

Resilient Course Design

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ELLBOGEN
CENTER FOR
TEACHING AND
LEARNING

What Makes a Course Resilient?

“Well-planned online learning experiences are meaningfully different from courses offered online in response to a crisis or disaster.”

(Hodges et al., 2020)

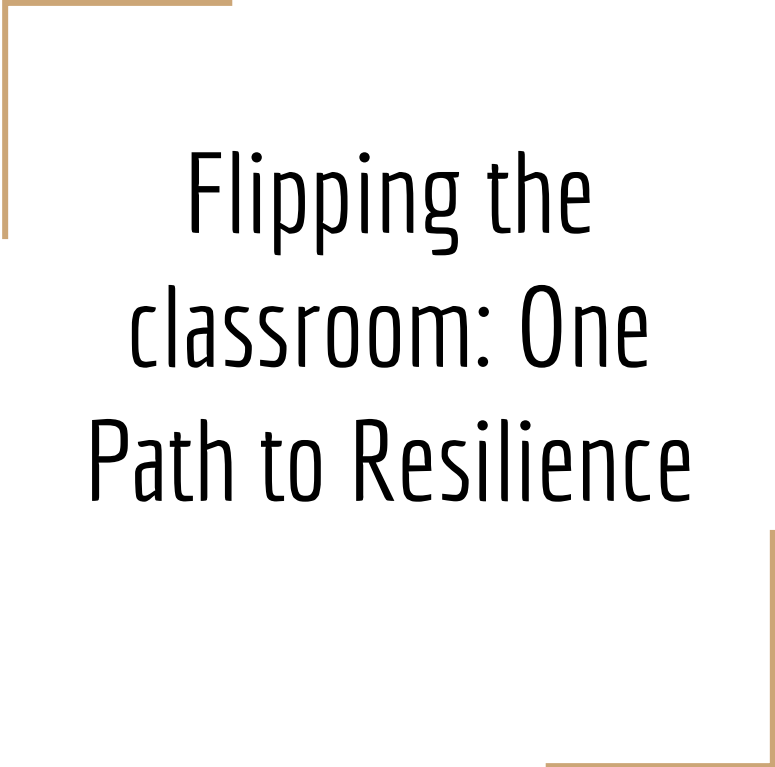
Resilient courses are:

- Intentionally designed
- Evidenced-based
- Active & learner-centered
- Delivery method independent

Resilient Course Design Options

- Fully online - asynchronous
- Fully online with synchronous activities (Hybrid)
- Recorded (asynchronous) content with face-to-face (synchronous) classroom activities (Flipped)





Flipping the
classroom: One
Path to Resilience

LAMP Learning Assistant Testament

"When classes were switched online during this past semester, Dr. Hoberg ...transitioned to a flipped classroom where we were given practice sheets that explained the mechanisms and provided us with practice questions to do before class every day. At the beginning of the semester when we did practice problems during class I was overwhelmed and confused, and inevitably just waited for him to show us the correct mechanisms. After transitioning to the flipped classroom I was able to come to class with more of an understanding of what was going to be covered that day. When we would cover practice problems I was able to apply what I learned from the online mechanisms sheets and follow along with the processes rather than just copy everything down while still being confused. This allowed me to understand what I needed to work on, and generate questions during class whereas before I was unsure if I had the level of understanding to even know what it was that I was unsure of. Despite all the challenges from this last semester, transitioning organic chemistry into a flipped classroom really enhanced my ability to learn."

- Sydney Comet, Molecular and Microbiology Major

What is Flipping?

Flipping is moving content out of the class sessions in order to enable students to spend class time engaged in authentic, meaningful problem solving tasks.



