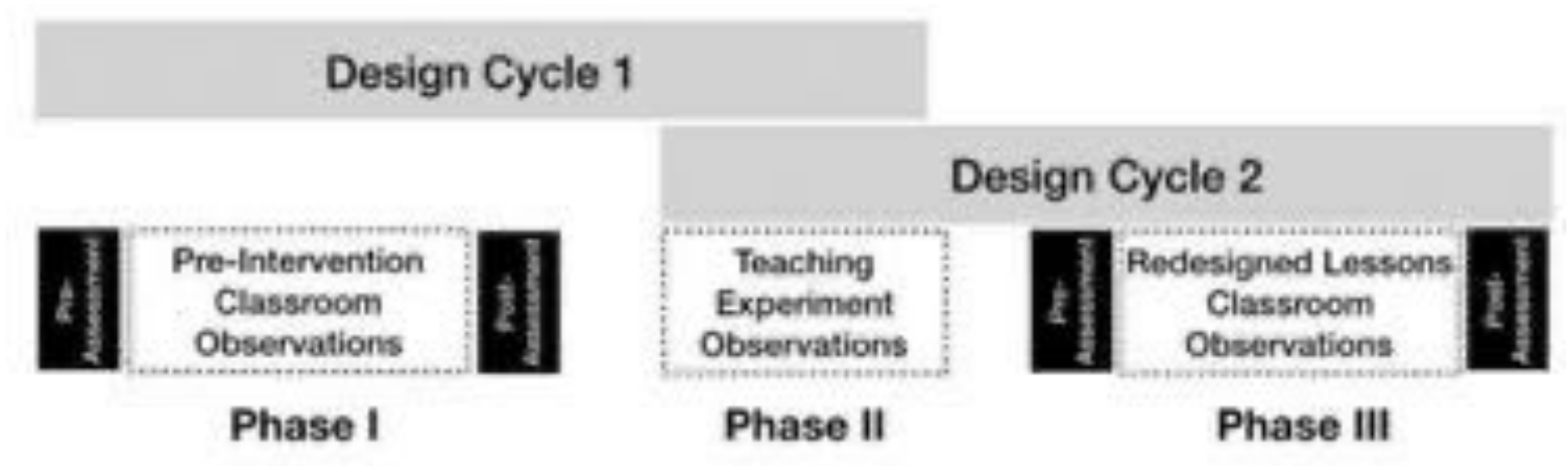# Two Design Cycles

- Design-based research (Cobb et al., 2003)

Design Framework

Academic Literacy in Mathematics for emergent bilingual students (Moschkovich, 2015; Moschkovich & Zahner, 2018)
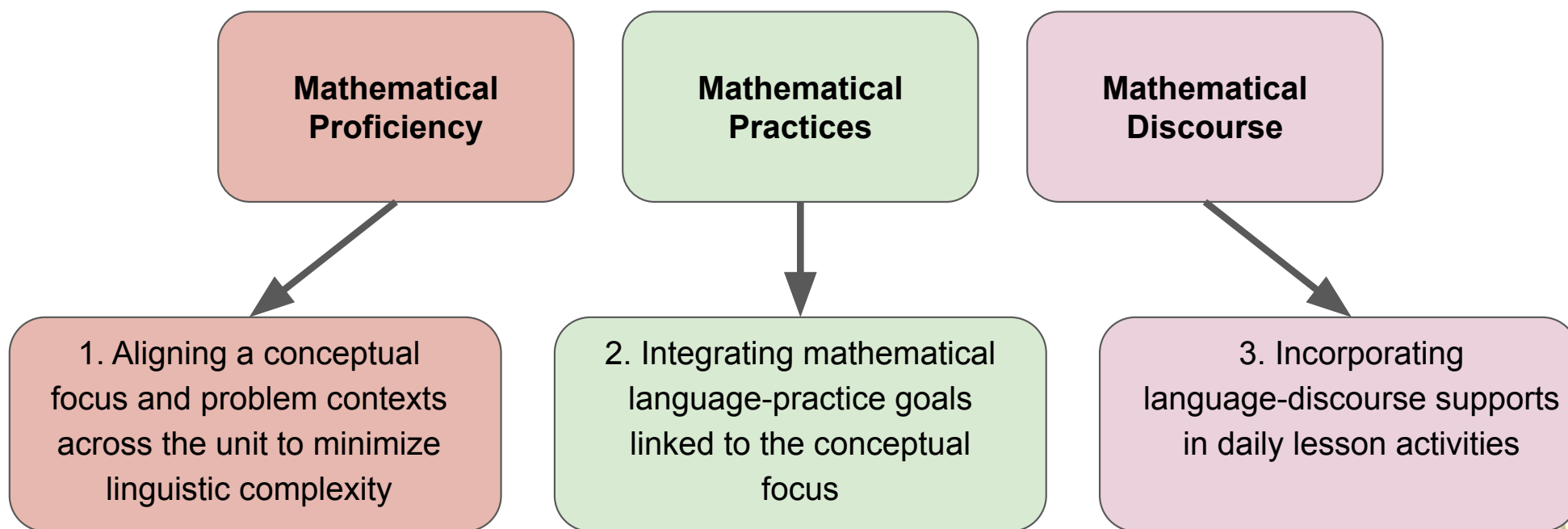
| Mathematical Proficiency | Mathematical Practices | Mathematical Discourse |

