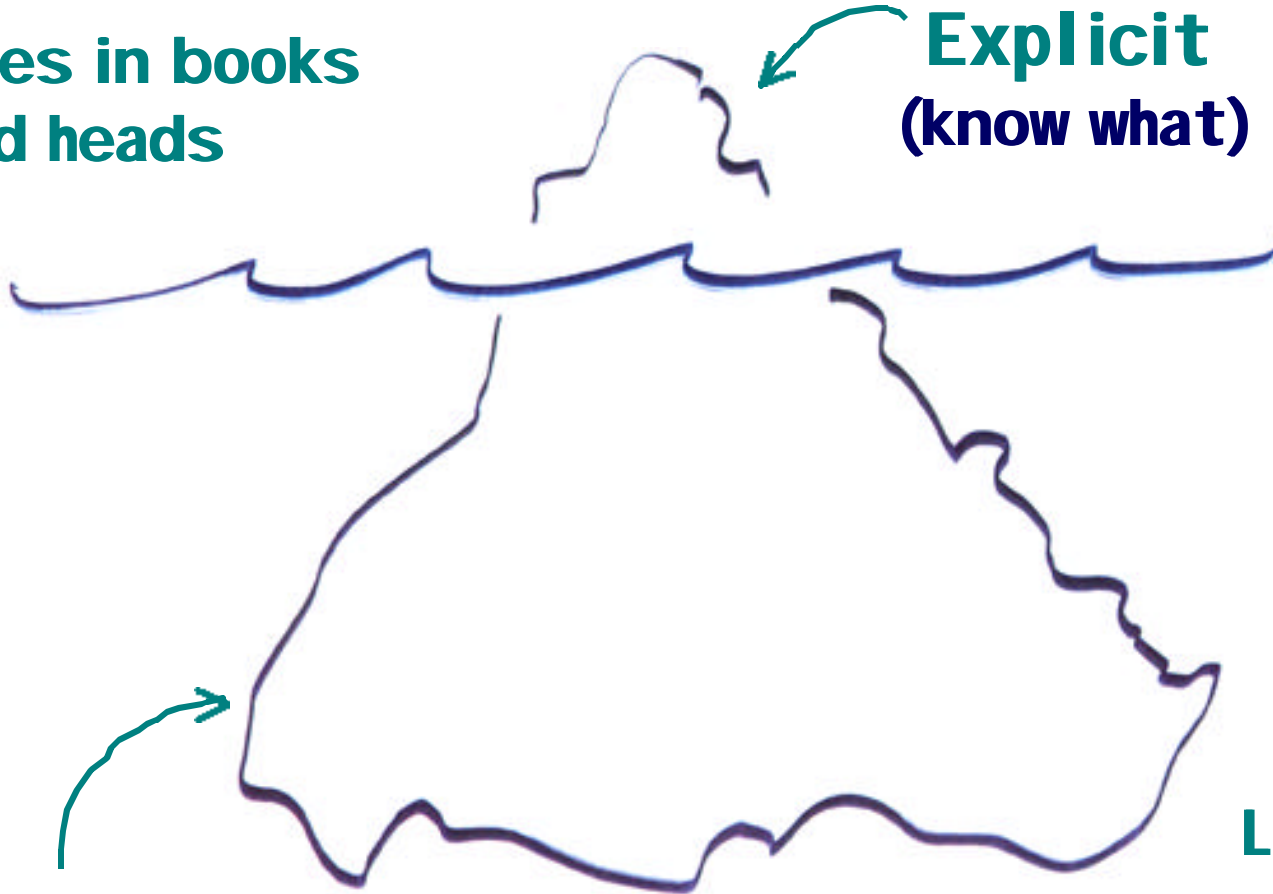
Lives in books
and heads

Explicit
(know what)

