SAMR: A Brief Introduction

Ruben R. Puentedura, Ph.D.

Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign

Transformation

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

Substitution
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Enhancement

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

R.J. Marzano. *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*. Alexandria, VA: ASCD, 2004

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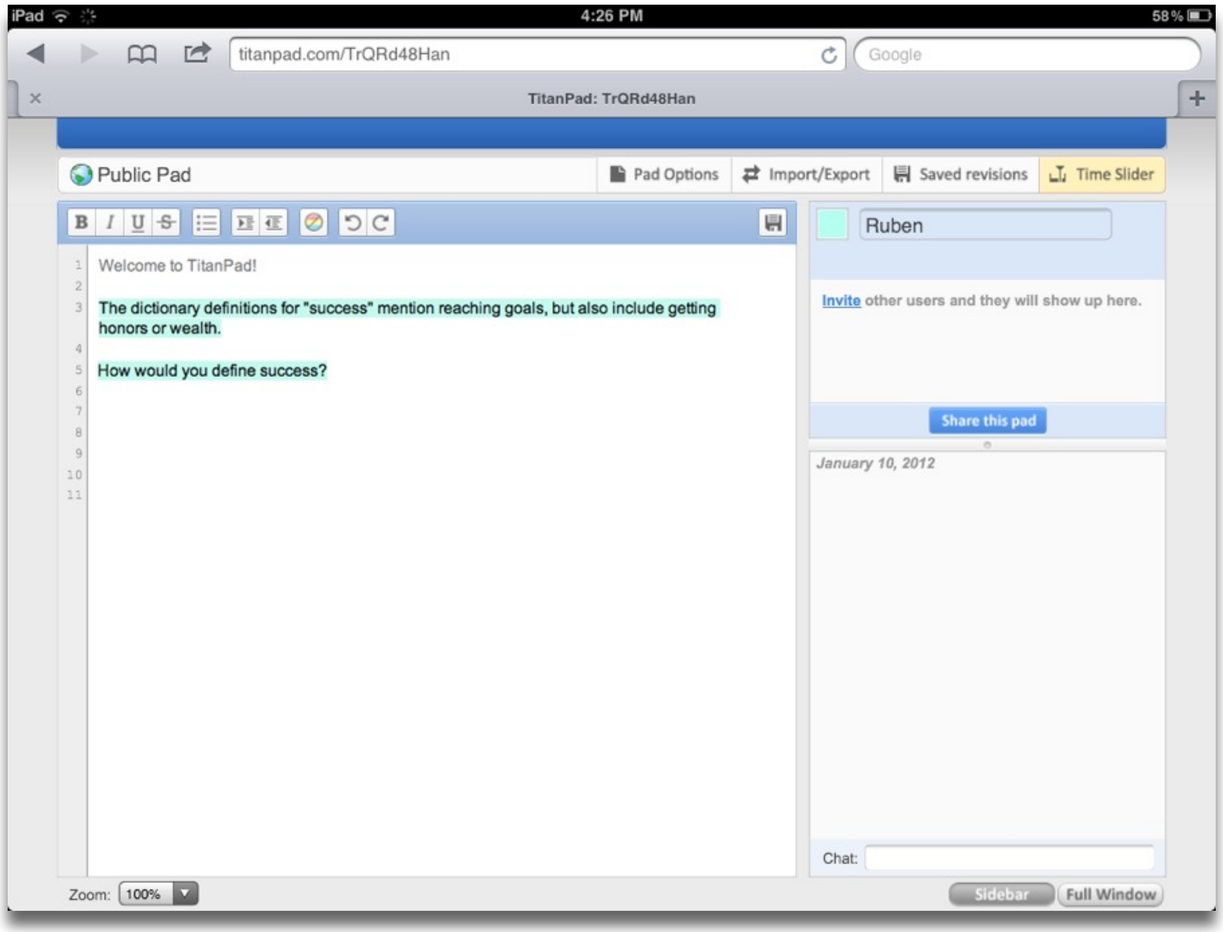

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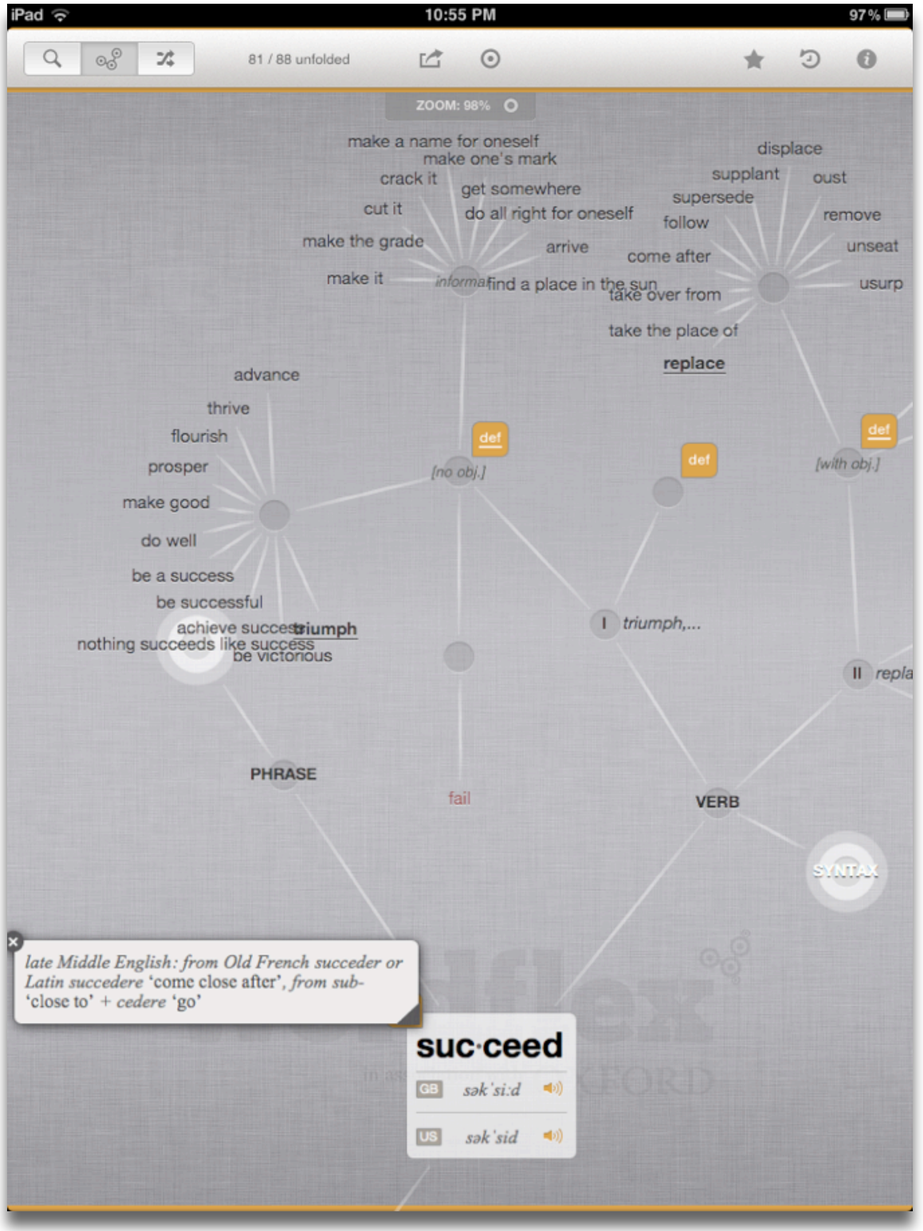

