http://openeducationconference.org
Data breaks illusions
What do you know about your instruction?
How big is the design space?

What’s best?

Focused practice

Gradually widen

Distributed practice

Study examples

Test on problems

Concrete

Mixed

Abstract

50/50

Study

50/50

Test

Concrete

Abstract

Mix

Immediate

Delayed

No feedback

Immediate

Delayed

No feedback

Block topics in chapters

Interleave topics

Ask for explanations

Explanation

Mix

Interleave topics

Ask for explanations

Many other choices: animations vs. diagrams vs. not, audio vs. text vs. both, …
How big is the design space?

$>3^{15*2} = 205$ trillion options!

Open
A network that guides and contributes to the continuous improvement of learning, design and instruction
So what are we doing at CMU?

OpenSimon: Learning Engineering for Everyone

Improve learning outcomes for individual learners while collectively advancing our larger understanding of human learning.

The vision behind OpenSimon is a more integrated and easier-to-use toolkit, used and expanded by a larger community of educators to drive deliberate, iterative improvements in education. This approach supports educators as citizen scientists, and helps people who support them — at universities and companies that make educational products — provide help that is grounded in the science of learning.
Working with OLI:

- Courseware
- Authoring
- Customization and Improvement
- Research
- Communities of Practice
Instructional Sidecars

Pre-packaged, re-usable instructional resources that provide coherent, recurring opportunities for practice and feedback across multiple contexts.

Foundation-Level Writing Courses
First Year Writing | Professional Writing

- Students Learn foundational Writing Skills
- Students Learn to Use Technology Enhanced Learning Tools

Sidecar Design

Learning Objectives

Resources/Tools
- Assignment Definition
- Evaluation Rubric
- TEL Environments

Instructional Support
- Consultation
- Grading

Writing instruction experts configure each sidecar for a specific writing task (e.g., Proposal, Executive Summary, etc.)

Open Learning Initiative
Carnegie Mellon University

oli.cmu.edu
Community-Sourced Data-Driven Improvements to Open, Adaptive Courseware

Image: Diagram of a cycle involving community, data, and improvements.
Partnerships

SUNY

OER services

Georgia State University

MARYLAND OPEN SOURCE TEXTBOOK Initiative
Torus
Next-Gen OLI
http://proton.oli.cmu.edu
https://github.com/Simon-Initiative/oli-torus
Two More Points
#DigiPo

Digital Polarization

Web Literacy for Student Fact Checkers

Mike Caulfield @holden

webliteracy.pressbooks.com
“Hope is an axe you break down doors with in an emergency; because hope should shove you out the door, because it will take everything you have to steer the future away from endless war, from the annihilation of the earth’s treasures and the grinding down of the poor and marginal. ... To hope is to give yourself to the future - and that commitment to the future is what makes the present inhabitable”

Rebecca Solnit