

SIMIODE EXPO 2022

**Make Eigenvalues
Resonate**

**© Jeffrey Anderson, PhD
Foothill College
Friday February 11, 2022
1:15pm - 2:15pm (EST)**

Support Resources

Presentation homepage

<https://jeffandersonmath.wordpress.com/2022/02/10/make-eigenvalues-resonate-simiode-expo-2022/>

Let's co-create this experience

Please find our Google doc.

Respond to “Participant Warm Up” prompt

Context for this Work

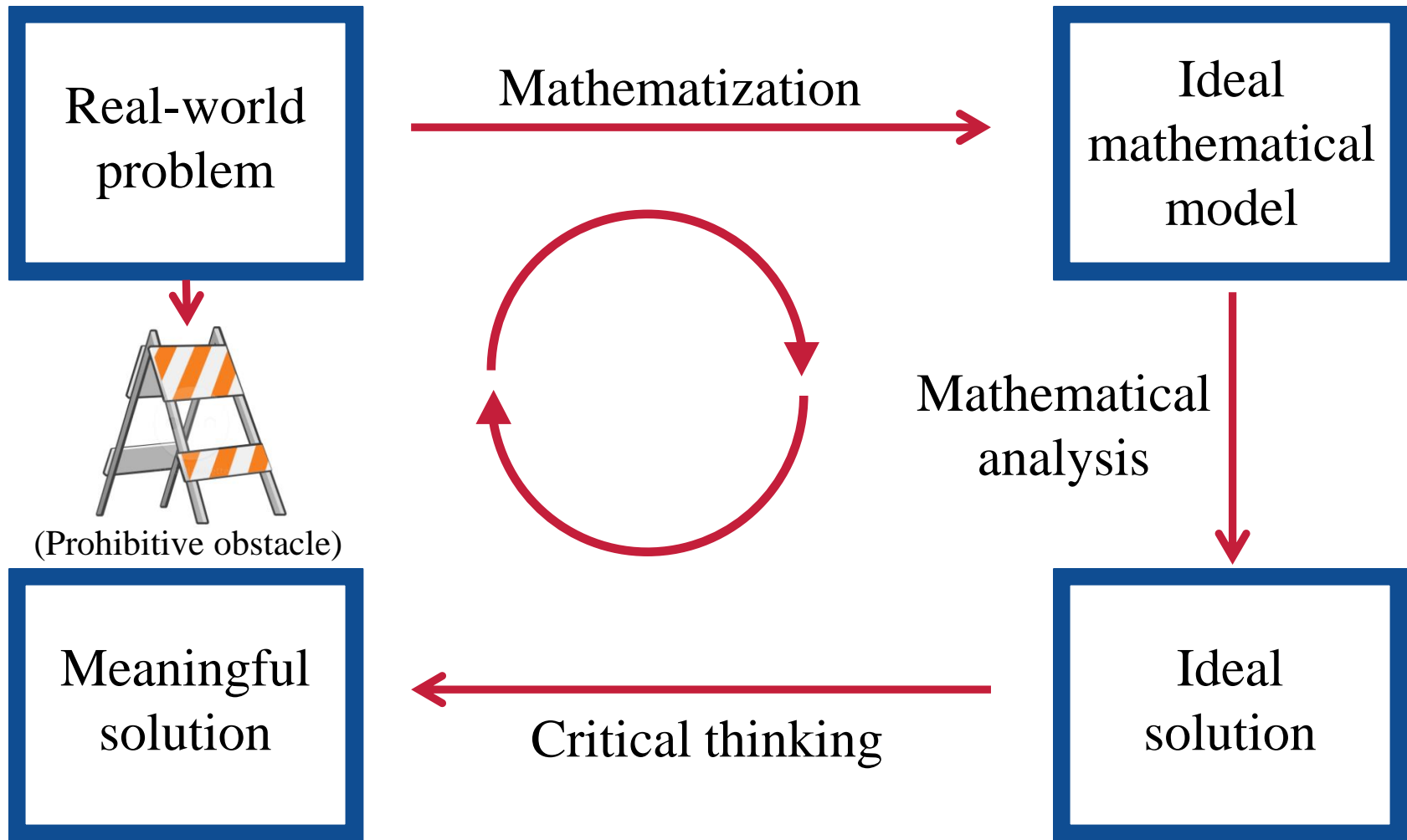
“Roger Schank has often said,

‘There are only two things wrong with education: what we teach, and how we teach it.’