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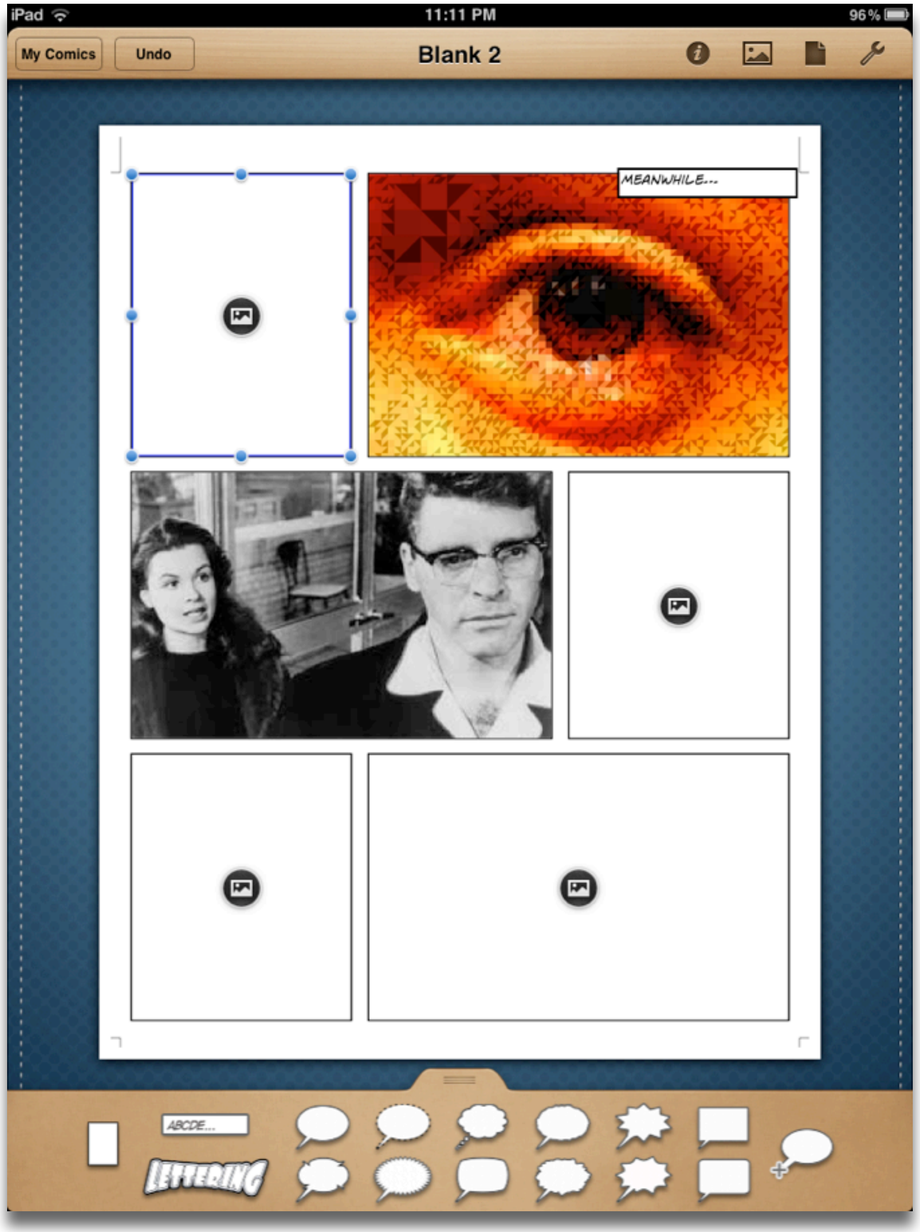

Gersmehl:
Teaching Geography – Four Cornerstones

- 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

Phil Gersmehl. *Teaching Geography*. The Guilford Press. (2005)

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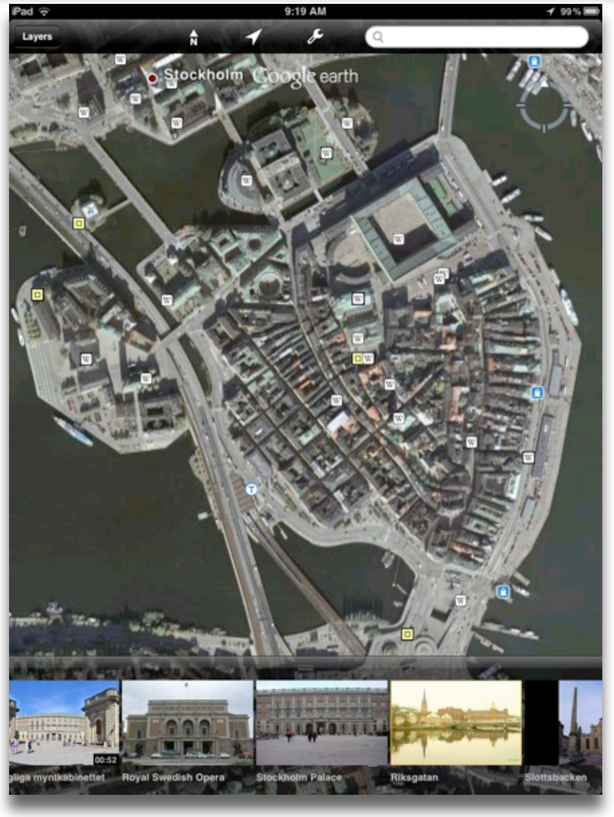

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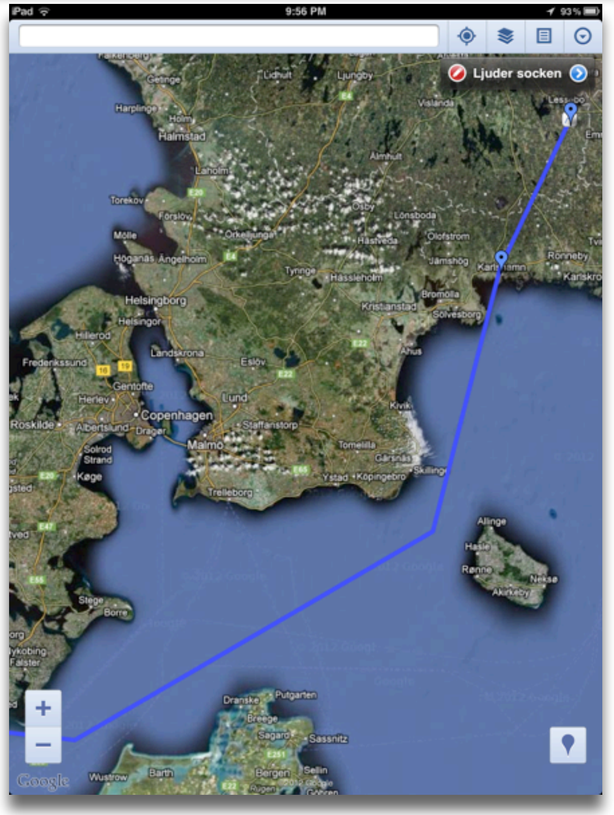

