

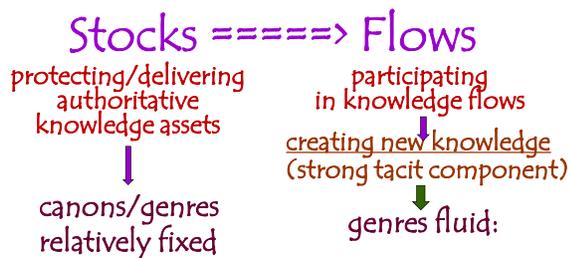
New Models of Learning, New Modes of Engagement – Cultivating Resilient Learners, Designers and Researchers for the 21st Century



A New Culture of Learning for a world of constant change

## Our Context

In a world of increasingly rapid change, the half life of a given stock/skill is constantly shrinking.



Carla Hesse:

“Knowledge is no longer that which is contained in space, but that which passes through it, like a series of vectors, each having direction and duration yet without precise location or limit.

In the future, it seems, there will be no fixed canons of texts and no fixed epistemological boundaries between disciplines, only paths of inquiry, modes of integration, and moments of encounter.”

### Too Big to Know:

By david Weinberger ( Jan, 2012)

We used to know how to know. We got our answers from books or experts. We’d nail down the facts and move on. We even had canons.

“But in the Internet age, knowledge has moved onto networks. There’s more knowledge than ever, but it’s different. Topics have no boundaries, and nobody agrees on anything.”

We all agree on the increasing value and significance of the sciences and technology to work on large scale problems and for our position of competitiveness in the world.

**But is this sufficient?**

National Academy of Engineering Grand Challenges



Provide access to clean water  
 Restore and improve urban infrastructure  
 Advance health informatics

But each of these challenges requires an interdisciplinary approach, socio-technical in nature.  
 Are we preparing our students for such?

Enhance virtual reality  
 Manage the nitrogen cycle  
 Advance personalized learning  
 Engineer the tools of scientific discovery

Provide access to clean water  
 Restore and improve urban infrastructure  
 Advance health informatics  
 Engineer better medicines

Are WE, our selves, prepared?

Secure cyberspace  
 Enhance virtual reality  
 Manage the nitrogen cycle  
 Advance personalized learning  
 Engineer the tools of scientific discovery

In an era of complexity and large-scale problems we need to move from problem solving as an engineering approach to design from an eco-systemic perspective.

No significant problem is an island to itself... where the unintended consequences to an action can often overwhelm the intended consequences.

"We begin to understand the interconnectivity of everything from both the ecological perspective and from the human perspective"

Ann Pendleton-Jullian

We need more than just the skills of learning how to learn, systems thinking or even eco-systemic thinking.  
 It requires new dispositions



Warning: dispositions can't be taught. But they can be cultivated in the right settings. (libraries, labs, seminar rooms, studios)

Dispositions of an Entrepreneurial Learner

CURIOSITY – pulling information on demand

QUESTING – seeking, uncovering, probing ..

REFRAMING – a beginners mindset

CONNECTING – listening/engaging others.

And to afford curiosity  
in a networked age.



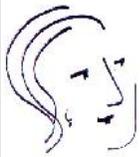
Ages: 2 & 5

## arc of life learning

honoring both the child & the adult:  
cultivating curiosity in each of us.

Perhaps we need:

New approaches to learning,  
New practices,  
New approaches to thinking/acting.



Understanding complex adaptive systems isn't a passive activity; and seldom can it be done from just one discipline.

What we need to do  
for our students:

Cultivate a *resilient mindset*  
in our students –  
an ability to change, adapt,  
re-conceptualize  
and engage in  
deep listening with humility  
in an act-reflect, provisional loop

What can we learn from  
(arch) design practice:

Design as inquiry is a way of seeing  
the world. It is a way of discovering  
the interconnectedness of things

Designers are by nature  
entrepreneurial and opportunistic

They see to act.  
They act to see.