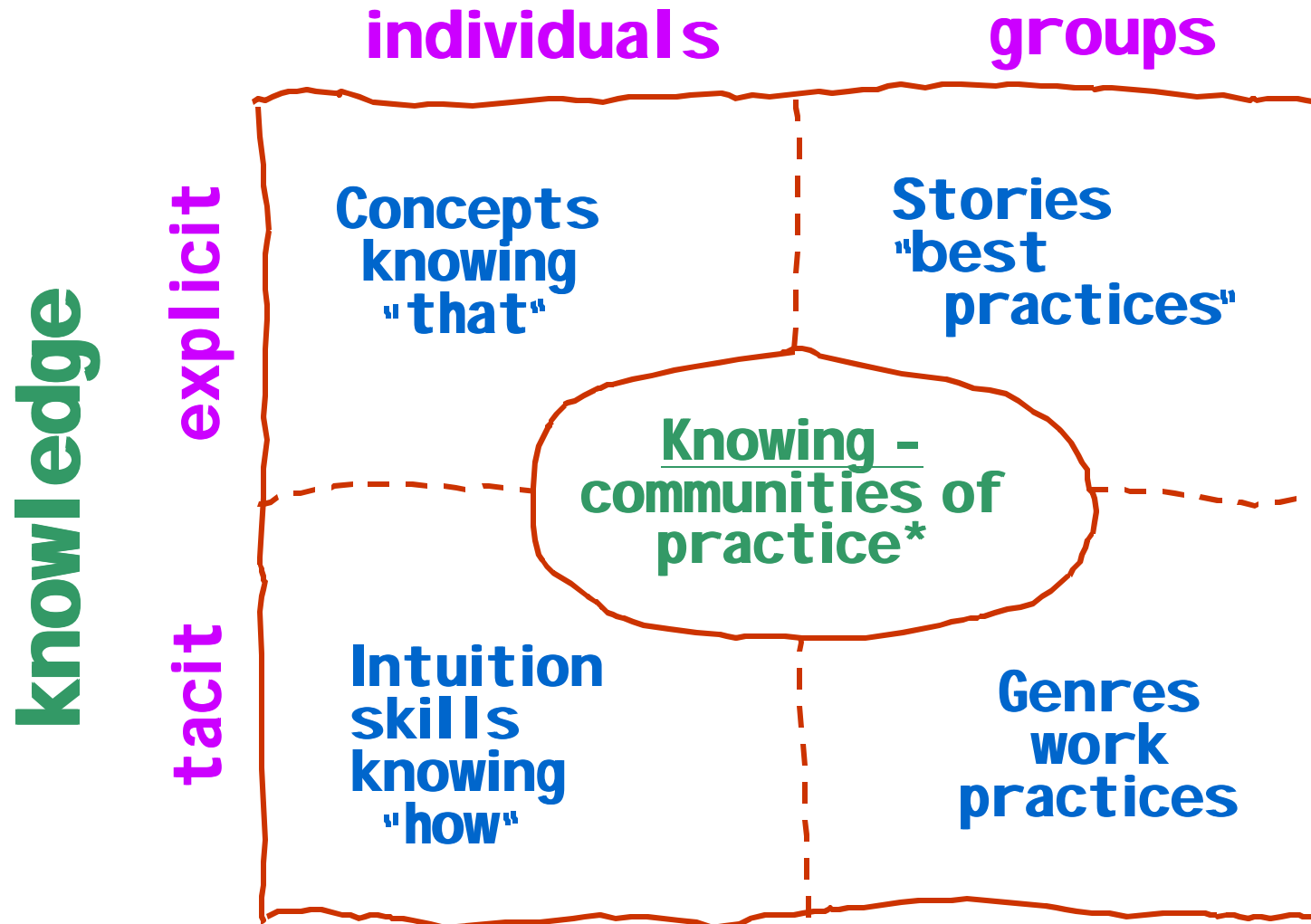
Tacit
(Know how)

Lives in
people and
their practices

Copyright jsb & seh



Distributed intelligence



* social fabric that emerges from sharing tasks over a substantial period of time