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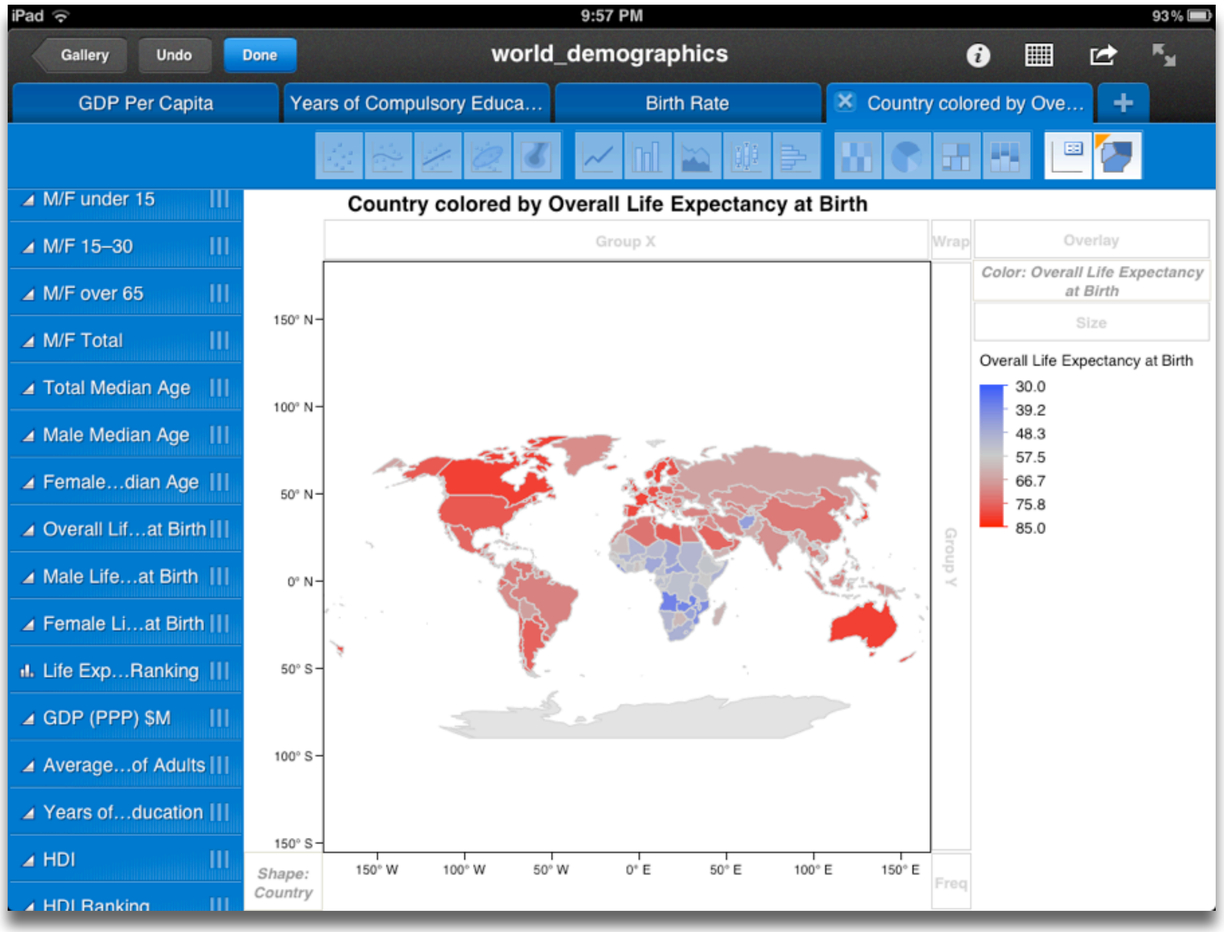

