The SAMR Model: Background and Exemplars

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Augmenting Human Intellect & Learning Capacity

21st Century Learning

One-to-One Technologies
Embeddedness
Substitution
Tech acts as a direct tool substitute, with no functional change

Augmentation
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Modification
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Redefinition
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Podcasts on iTunes U: http://tinyurl.com/aswemayteach
It is imperative that the CCSS be considered the “floor” — not the “ceiling” — when it comes to expectations for student performance in the 21st century.
History
Lesh: Teaching History – Concepts and Criteria

**Core Concepts:**
- Causality
- Chronology
- Multiple Perspectives
- Contingency
- Empathy
- Change and Continuity Over Time
- Influence/Significance/Impact
- Contrasting Interpretations
- Intent/Motivation

**Guiding Criteria:**
- Does the question represent an important issue to historical and contemporary times?
- Is the question debatable?
- Does the question represent a reasonable amount of content?
- Will the question hold the interest of middle or high school students?
- Is the question appropriate given the materials available?
- Is the question challenging for the students you are teaching?
- What organizing historical concepts will be emphasized?
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English
Marzano:
Six Steps to Effective Vocabulary Instruction

• Step 1: The Teacher Provides a Description, Explanation, or Example of the New Term

• Step 2: Students Restate the Explanation of the New Term in Their Own Words

• Step 3: Students Create a Nonlinguistic Representation of the Term

• Step 4: Students Periodically Do Activities That Help Them Add to Their Knowledge of Vocabulary Terms

• Step 5: Periodically Students Are Asked to Discuss the Terms with One Another

• Step 6: Periodically Students Are Involved in Games That Allow Them to Play with the Terms

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Geography
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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Mathematics II
**Fig. 2.** Estimates by 160 gynecologists of the probability that a woman has breast cancer given a positive mammogram, before and after receiving training in how to translate conditional probabilities into natural frequencies.

**Fig. 4.** Lead-time bias. Even if the time of death is not changed by screening—and thus no life is saved or prolonged—advancing the time of diagnosis in this way can result in increased 5-year survival rates, causing such statistics to be misleading.
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Challenge Based Learning
An authentic connection between academic disciplines and real world experience

A framework and workflow to develop 21st century skills

The purposeful use of technology for researching, analyzing, organizing, collaborating, communicating, publishing and reflecting.

The opportunity for learners to do something important now, rather than waiting until they are finished with their schooling

The documentation and assessment of the learning experience from challenge to solution

An environment for deep reflection on teaching and learning

A process that places students in charge of their learning

These attributes enable Challenge Based Learning to engage all learners, provide them with valuable skills, span the divide between formal and informal learning, and embrace a student's digital life.

Key Components

The Challenge Based Learning process begins with a big idea and cascades to the following: an essential question, a challenge, guiding questions, activities, and resources, a solution, implementation, evaluation, reflection, assessment, and publishing.

The Big Idea:

The big idea is a broad concept that can be explored in multiple ways, is engaging, and has importance to learners, and the larger society. Examples of big ideas are Resilience, Separation, Creativity, Health, Sustainability, and Democracy.

Essential Question:

By design, the big idea allows for the generation of a wide variety of essential questions. Eventually the process narrows to one essential question that reflects the interests of the learners and the needs of their community.

The Challenge:

From the essential question a concise challenge is articulated that asks the learners to create a specific solution that will result in concrete, meaningful action.

Guiding Questions, Activities and Resources:

Generated by the learners, guiding questions represent the knowledge needed to successfully develop a solution and provide a map for the learning process. The learners identify lessons, simulations, activities, and content resources, to answer the guiding questions and set the foundation for them to develop innovative, insightful, and realistic solutions.

Solutions:

Each challenge is stated broadly enough to allow for a variety of solutions. The solution should be thoughtful, concrete, clearly articulated and actionable in the local community.
The CBL Process

Collaborative Space
- How will the teams communicate?
- Where will resources be shared?

Introduction
- Why is this idea important to the students?
- Why is this idea important to the community?

Team Formation
- What makes up a productive design team?
- How do we capitalize on everyone's skills?

Assessment
- How will the process be assessed?
- How will the solution be assessed?

Guiding Questions
- What do we need to know in order to meet the challenge?

Guiding Activities
- What do we need to do to answer our guiding questions?
- What resources are needed?

Solution Development
- How do we meet the challenge?
- Is the solution justified?

Implement and Assess
- How can the solution be tested?
- Did the solution work?

Document/Reflect
- What did we learn?
- What would we do differently?

Publish
- How do we share our results?
- What is the story behind the solution?
Additional Resources
Resources

**Background:**


**SAMR and TPCK:**

Resources – Part II

Defining Mobile Devices/The Lively Sketchbook

The Curiosity Amplifier

Technology In Education: The First 200,000 Years
Photo Credits

• iPad in Subway: Takashi M

• YouTube + iPad + Hanalei = Happiness: Wayan Vota

• Parcours-jeu multimedia : Les métiers du musée: Jean-Pierre Dalbéra