Learning in the workplace

Troubleshooting as narrative construction

Co-producing an insight



Learning through storytelling



Eureka - creating & sharing knowledge



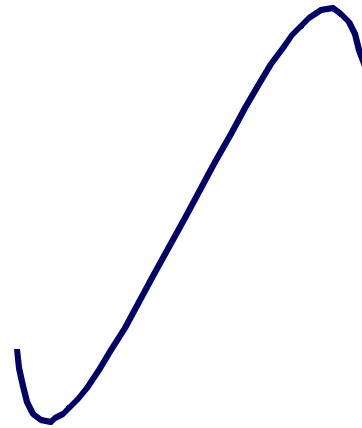
The community is the expert system

Copyright jsb & seh

Leveraging knowledge assets



Using technology to
create, capture, consolidate
and share knowledge *in situ*.

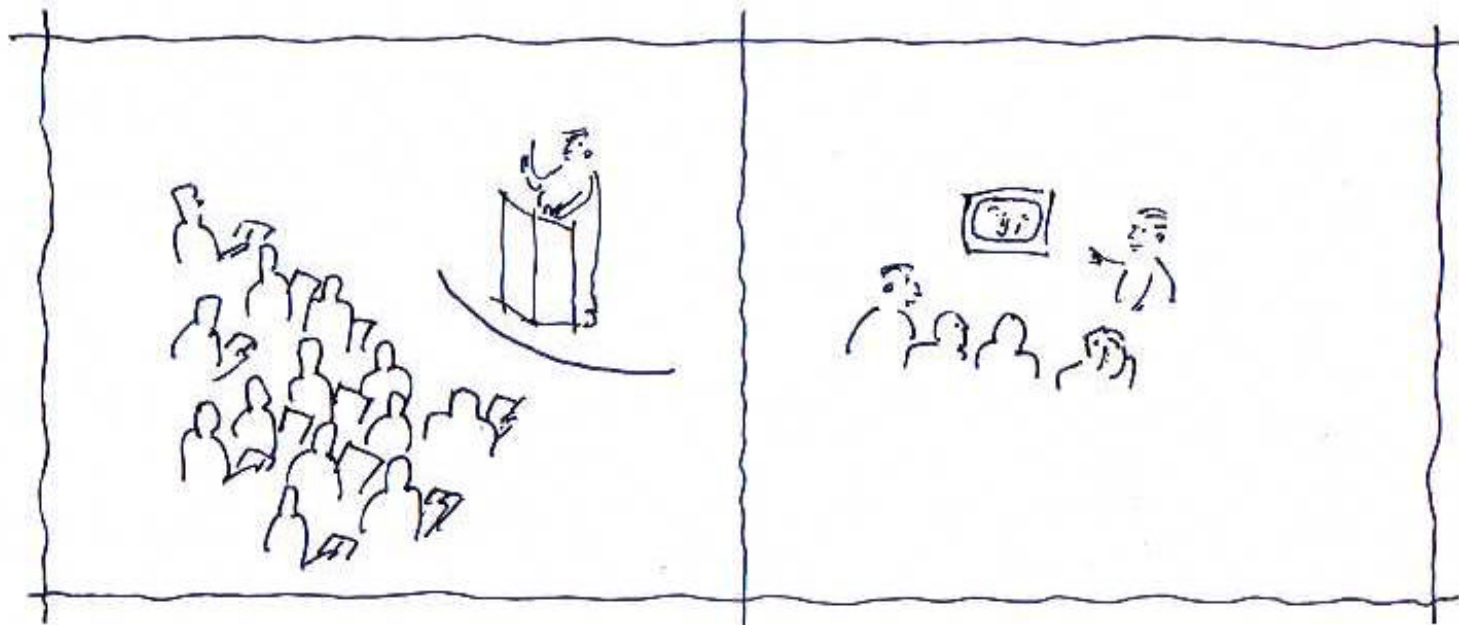


Great, but with
no overhead ?