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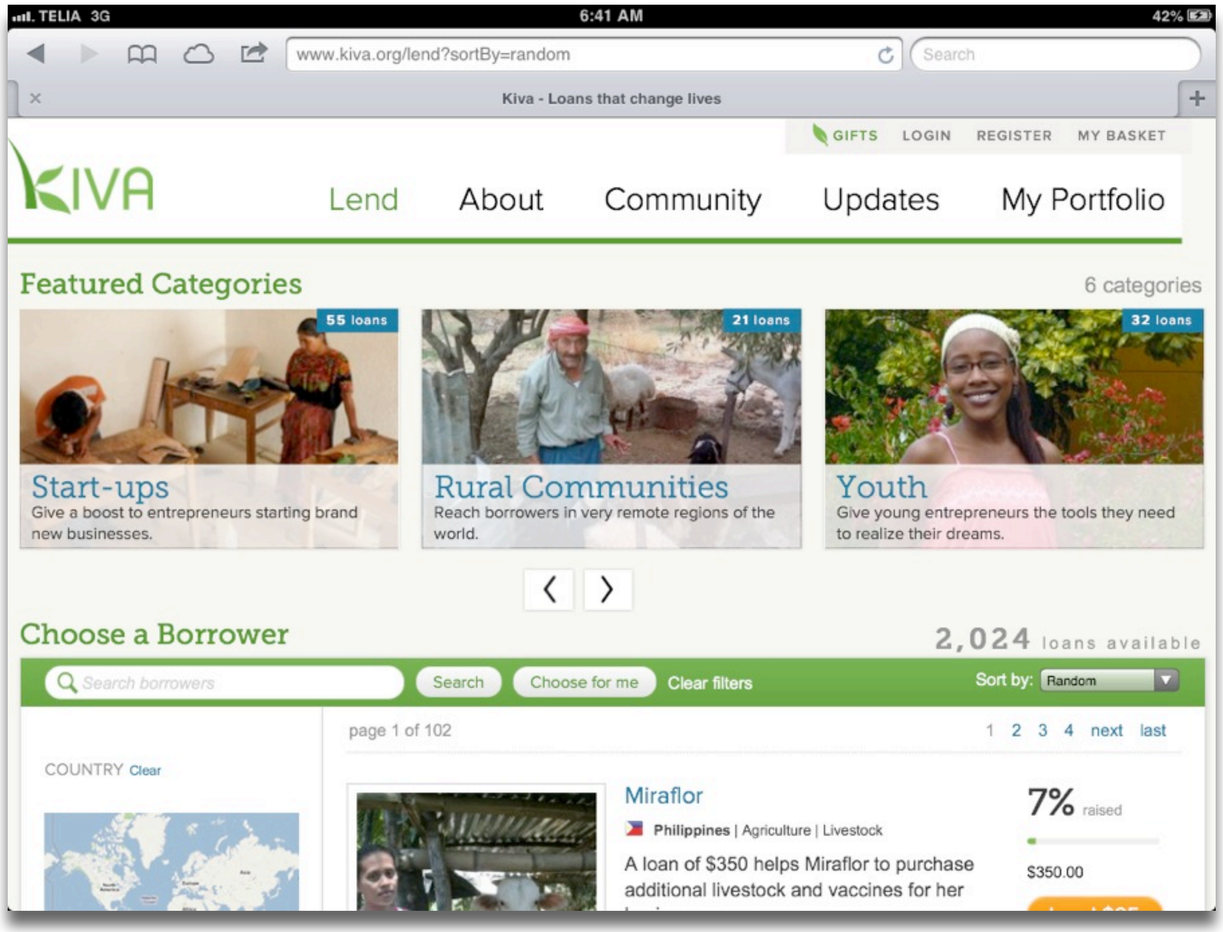
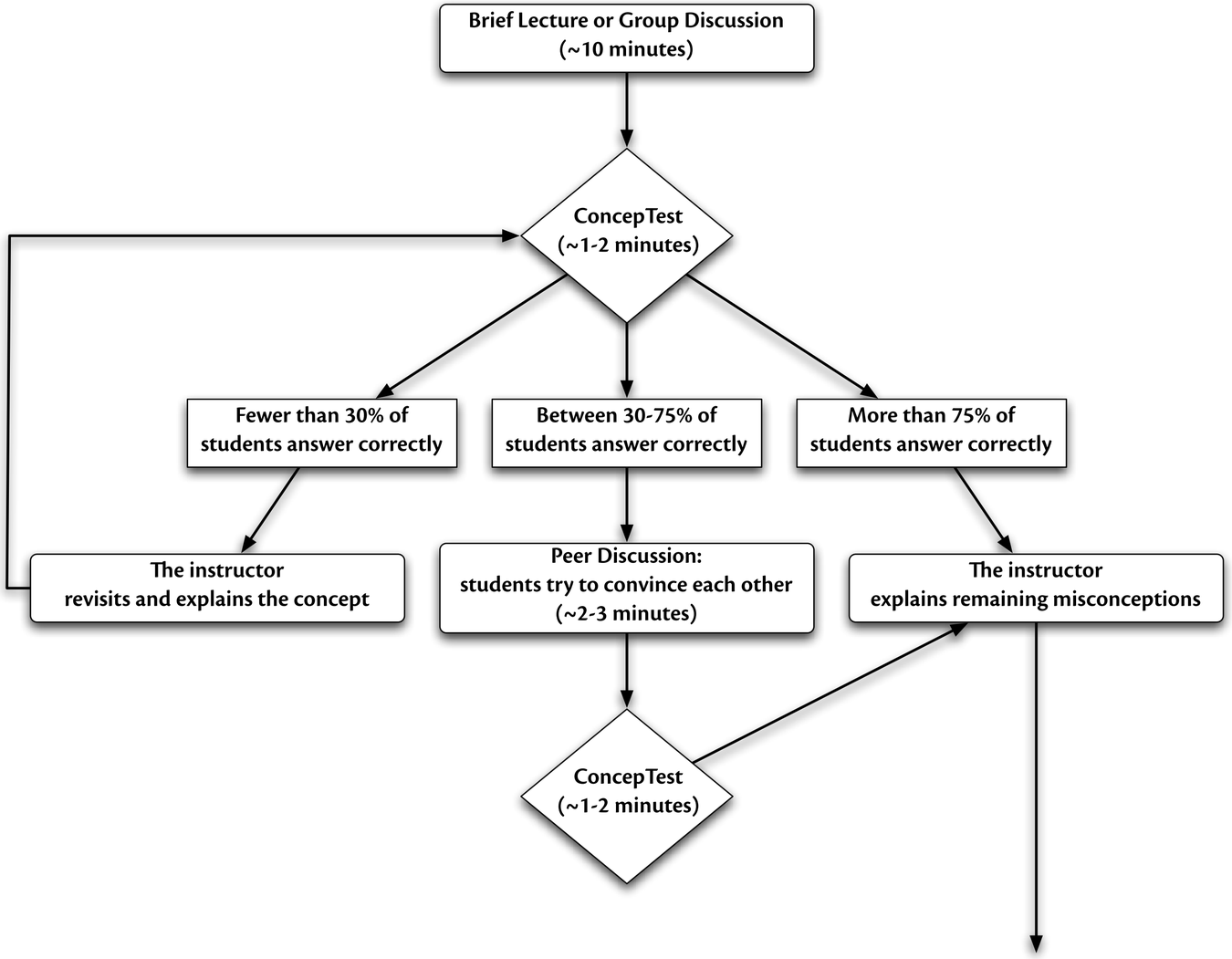


Mazur:
ConcepTests and the Flipped Classroom



Mazur, E. *Peer Instruction - A User's Manual*. Prentice Hall (1997)

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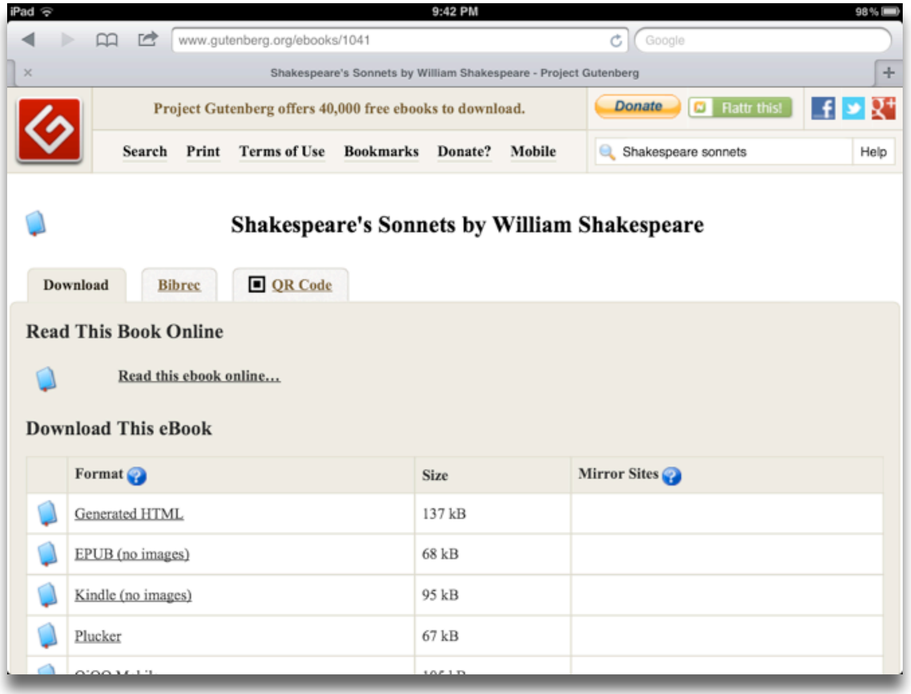