Design Principles

Dimensions of ALM Framework → Project-Specific Design Principles

Mathematical Proficiency

Mathematical Practices

Mathematical Discourse

1. Aligning a conceptual focus and problem contexts across the unit to minimize linguistic complexity

2. Integrating mathematical language-practice goals linked to the conceptual focus

3. Incorporating language-discourse supports in daily lesson activities

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Example: Introducing Linear Rate of Change

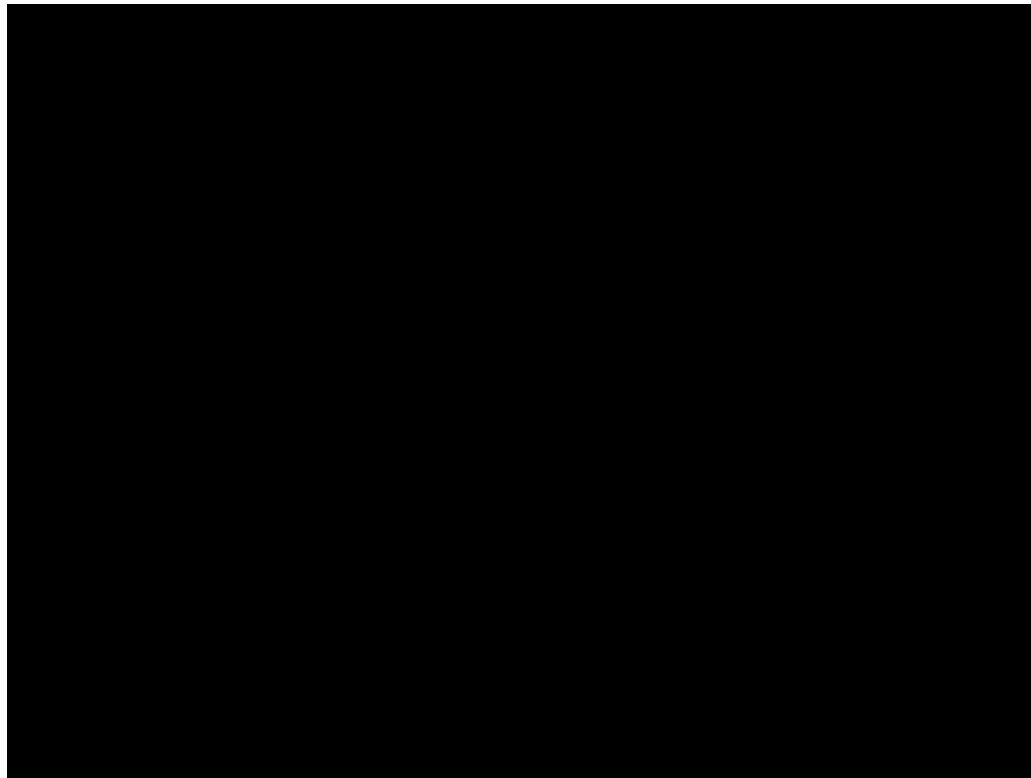# Pre- and Post- Redesign Video Illustrations

Video Example: Pre-Intervention

Mr. S. Introduces slope as speed / average rate of change in distance-time graph
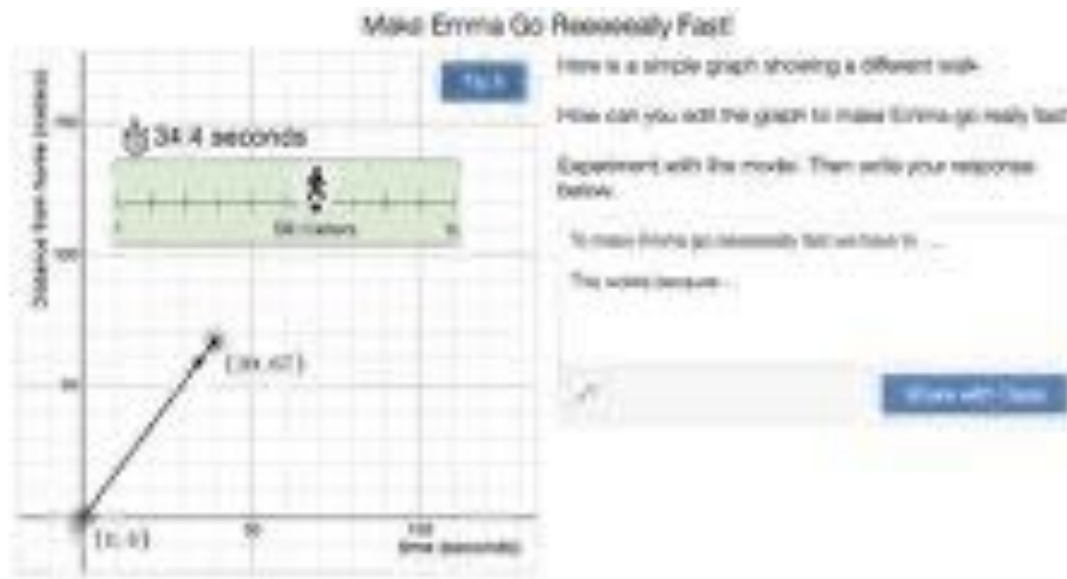

What was Emma's average speed on the way to the park?

Video Example: Pre-Intervention

Video Example: Redesign

How can you edit the graph to make Emma go fast?

Video Example: Redesign

What did you notice & wonder?

I noticed…

I wonder…