Head and Hand

apj/jsb

The Architecture Studio—  
focusing more on learning-to-be



Interweaving  
thinking and doing

Thinking with both head and hand

The Architecture Studio—  
focusing more on learning-to-be



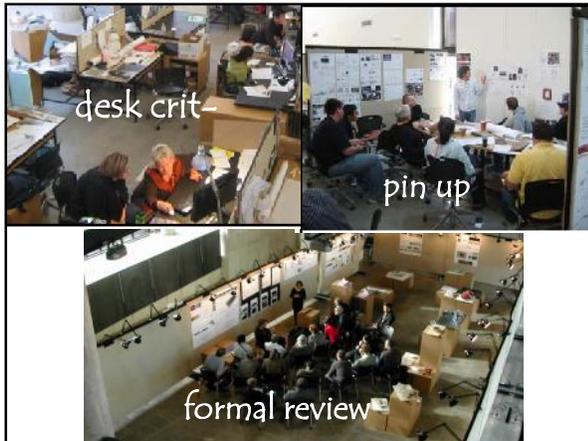
In an environment of permission – to try,  
to fail – over and over again in the  
company of others

The Architecture Studio—  
as a collective learning experience



With both master & peer critiquing.

developing a disposition for receiving/giving critiques



Critique is different than criticism.

It is a socio-temporal process – a  
pervasive way of operating.

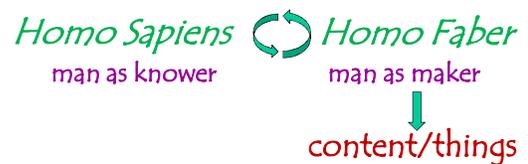
It is a mechanism for attaching thought  
to action. *It is an agent of inquiry*

Critique in a design setting is intended to  
generate forward movement.

Ann Pendleton-Jullian



A Blended Epistemology



## A Blended Epistemology



Given that meaning emerges as much from context as content new dimensions to the creation of meaning are opened.



Ah, the essence of remix..

 Ah, let me change the music of a film and I can alter not only its meaning but also what you actually "see".

Ah, in a fluid world judgment and critical thinking is more important than ever... and librarians as mentors become even more important. 

We used to focus on content, assuming context was relatively stable. But in the world of social media & networked knowledge context is more fluid.



Consider blogging & remix.

## Blogging as joint context creation

"The blogger is—more than any writer of the past—a node among other nodes, connected but unfinished without the links and the comments and the track-backs that make the blogosphere, at its best, a conversation, rather than a production."

Jazz and blogging are intimate, improvisational, and individual—but also inherently collective. And the audience talks over both.

Andrew Sullivan – Atlantic Monthly/ The Daily Dish

## Returning to the grand challenges

"Each of these challenges requires a socio-technical, interdisciplinary approach."

socio ~ technical

↓ ↓  
context content/thing



ah, architectural design focuses on both content and context and their synergistic interplay.

(as in + landscape architecture + urban design)

**Eco-systemic Design**  
 With tools and methods for  
 designing/shaping both  
 context and content  
 ↓  
**Wicked Problems**  
 Complex systems that are constantly evolving with  
 each attempt to understand or solve it..  
 Best thought of as an environment,  
 not an isolated problem.  
 socio ~ technical

Design as a platform for  
 working *on* the world:  
 Transformative Resonance  
 Design as a platform for  
 working *in* the world:  
 Creating Resonance  
 {socio ~ humanistic} ~ technical  
 Our Challenge:  
 not either/or but both/and simultaneously

This means that the humanities are more  
 important than ever.

bridging CP Snow's *two cultures*  
 Being able to work simultaneously and effectively  
 both ON and IN the world.  
 may be the bridge between C.P. Snow's two  
 cultures  
 and an approach to constantly evolving  
 wicked problems.

Find out more about any of these Grand Challenges:

What would the grand challenges put  
 forth by the American Academy of  
 Arts and Sciences look like?

where imaginations play  
 learning happens!  
 ↓  
 A New Culture of Learning  
*inherently androgynous  
 science/tech + humanities*

## But

we must create environments where the enterprise pulls the relevant skills/disciplines/perspectives into collective action and efficacy.



Easier said than done, jsb.  
What are these environments?