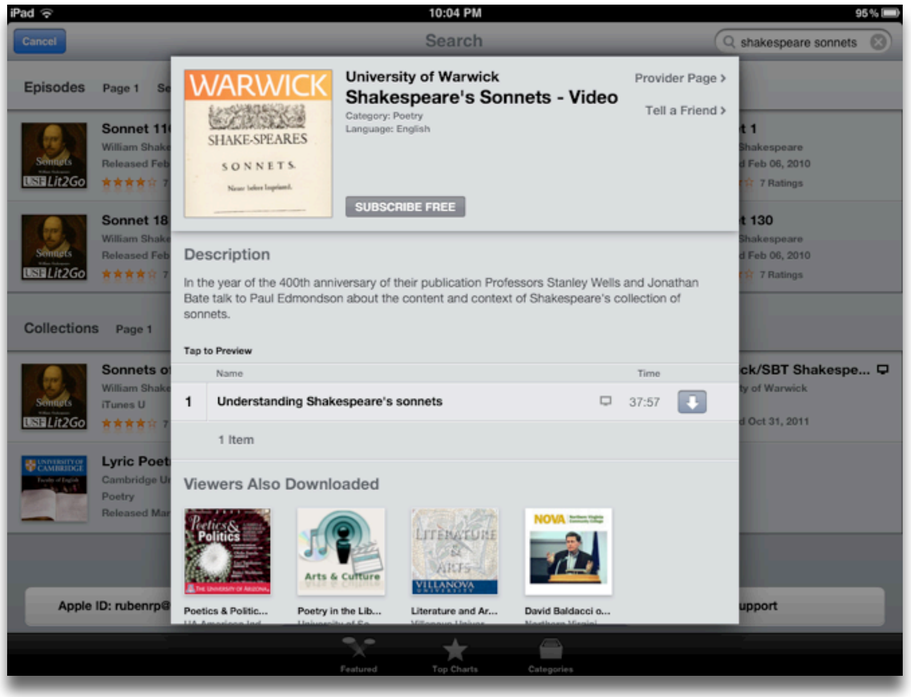

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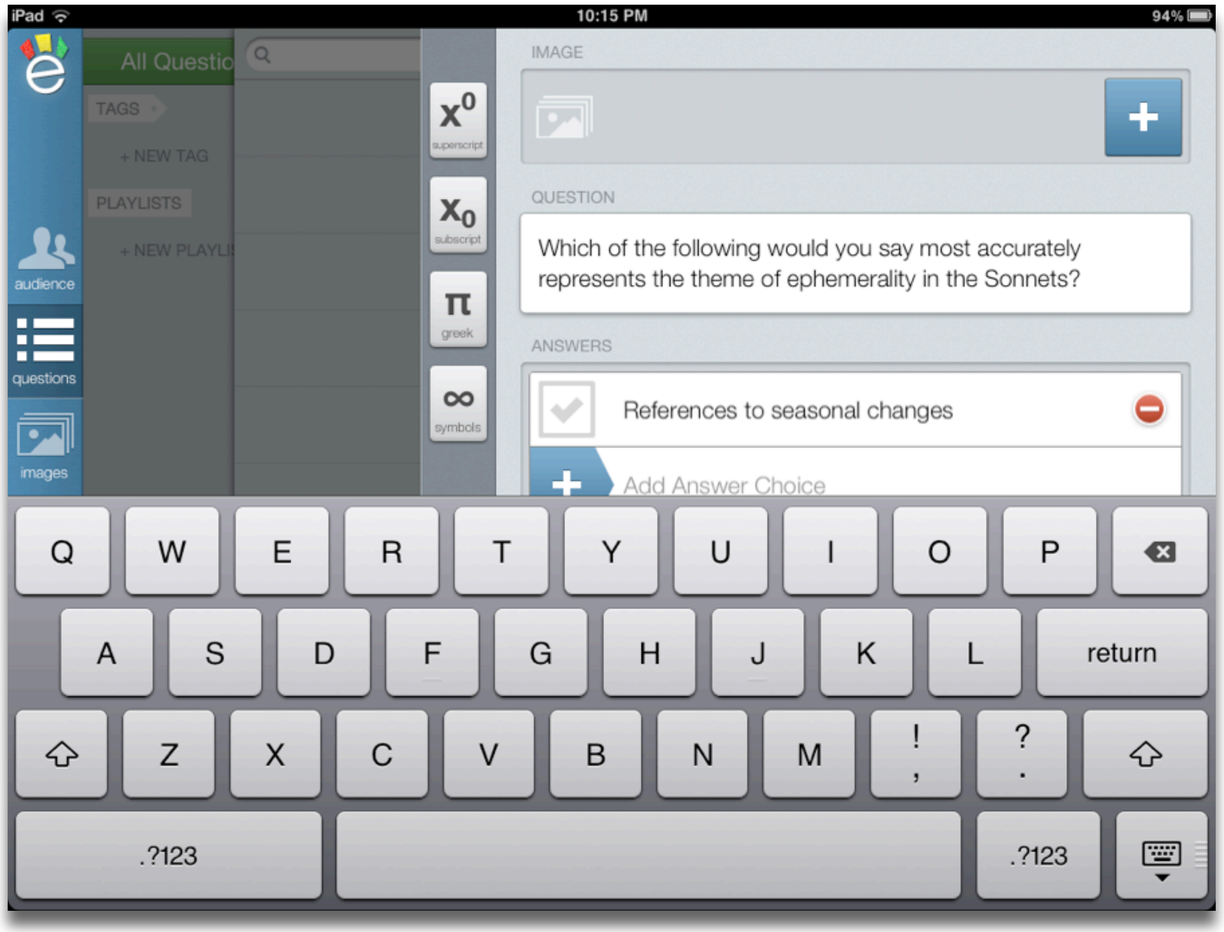

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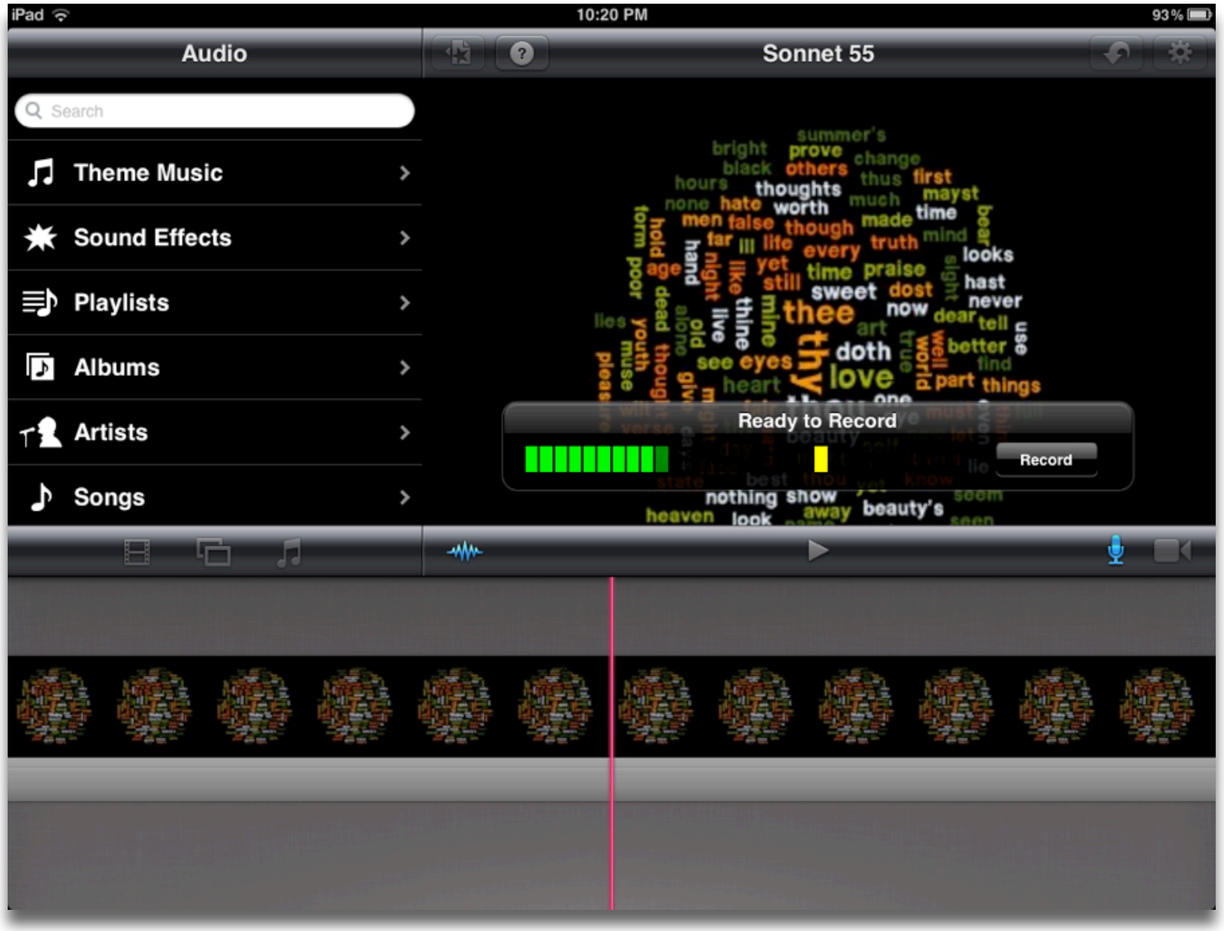