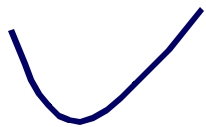


Copyright jsb & seh

A provocative learning experiment



**AH, learning
as socially constructed
understanding.**



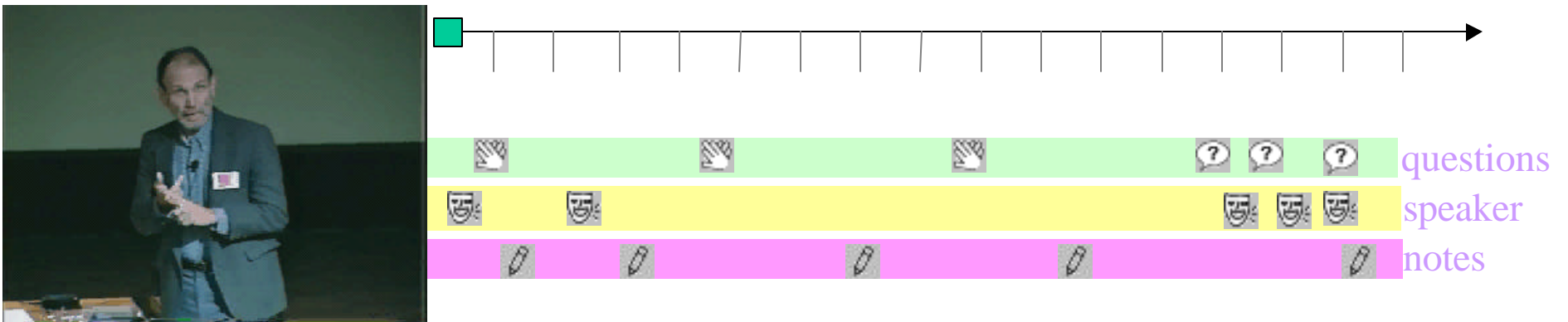
**A robust result
by jim gibbons.**



A.C.
Copyright jsb & seh

Madcap

- Coordinates multiple tracks of content:
 - Video, sound, slides, notes, ...



- Into a single, unified presentation with
- Multiple views of content

A Tophat "composite document view"

(video, slides, synopsis, and event data)

Seven Pragmas of Innovation
Rich Gold

documents that seem to exist primarily in damp spaces which we call living documents which are constructed and consumed at the exact same time. We call them living documents because they seem to be alive. They're constantly changing, seemingly by themselves and they're usually embedded deeply within a living culture. This is another lens we use to -- let me get some water -- to look at document construction. I can

Bill Walker Slide, "Creative Professions" graph with axes (1) move minds versus move molecules, (2) look inward and look outward Would the PAIR program yield flights? No, they loved each other. OK, shouldn't designers and scientists work well together? Nope. Artists and Designers sat at separate tables when Rich was at school. Artists look for themselves in their work, Designers show their work to others for validation. RED plays along the line between Inner and Outer focus. Customer/User doesn't exist

Blake Ward slide forward

THE 4 CREATIVE PROFESSIONS Speculative Design ART SCIENCE Inner (god) DESIGN ENGINEERING Outer (user) Move Minds Move Molecules

Rich Gold go on for hours on this slide, and I won't. These are the four creative professions. When you look around a room like this, and there's probably -- and I've tried to estimate in various ways, and we'll probably get in the next argument about it. My guess is there are about 10,000 separately designed, inventively created items in this room. We could give or take a magnitude up, but probably not down. What's amazing is that

created by one or more things, 10,000 things. same. To give the start of themselves as scienc

HUMIDITY AND THE OFFICE

DRY DAMP WET

Extremes: Damp between these spaces

LIVING DOCUMENTS (1) Persuade that we both constructed and consumed at the same time by the group and which helps to define that group. (2) These documents

parc

10:41

10:53

10:54

10:54

11:00

11:30

11:30

Play Find Find all Find next View: Combined Video Summary

Timeline: 10:00 10:00 10:41 10:50 20:00 20:00 30:00 30:00 40:00 40:00 50:00 50:00