Determining 'real world' goals

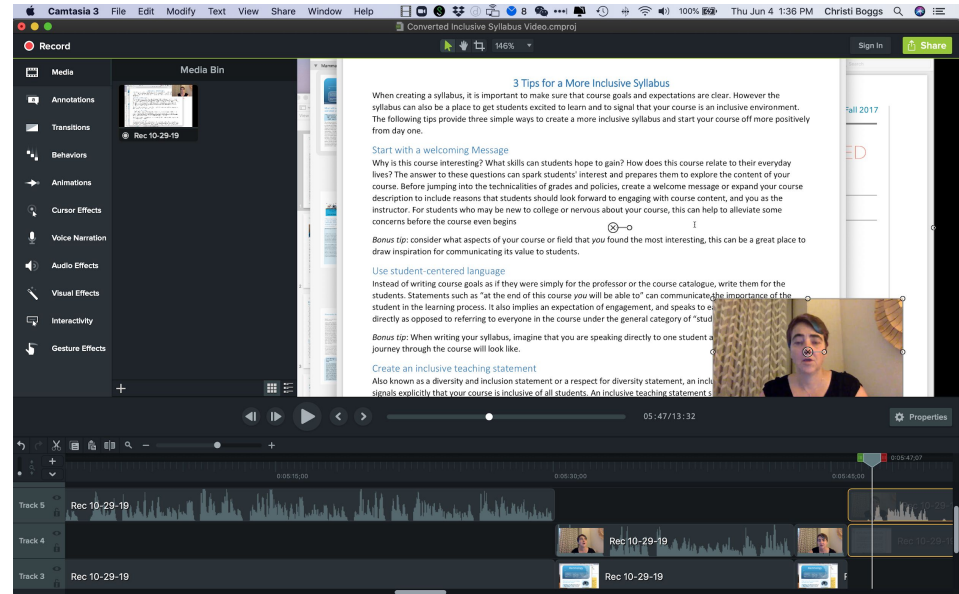
Instructors determine what students need to be aware of and have as background information (the “pre-party”) versus what they need to be able to do (hands-on skills that they need to practice).



What content can only be communicated by you in a lecture?

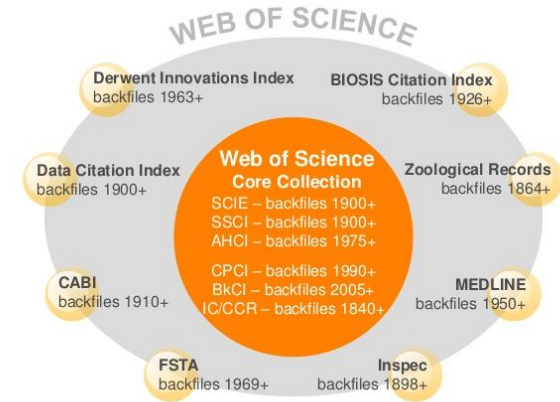
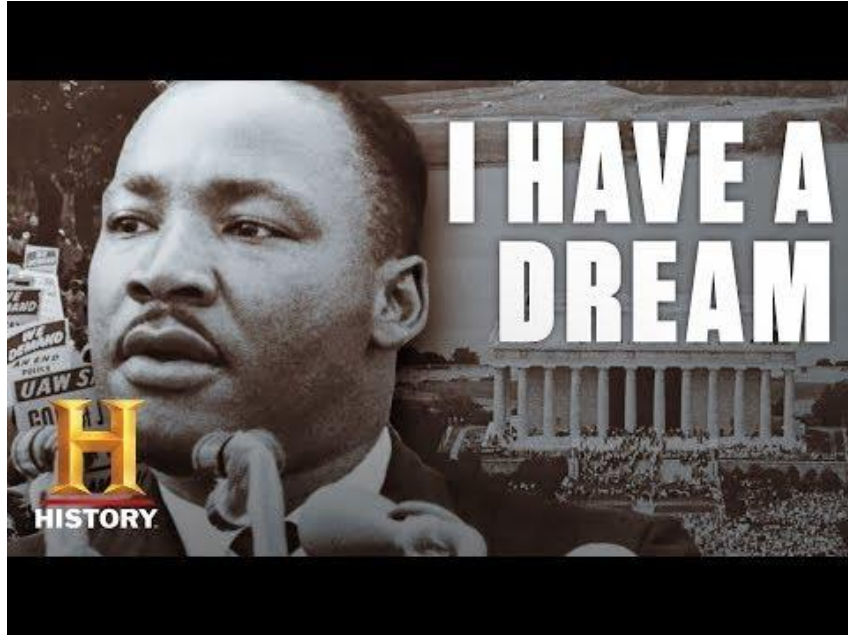
What has to be “covered” rather than “uncovered”?

- Create a short, mini-lecture with only this content
- Make this available to students ahead of time



What content is best communicated through outside resources?