Study	SAMR Classification	Description	Effect Size
Algebra I *Effectiveness of Cognitive Tutor Algebra I at Scale*, by John F. Pane, Beth Ann Griffin, Daniel F. McCaffrey, Rita Karam	**S to A**	**S:** Computerized algebra drills, some tied to real-world scenarios **A:** Tools for basic visualization; adaptive response to student progress	**≈ 0.2** 50th perc. → 58th perc.
Earth Science *Using Laptops to Facilitate Middle School Science Learning: The Results of Hard Fun*, by Alexis M. Berry, Sarah E. Wintle	**A to M**	**A:** Interactive tools for concept exploration and visualization **M:** Narrated animation as final project	**≈ 0.6** 50th perc. → 73rd perc. (≈ 1.4 a month later) (50th perc. → 92nd perc.)

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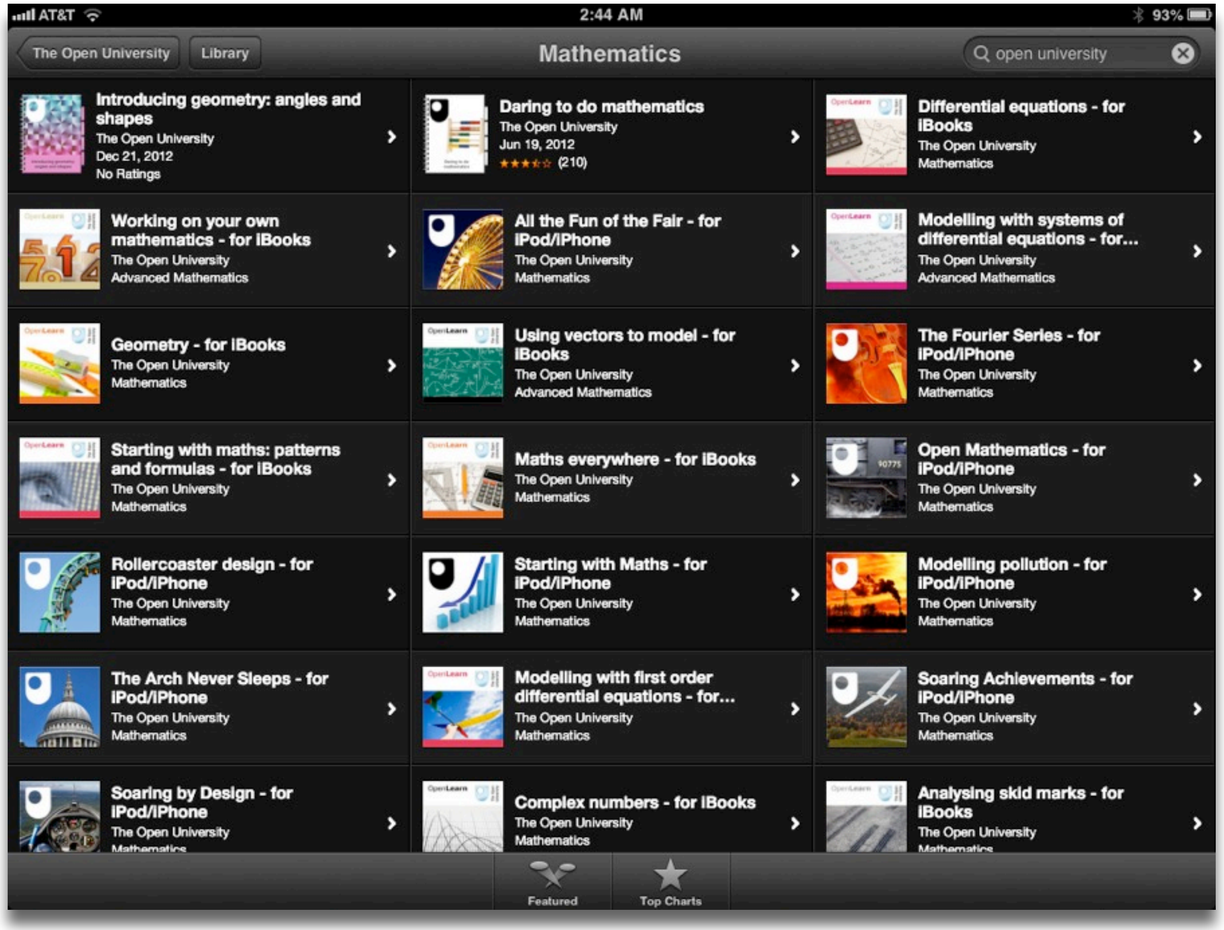