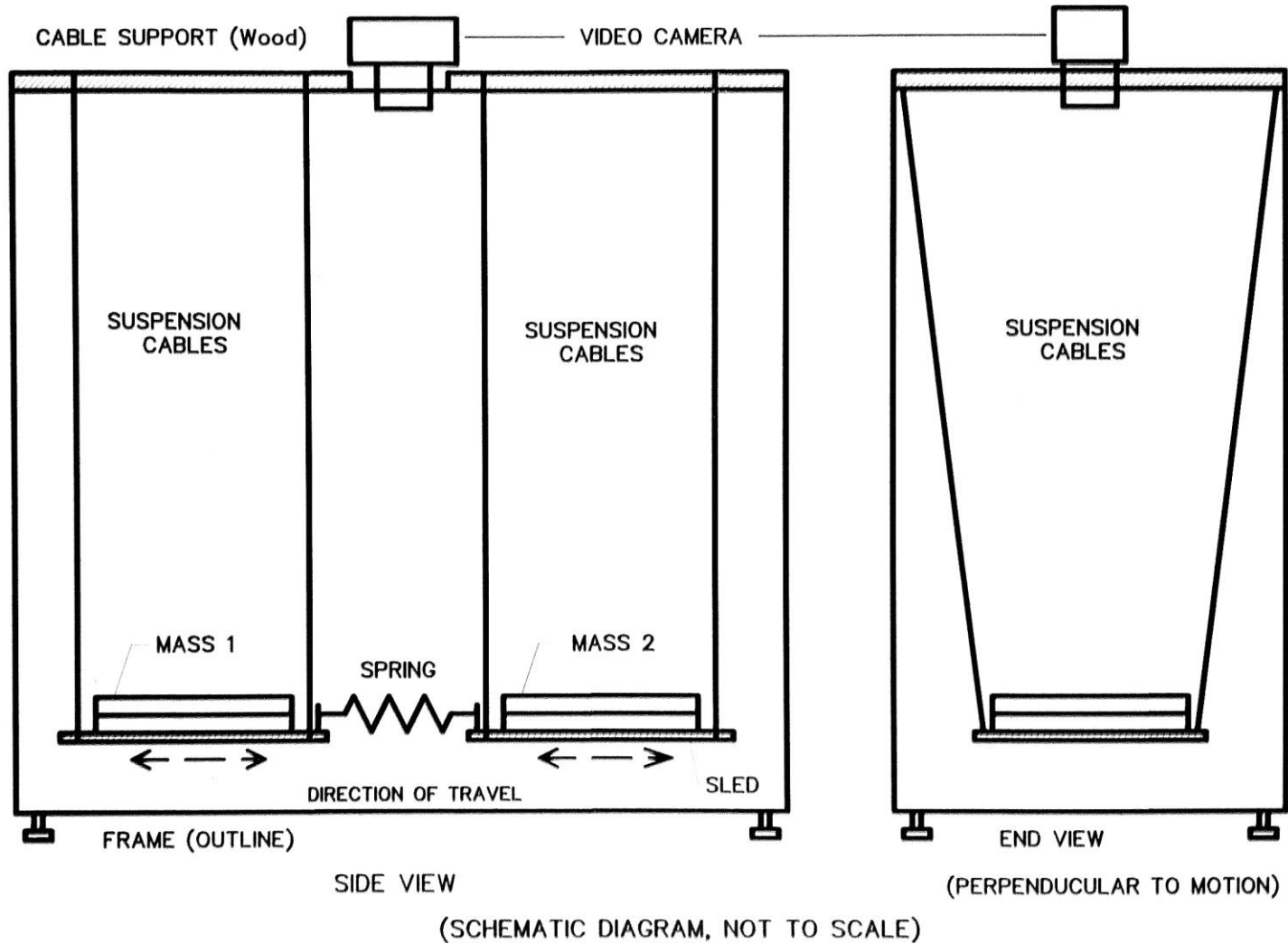
Getting rid of grades is an important part of fixing the *how*, but it’s important not to lose sight of the *what*.”