Event List:

- Plot Notes (Text)
- Slide Text (Text)
- Bill's Notes (Text)
- Applause
- Main Video Change
- Question
- Cut to Audience
- Cut to Slides
- Cut to Speaker
- Slide Change
- Time

Transcript (Text): have a room full of creatipots or a room full of Plot Notes (Text): laughter Side Text (Text): IT'S A THING OF GENIUS I had a vision etc Bill's Notes (Text): *** The big drama Consider the big UberCars

LiveCut (Video + Audio) Slides (Video)

Lecture Browser: Interactive Content

CORNELL
UNIVERSITY



Lecture Browser - Lect 27 - Microsoft Internet Explorer


File Edit View Go Favorites Help

Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print Edit

Address http://cohanes/demo/

CS130: Lecture 27, Searching the Web

CORNELL UNIVERSITY



Processing: Stemming Words

- Stemming: many words come in several forms which should be mapped to one "canonical form" in the index
 - ran, running, runs are all forms of same word: run
- Stemming can be done by applying linguistic rules or by simply keeping a table
 - ran, running, runs → run
- Not all search engines do stemming

27

Table of Contents

- [Processing: Stemming Words](#)
- [Synonyms and "Concepts"](#)
- [The Importance of Words](#)
- [Retrieving Documents using a Query](#)
- [Relevancy Ordering](#)
- [The Vector Space Model](#)
- [Writing Queries](#)
- [Getting Your Document to Appear in Response to Queries](#)
- [Using the META Tag](#)
- [The META Tag](#)
- [Many Search Methods](#)

Author: Brian Smith

Local intranet zone (Mixed)

An ecology

An open system :

- dynamic & interdependent
- diverse
- partially self organizing
- adaptive
- fragile



Oh, a complex
adaptive system

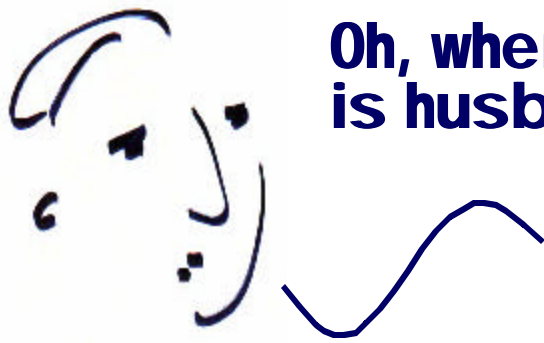
What ??



Copyright jsb & seh

A learning ecology (on the web)

- a collection of overlapping communities of interest (virtual)
- cross pollinating with each other
- constantly evolving
- largely self organizing