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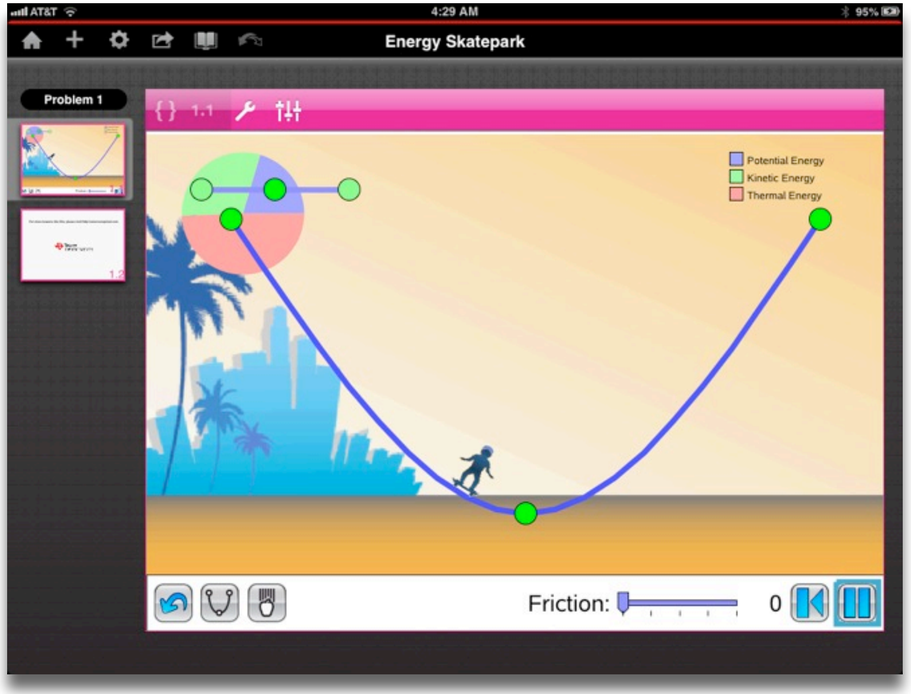

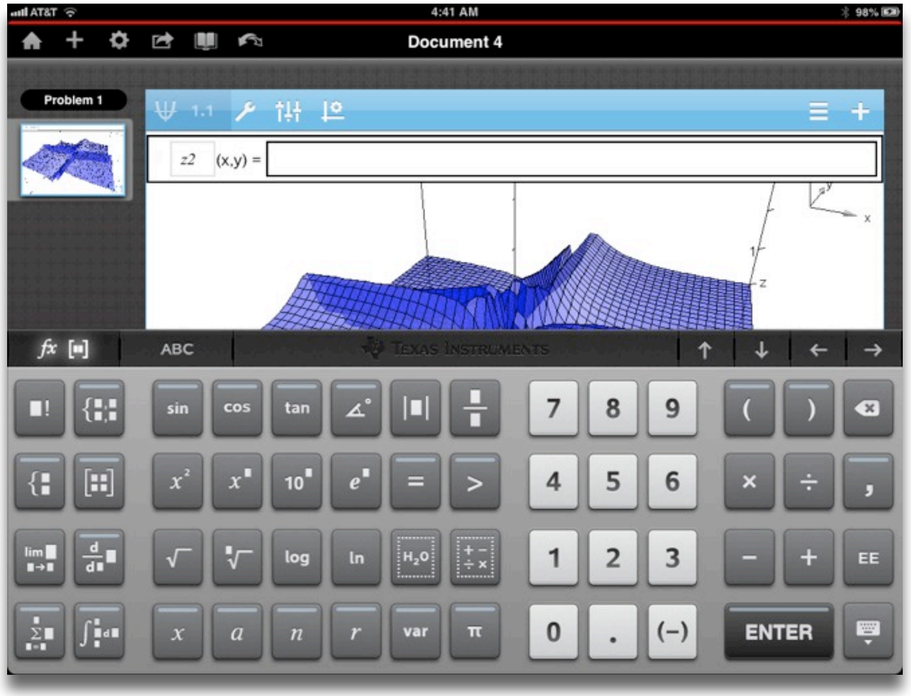

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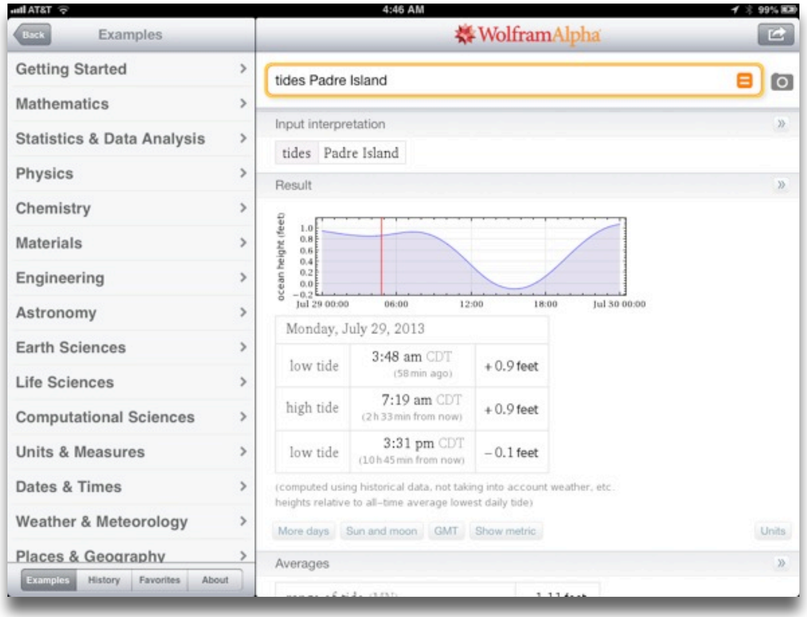