Book : Ungrading: Why Rating Students Undermines Learning (and What to Do Instead), Edited by Susan Bloom, Chapter 8: Critique-Driven Learning and Assessment by Christopher Riesbeck, pp. 135

The Mathematical Modeling Process



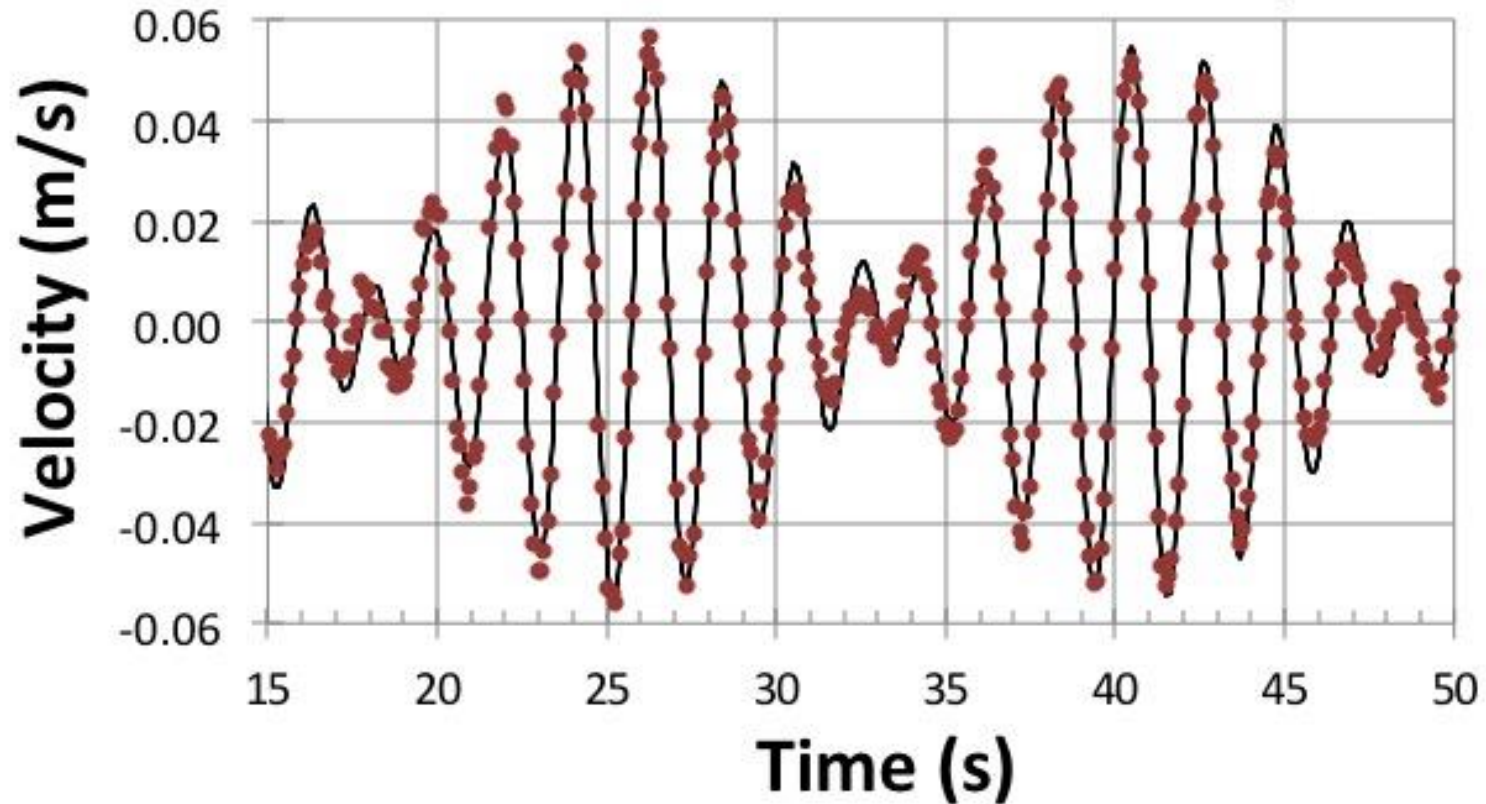
Eigenvalue Modeling



Data Collection

Model Validation

- Left mass: measured velocity
- Left mass: modeled velocity



Design the Classroom

I'm working to implement this activity in classrooms that feature the following design choices:

- Flipped learning
- Active learning on applied projects
- Collaborative work in small groups
- Ungrading processes
- Heavy focus on meta-learning
- Weekly one-on-one conferences with me (the teacher)