**Oh, where pedagogy
is husbandry**

**Leveraging the
social construction
of understandings**



Copyright jsb & seh

Supporting a regional Learning park

enterprises

Civic centers

libraries

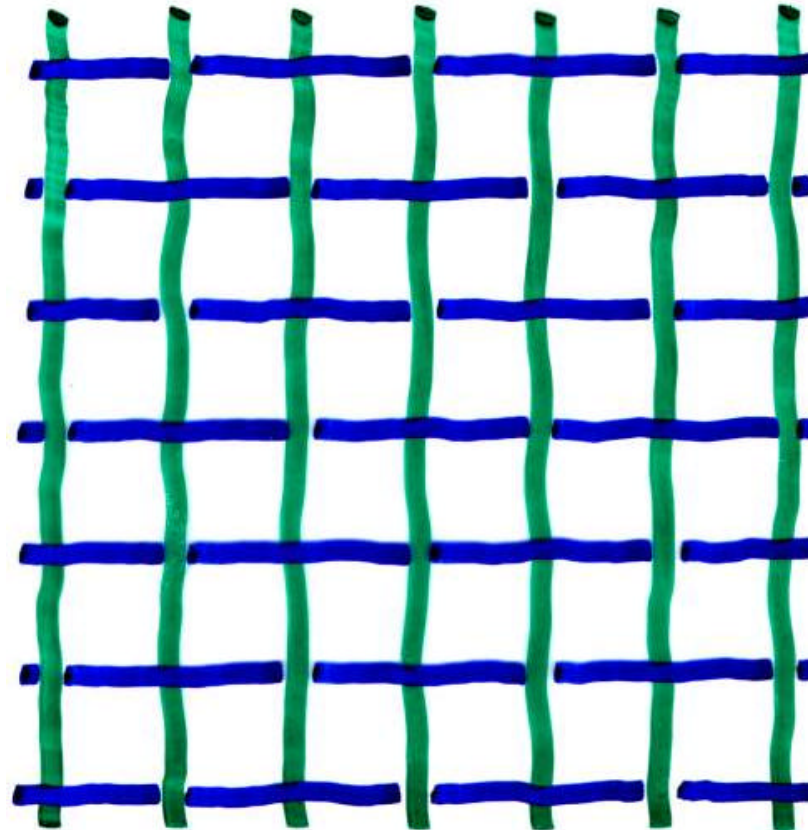
experts

universities

colleges

K - 12

Etc ...



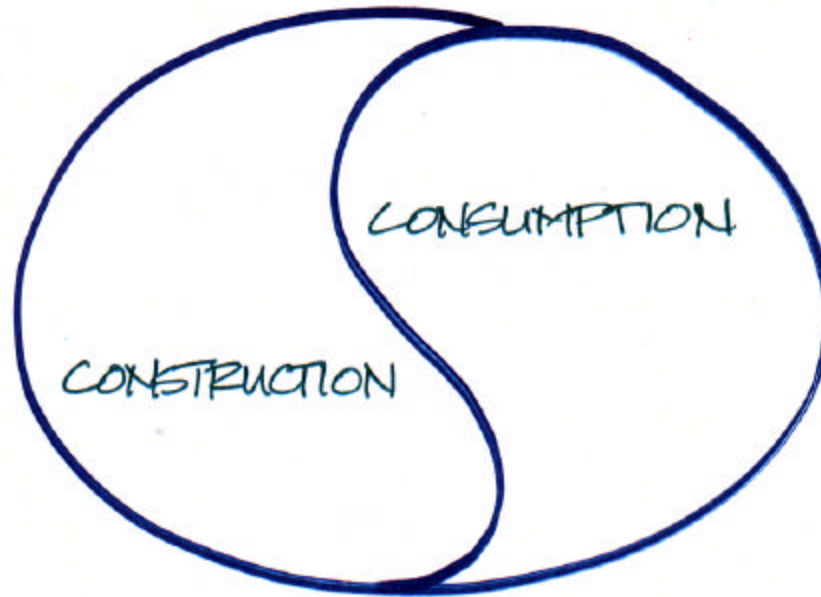
Key:

technology
for reach
and reciprocity
(Knowledge
sharing)

