Out of the Fragmentation, Innovation!

*From Hidden Know-How to Collective Learning*

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Topics

• Neuroscience of memory
• Infoglut
• Attention and conversation
• Innovation
Encoding, Forming Habits, Reacting to Gaps

Source: Brain injury resource center (http://www.headinjury.com/brainmapx.htm)
Recap: What mediates memory?

Prefrontal Cortex (PFC) = Organizing, comparing

Medial temporal lobe/hippocampus = Automatic Associative

Basal Ganglia = Habit

Orbital Frontal Area and Amygdala = Dissonance, flight or fight

New information!

“This conflicts with my other meeting.”

“Looks like days of the week!”

“Just park it in my calendar!”

“Something is not right!”
246 Distractions

- 150 emails
- 50 Tweets
- 25 texts
- 15 notifications
- 5 LinkedIn Requests
- 3 loads of laundry

... And that’s before “work”!
## Disruptions

<table>
<thead>
<tr>
<th>Memory Phase</th>
<th>What disrupts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encoding</td>
<td>All tasks that interrupt</td>
</tr>
<tr>
<td>Retrieving</td>
<td>Similar tasks (overlapping parts of the PFC)</td>
</tr>
</tbody>
</table>

Journal of Experimental Psychology: General vol 120 (2) June 2000, 155-176
### Eruptions

<table>
<thead>
<tr>
<th>Memory Phase</th>
<th>What empowers</th>
</tr>
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<tbody>
<tr>
<td>Encoding</td>
<td>Focus</td>
</tr>
<tr>
<td></td>
<td>Using association and active labeling</td>
</tr>
<tr>
<td>Retrieving</td>
<td>Filtering out competing stimulus</td>
</tr>
<tr>
<td></td>
<td>Using cues, scaffolding</td>
</tr>
</tbody>
</table>
Neuroplasticity

• “Over time, paying enough attention to any specific brain connection keeps the relevant circuitry open and dynamically alive. These circuits can then eventually become not just chemical links but stable, physical changes in the brain’s structure...”

• “With enough attention density, individual thoughts and acts of the mind can become an intrinsic part of an individual’s identity: who one is, how one perceives the world, and how one’s brain works.”

Conversation is yoga for the brain
Conversation

• Dialogue: “To turn toward another” or “Meaning flowing through”

• “I can hold the space for you, but I bring my own experiences.”

...New, shared meaning
Collective intelligence

Retrieving, co-creating

- “I hold the field for you”
- “I scaffold you”
- “Diversity inspires the new”

New encoding

- Collective attention/intention leads to retention
- Scaffolding helps spread ideas across space, time
Experts’ encoding of memory

1. Declarative
2. Procedural
3. Conditional
4. Social
5. Systemic

Source: Larry Todd Wilson, 2011
Collective Scaffolding

Pugh: Out of the Fragmentation, Innovation

- Equipment
- Process
- People

Cause

- Materials
- Environment
- Management

Effect

Problem

- Insight
- Hypothesis

Task

- Validation
- Extension

Task

- Application

Task

Diagram: Fishbone Diagram with causes and effects linked to tasks.
Collective Scaffolding (cont’d)

Integrity  Courtesy  Inclusion  Translation

Students coded 400+ Motorola Solutions Jive posts. Discussion disciplines improve productivity.
Skifstad and Pugh, “Beyond netiquette: Discussion discipline drives innovation” (In Smarter Innovation, Ark Group, 2014).
Collective intelligence aids innovation

Leaders’ Innovation barriers

• Language
• Process
• Practice
• Reflection
• Politics
• “Walk the talk”

Collective intelligence

• Scaffold for connections
• (Co)generate solutions
• Mobilize collaborations
• Keep the pulse
• Cross the boundaries
• Model the way

Five Dimensions for Smarter Innovation

1. Bridging
2. Social and operational integration
3. Capability validation
4. Market and industry assessment
5. Commercialization
6. Innovation ecology

Where do we compete?

How do we win?

How do we sustain competitive advantage?

Pugh, *Smarter Innovation*, Ark Group, 2014
Innovation Ecology Findings

• Organizational-level
  – Shared language / metadata
  – Consensus innovation “process”
  – Benchmarking, systems thinking
  – “No-meeting fridays”
  – Swaps, sabbaticals, laterals, organizational mash-ups
  – Mindfulness, physical space

Smarter Innovation, Ark Group, 2014
Innovation Ecology Findings (cont’d)

- **Individual-level**
  - Driven to Mastery
  - Self-aware
  - Boundary spanning
  - Attracted to the foreign
  - Ambiguity-tolerant
  - Convening/Nexusing

*Smarter Innovation*, Ark Group, 2014
Innovation Ecology: Findings (cont’d)

• Team-/Community-level

— “Desire-to-know,” not “need-to-know”
— 4 Team disciplines
— Async interactions, such as discussion disciplines, meeting ground rules, “Essays in two voices”
Out of fragmentation, innovation!

We innovate by design

- Span industry, functional, technical opportunities
- Deliver digital workplace products
- Pay attention

We convene conversations

1. Bridging
2. Social integration
3. Capabilities validation
4. Market/industry assess’t
5. Commercialization
Conversation is yoga for the organization
Kate Pugh, Columbia University, AlignConsulting

- Kate has held leadership positions with Intel Corporation, JPMorgan, and Fidelity. She is Academic Director of Columbia University’s Information and Knowledge Strategy Masters program, and is author of *Sharing Hidden Know-How* (Jossey-Bass, 2011) and Editor of *Smarter Innovation* (Ark Group, 2014).


- Kate has an MS/MBA from MIT Sloan, a BA in Economics from Williams College, and certifications in Dialogue, Facilitation, Mediation, Project Mgt., and LEAN Six Sigma.