## The Bigger (and final) Picture



## A belief

In a world of constant change entrepreneurial learners must also be willing to regrid their conceptual lenses.



And for this play is essential.

## Homo Ludens

a highly nuanced concept of play

- as in freedom to fail, fail and fail again and then get it right: think of extreme sports?..
- as play of imagination – poetry
- as in an epiphany – suddenly falling in place as in solving a riddle.

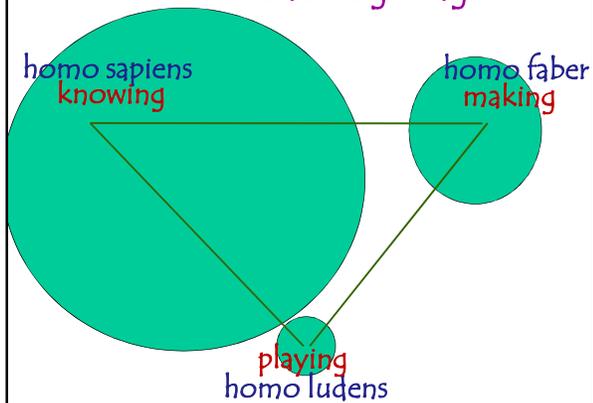


Learning as riddles,  
leading to a reframing or  
re-registering of the world.

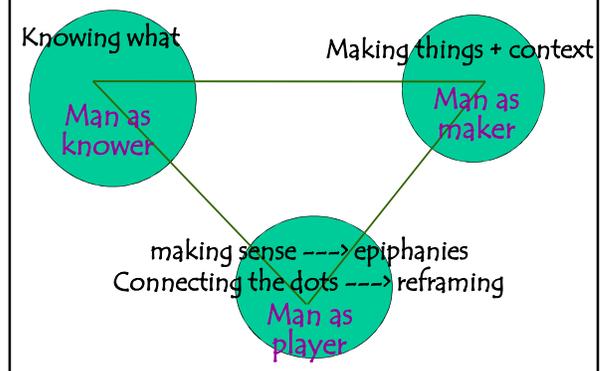
Play is the progenitor of culture & innovation.

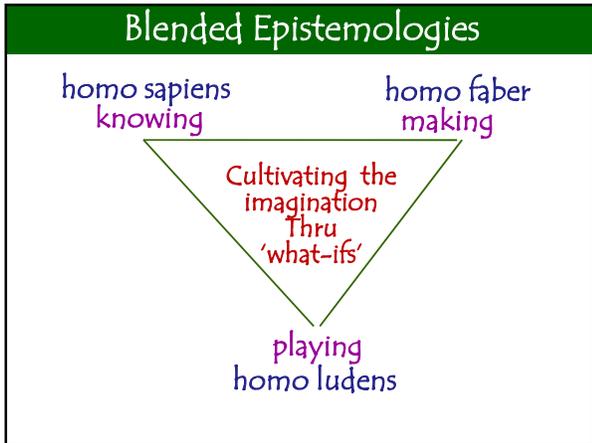
Johan Huizinga

## Our current weighting:



## Suggested weighting for a constantly changing world





Play is a space of invention and permission

based in reality but different than reality, play is a release from normal physics and consequences.  
play creates a space to try out new things.

both play and design bridge research and learning - focusing on *both/and* not either/or

Learning through riddling/research that creates learning efficacy of enormous proportion.

both play and design bridge research and learning - focusing on *both/and* not either/or

Both are comfortable with ambiguity.  
Both work through riddling.  
Both work through provisional 'what-ifs' to construct possible solutions/new worlds to test against the real world.

an ambidextrous environment (research and learning hand in hand)

where imaginations play learning happens!

↓

A New Culture of Learning

*inherently androgynous science/tech + humanities*

*In an ambidextrous environment (research and learning go hand in hand)*

Thank You

A New Culture of Learning – cultivating the imagination for a world of constant change.  
Douglas Thomas & JSB

Design Unbound (2012)  
Ann Pendleton-Jullian & JSB

Sketches by Susan Haviland