Science park → Learning park

Copyright jsb & seh

Supporting a regional learning ecology



Key:
Making the
Boundaries
Fluid using
The web



Oh, I see,
skewing
The matrix

✓ Learning park → Learning ecology

Copyright jsb & seh

A shift

Tools for
supporting
individuals

Tools for
supporting
relationships



**Key: helping us help each other
via learning ecologies**

- **As communities of learners**
- **As communities of knowledge workers**



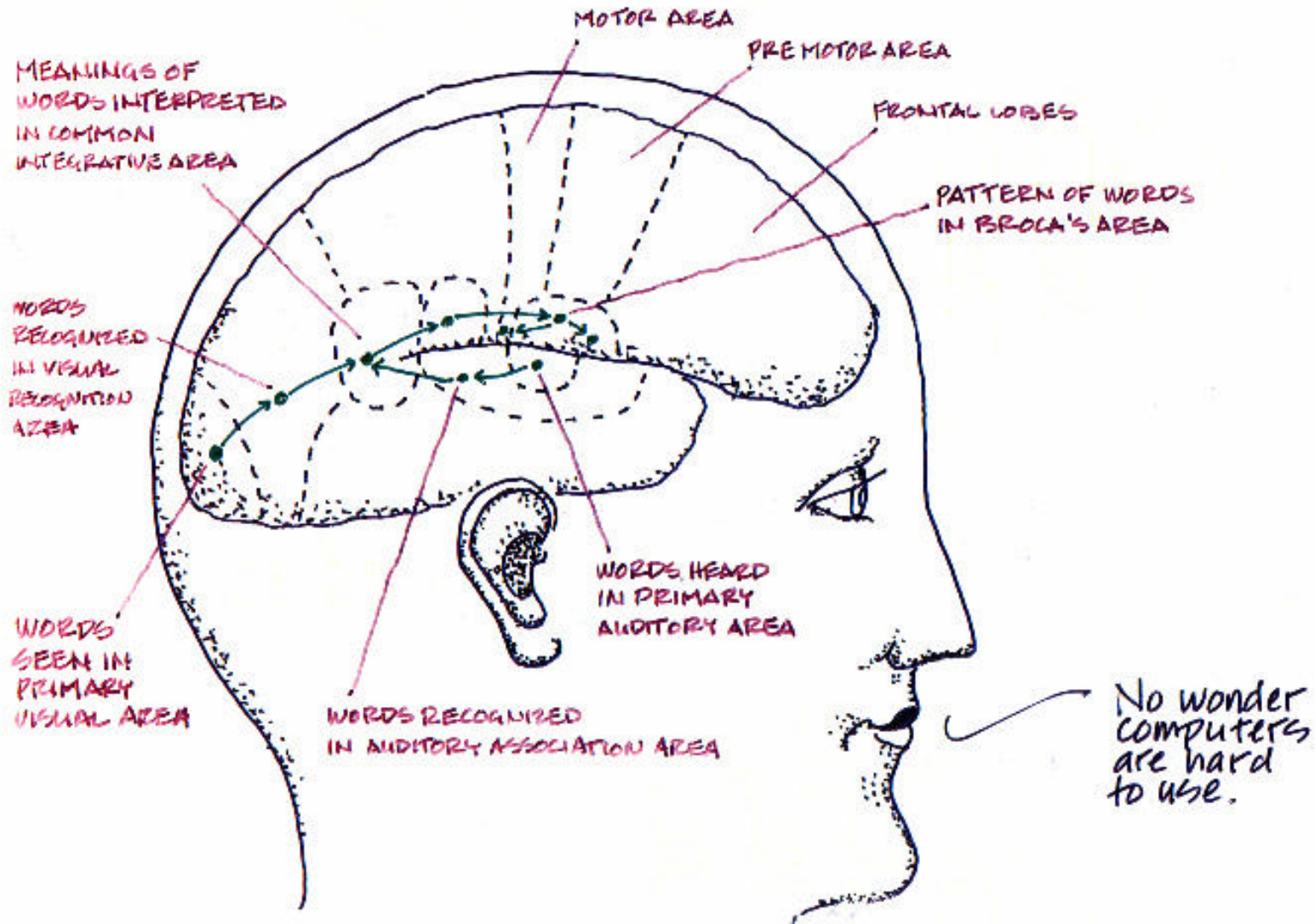
**Leveraging
the social mind
by building a
social "brain"**

**Oh, creating
a culture
of learning**



Copyright jsb & seh

Today's computers - deaf, dumb & blind



Copyright jsb & seh

Toward a culture of learning



Enabled by technology

Leveraging

- the large efforts of the few
- the small efforts of the many



Education



learning

Purely cognitive



cognitive / social

But changing lenses ain't easy!



