Appropriate technology for learning: Not how, but why and for what end?

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Education as portrayed by the MDG

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Education is society's main instrument for reproducing itself and can be a key ingredient for social change.

Education is an end in itself and has tremendous benefits for individuals and society.

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A substitution

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Brave new directions with ICTs

• Information plenitude vs. information scarcity
  o Role of misinformation, quality information, need for new information literacies

• Emergent vs. planned learning
  o Just in time, learning-on-demand but difficulty assessing or representing

• Local vs. global knowledge
  o Culturally specific and place-based learning; replication of global vs local culture

• Bottom-up vs. top-down knowledge
  o Notions of authority; changed idea of teaching
Education is not a solved problem
What learning sciences tell us we should provide

Depth and relevance
Engagement
Agency
Tailored and contextualized
Learner-centered
Aligned measurement
A cautionary tale
An ecological metaphor

• Interdependence within a web of relationships
• Health of the ecosystem depends on dynamic equilibria
• Invasive species can disrupt
Technologies as invasive species

• Reproduction, numbers, and impact
• Forces the rest of ecosystem to shift
• Both a product and source of disturbance
• Causes ecological brittleness

The invasion analogy

**Species**
- Propagules
- Dependencies
- Range
- Competition/displacement
- Disruption and equilibrium
- Reproduction
- Environmental brittleness or resilience
- Evolution

**Technology**
- Propagules
- Dependencies
- Range
- Competition/displacement
- Disruption and equilibrium
- Production? Adoption?
- Technological brittleness or resilience?
- Evolution
What is noninvasive technology?

- Device from?
- Device for?
- Designed by?
- Designed for?
Indigenous Design
How we should provide it

• Iteration in context
• Evolution in response to ecological pressures (and that means stakeholder participation)
• Assess health of ecosystem not just novel species
• Recognize niches and subspecies
Preparing Innovators at NYU

• Global network university
  o New York, Abu Dhabi, Shanghai

• Games and Media Network
  o Learning Scientists (Master’s Games for Learning)
  o Artists (MFA Game Design)
  o Engineers (BS/MS in Games Engineering)
  o Designers (BS/MS in Integrated Digital Media)
How to design ed. tech. for its natural habitat?

Learners’ individual goals, dreams, histories, capacities