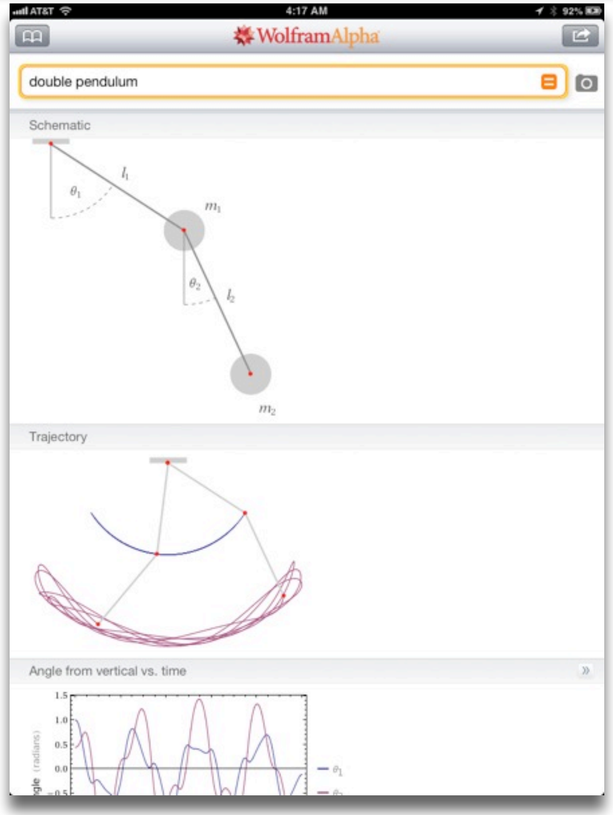

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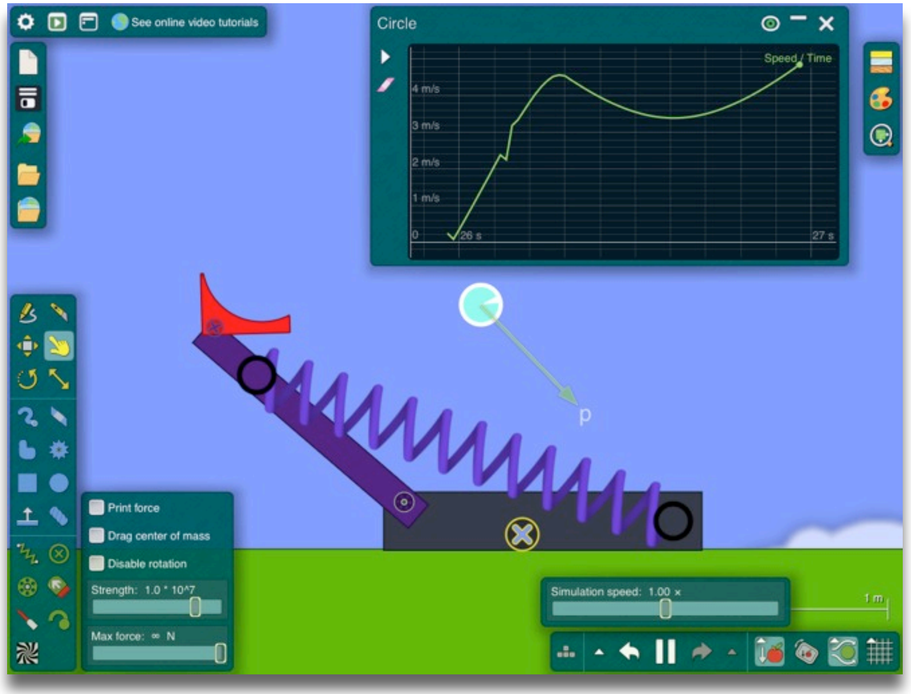
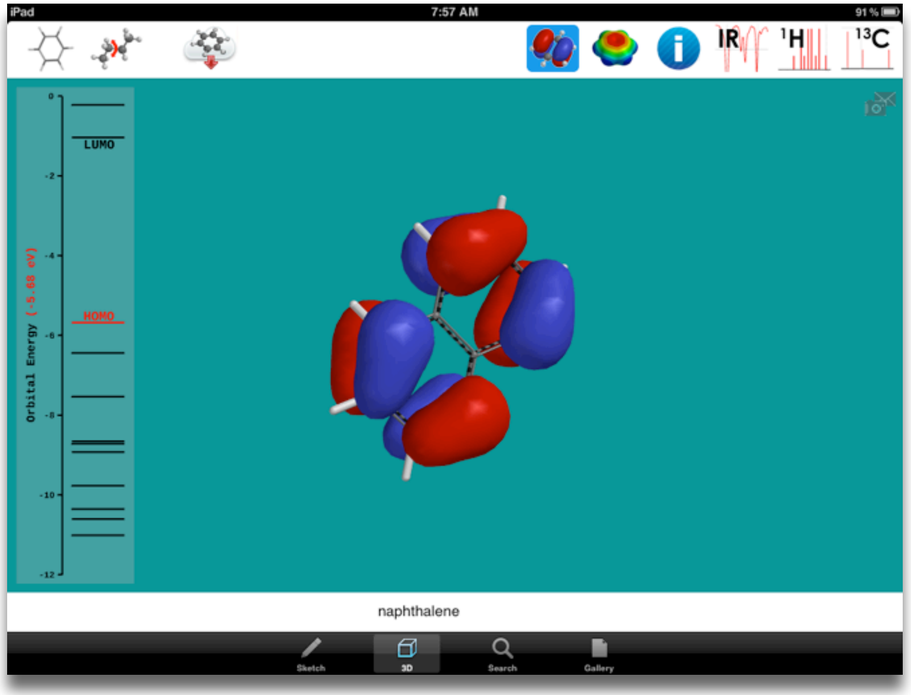




Sources for OS X Apps

All of the SAMR ladder screenshots are linked to websites and sources for the apps used. Since many of these apps are iPad-only, I have listed below equivalents for OS X, linked to their corresponding sources:

Vocabulary Instruction:

- SynMap: https://itunes.apple.com/us/app/synmap/id498403269?mt=12
- ExpoBoard: https://itunes.apple.com/us/app/expoboard/id451144036?mt=12
- Comic Life 2: https://itunes.apple.com/us/app/comic-life-2/id402508085?mt=12

Geography:

- Catan: https://itunes.apple.com/us/app/catan/id654939475?mt=12
- Google Earth: http://www.google.com/earth/index.html
- Gapminder: http://www.gapminder.org

Literature:

- Wordle: http://www.wordle.net
- Google Forms: https://support.google.com/drive/topic/1360904
- iMovie: https://itunes.apple.com/us/app/imovie/id408981434?mt=12

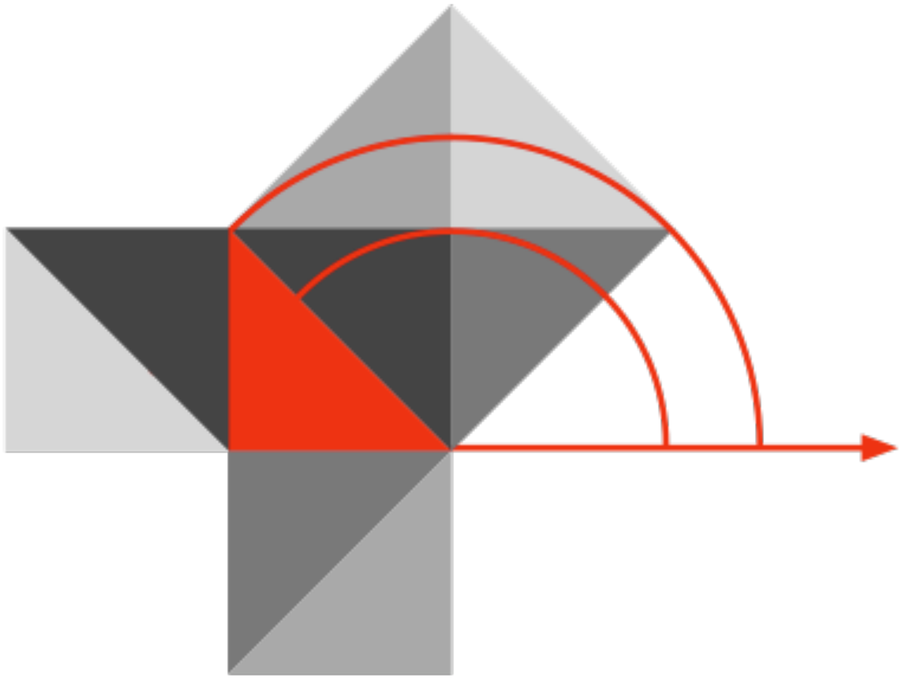
Math:

- TI-Nspire: http://education.ti.com/en/us/products/computer_software/ti-nspire-software
- Wolfram Alpha: http://www.wolframalpha.com
- Algodoo: https://itunes.apple.com/us/app/algodoo-physics/id464050545?mt=12
- Spartan Student Edition: https://www.wavefun.com/products/macintosh/Student/mac_student.html

Resources

- Ruben R. Puentedura, *Transformation, Technology, and Education*. (2006) Online at: http://hippasus.com/resources/tte/
- Ruben R. Puentedura, *As We May Teach: Educational Technology, From Theory Into Practice*. (2009) Online at: http://tinyurl.com/aswemayteach
- Ruben R. Puentedura, “Technology In Education: The First 200,000 Years” *The NMC Perspective Series: Ideas that Matter*. NMC Summer Conference. (2012) Online at: http://www.youtube.com/watch?v=NemBarqD6qA

Hippasus



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