Copyright jsb & seh

warning

Every (radical) innovation is partially flawed !



Must learn, rapidly, from the market

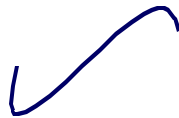
Key : Evolving
technologies



Evolving
Needs



Especially true
in education



Entrepreneu
drive the
co-evolution



Copyright jsb & seh

But sometimes new is actually old

18th century: leisure - freedom in work for self expression - - like in a craft.

20th century: leisure - freedom from work (but often self expression in hobbies).

21st century: Leisure - freedom for self expression and learning in and through work.



Yeah, but a bit idealistic, mr. Jsb.



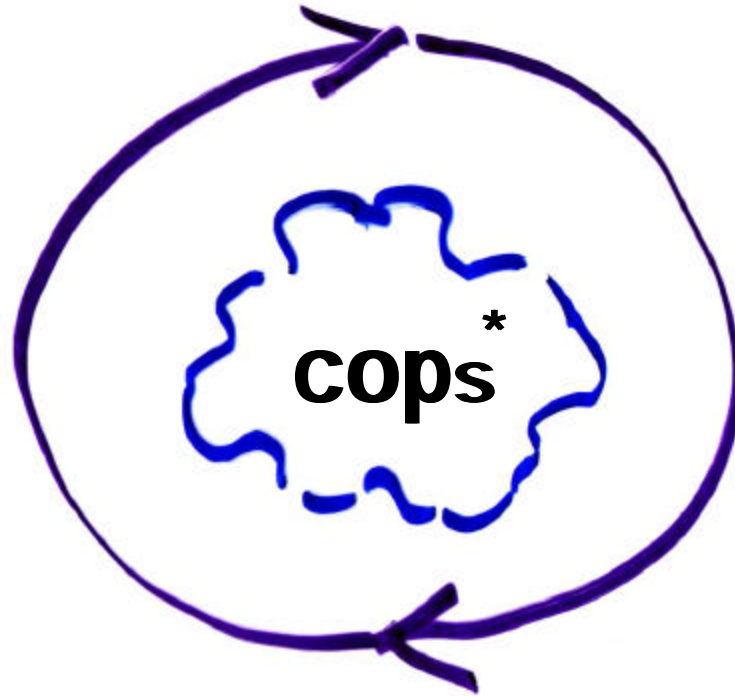
Perhaps, but design & aesthetics will become more crucial.



Copyright jsb & seh

Eureka - a virtuous circle

Social Capital Formation



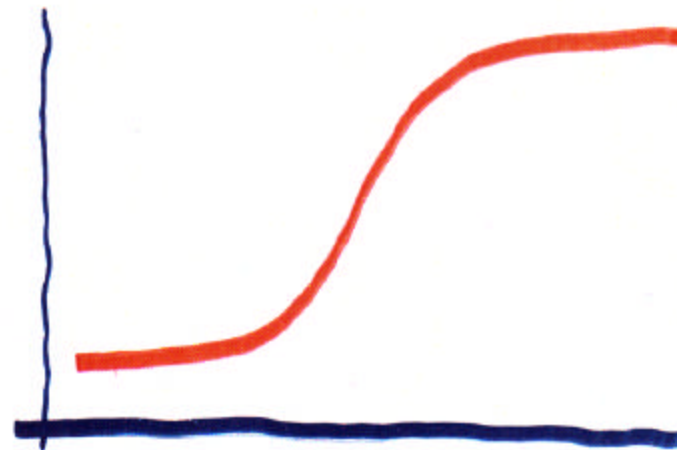
Intellectual Capital Formation

***Communities of Practice - Where Personal Identity Emerges
Through Community Membership**

Copyright jsb & seh

Factoid

A radical (technological) infrastructural change takes decades before the social practices underlying working, living & learning are reenacted.



Consider electrification as a transformative technology.

Was edison like gates?



Copyright jsb & seh