

Technology Enhancing Learning

R. Michael Tanner

Vice President, Association of Public and Land-grant Universities

Marie Cini

Acting Provost, University of Maryland, University College

Candace Thille

Director, Open Learning Initiative, Carnegie Mellon University

Version of Jan. 14, 2013

Historical Context:

New technology has always changed how people learn.

Bright motivated students have always found ways to learn.

- **Lecture: Etymologically, “A Reading”**
- **Invention of printing** (China ~11th century)
- **Printing press** (Gutenberg ~1450)
- **Offset rotary press** (~1900)
- **Television** (Mass phenomenon 1950s)



One-way

Broadcast-

Greater

Scale

Historical Context (cont.):

- **Personal computer** (1980s)
- **Internet** (1990s)
- **Search engines, distributed interactive computing** (1990s -> 2000s)
- **Personalize collective recommender algorithms** (2000s -> Google, Amazon, Netflix, etc.)



Coming Wave:

- **Adaptive Learning Systems**

Learning about the learner to enhance the experience

New online environments will supplant the **textbook** with a powerful interactive learning resource.

Artificial intelligence

enhancing the human-computer interaction,

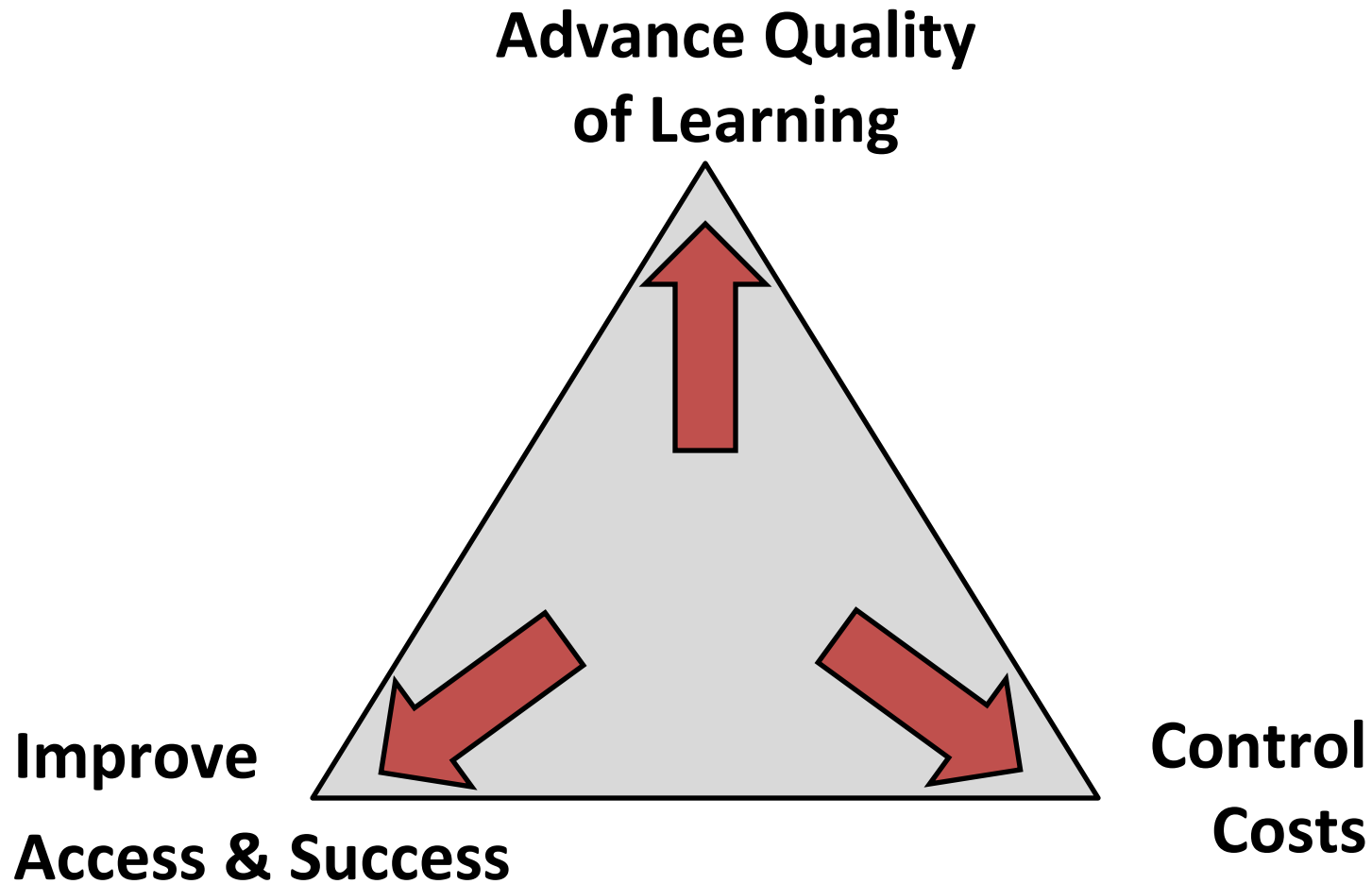
Social networking

expanding the reach of human-human interaction,

Data analytics

to allow constant improvement in learning experience.

National Need: Stretch the “Iron Triangle”



Unbundling learning: What is “learning”?

- Learning as flowing from experience
- Learning as testable, measurable competencies
- Learning as socialization and social skills
- Learning as meta-skills

Massive Open Online Courses (MOOCs)

Questions: Authentication, adequacy of assessment, social interaction, quality assurance.

Under what conditions will a MOOC be worthy of University of Illinois academic credit?