Examples: primary literature, videos, experts in your field



AMERICAN HERITAGE CENTER



June Featured Collection

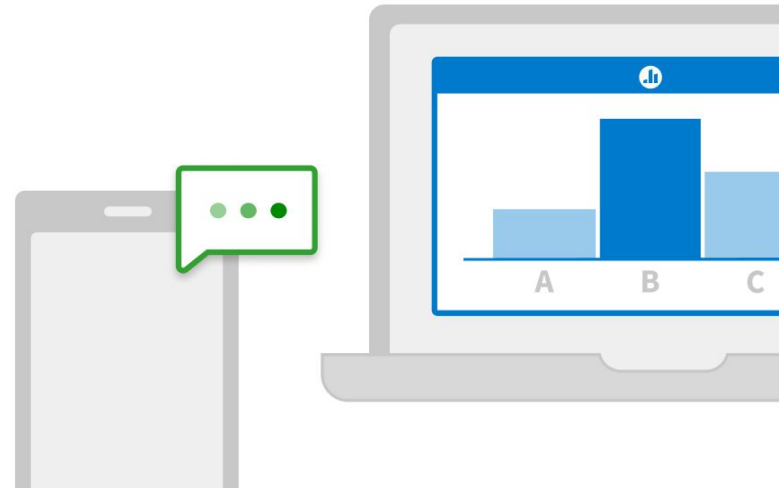
Elmer Floyd Lovejoy was a Laramie, Wyoming, businessman and inventor. He came to Laramie in 1883 for health reasons and soon developed an interest in mechanics. He opened a general repair shop, Lovejoy Novelty Works, at 412 S. 2nd St. in 1893, and a few years later he built a steam-powered automobile incorporating design innovations of his own. In 1902, he built and drove Laramie's first steam-driven automobile. In 1905, he invented an automobile steering gear, and in 1918 and 1921 he patented designs for automatic garage door openers. Lovejoy also operated a dealership for Franklin automobiles. Lovejoy was active in the Laramie Bicycle Club and was an amateur photographer. The collection includes a record book, film, correspondence, and patents of this Laramie, Wyoming businessman and inventor.

Past featured collections:

- May 2020: [Al Christie](#)
- March 2020: [Edith Kirkwood Ormsby Clark](#)
- February 2020: [Union Pacific Historical Society](#)
- December 2019/January 2020: [Grace Raymond Hebard Papers and Carrie Chapman Catt letters to Grace Raymond Hebard](#)
- November 2019: [Robert P. Olmsted Collection](#)
- October 2019: [James L. Ehernberger Western Railroad Collection](#)

How we ask students to prioritize their pre-class preparation?

- Individual readiness assurance testing
- Team readiness assurance testing



Our 'real world' goal today

NEW YORK TIMES BESTSELLER

NEW
CHAPTER
ON
MUSIC

['Words leap off the page.'
— USA Today]

brin rules

12 principles for surviving and thriving
at work, home, and school

J O H N M E D I N A

SCRIBE

Engaged participants will be able to recognize environments where learners' brains work best!

In evidence-based pedagogies, we call this a SLO (student learning outcome)

Brain Derived Neurotrophic Factor (BDNF) is a trophic factor that improves cognition, under what circumstances is more of this factor produced?

When a learner is excited
to learn

When a learner is listening
intently

When a learner watches a
TEDx talk

When a learner exercises
(moves around!)



When poll is active, respond at PolleEv.com/rachelwatson430

Text **RACHELWATSON430** to **37607** once to join

According to John Medina (molecular biologist, neurologist and author of Brain Rules), the education environment that is directly opposed to what the brain is good at doing is?



What content & skills can be “uncovered”

Realized through problem solving? teamwork? building? writing? drawing, doing? creating?

- During class, students practice the skills on which they will be evaluated.
- Students create artifacts that they can take with them to support their further deep learning.

When your primary goal is solving a problem, it doesn't matter where you are. Students can work in teams no matter where each individual student is located. They can join one another virtually through many different technologies ...

Today's Problem Solving

In which environment is the brain best able to learn? Explain.



A



B



C



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References & Resources

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Hodges, C. Moore, S. Lockee, S. Trust, T. and Bond, A. (2020) The Difference Between Emergency Remote Teaching and Online Learning. Educause Review. Creative Commons BY-NC-ND 4.0.

Medina, J. (2014) Brain rules: 12 principles for surviving and thriving at work, home and school. Seattle, Washington: Pear Press.