SAMR: Moving from Enhancement to Transformation

Ruben R. Puente dura, Ph.D.
Augmenting Human Intellect & Learning Capacity

One-to-One Technologies
**Redefinition**
Tech allows for the creation of new tasks, previously inconceivable

**Modification**
Tech allows for significant task redesign

**Augmentation**
Tech acts as a direct tool substitute, with functional improvement

**Substitution**
Tech acts as a direct tool substitute, with no functional change
Gersmehl:  
Teaching Geography – Four Cornerstones

• Location  
  • Position in space

• Condition  
  • Mix of natural & artificial features that give meaning to a location

• Links  
  • Connections between places

• Region  
  • Formal region: group of places with similar conditions  
  • Functional region: group of places linked together by a flow
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Choosing Your First SAMR Ladder Project: Three Options

- **Your Passion:**
  - If you had to pick one topic from your class that best exemplifies why you became fascinated with the subject you teach, what would it be?

- **Barriers to Your Students’ Progress:**
  - Is there a topic in your class that a significant number of students get stuck on, and fail to progress beyond?

- **What Students Will Do In the Future:**
  - Which topic from your class would, if deeply understood, best serve the interests of your students in future studies or in their lives outside school?
Understanding Science: How Science Works
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![Rock Pigeon Data](image)
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The SAMR Ladder: Questions and Transitions

• **Substitution:**
  • What will I gain by replacing the older technology with the new technology?

• **Substitution to Augmentation:**
  • Have I added an improvement to the task process that could not be accomplished with the older technology at a fundamental level?
  • How does this feature contribute to my design?

• **Augmentation to Modification:**
  • How is the original task being modified?
  • Does this modification fundamentally depend upon the new technology?
  • How does this modification contribute to my design?

• **Modification to Redefinition:**
  • What is the new task?
  • Will any portion of the original task be retained?
  • How is the new task uniquely made possible by the new technology?
  • How does it contribute to my design?
<table>
<thead>
<tr>
<th></th>
<th>Social</th>
<th>Mobility</th>
<th>Visualization</th>
<th>Storytelling</th>
<th>Gaming</th>
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<td>70,000 years</td>
<td>40,000 years</td>
<td>17,000 years</td>
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A Basic Social Toolkit

• Bookmarks: Delicious, Diigo
• RSS Feeds: Reeder
• Discussions: Edmodo
• Microblogging: Twitter
• Blogging: WordPress
• Wikis: MediaWiki
• Telepresence: Google+ Hangouts
Narrative sources; Narrative constraints

Pictorial vocabulary; Narrative transitions; Text/image integration

CDS Seven Elements; Montage structures

Narrative structures; Narrative flows

Ludic elements

Image Assembly → Sequential Art → Moving Image → Interactive Media → Interactive Fiction

Infinite Canvas

Narrative transitions; Text/image integration

CDS Seven Elements; Montage structures

Narrative structures; Narrative flows

Ludic elements

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Ludic elements
21st Century Learning

- Foundational Knowledge
  - Core Content Knowledge
  - Cross-Disciplinary Knowledge/Synthesis
  - Information Literacy

- Meta Knowledge
- Humanistic Knowledge

- Creativity & Innovation
- Cultural Competence

- Problem Solving & Critical Thinking
- Communication & Collaboration
- Life & Job Skills
- Ethical & Emotional Awareness
Resources

- TPCK - *Technological Pedagogical Content Knowledge*. Online at: http://tpack.org