

“Is This Real Life?” Mixed Reality Training for Learning Assistants

Introduction

Learning Assistants (LAs) practiced leading small group interactions with simulated students during the final month of a pedagogy seminar based on the University of Colorado, Boulder model.¹

The Simulation: TLE TeachLive™ @ UCF

- Mixed reality, fully immersive classroom simulator²
- Student avatars exhibit diverse characteristics, personalities and abilities²
- Strong simulated environments require personalized learning, suspension of disbelief and cyclical procedures³



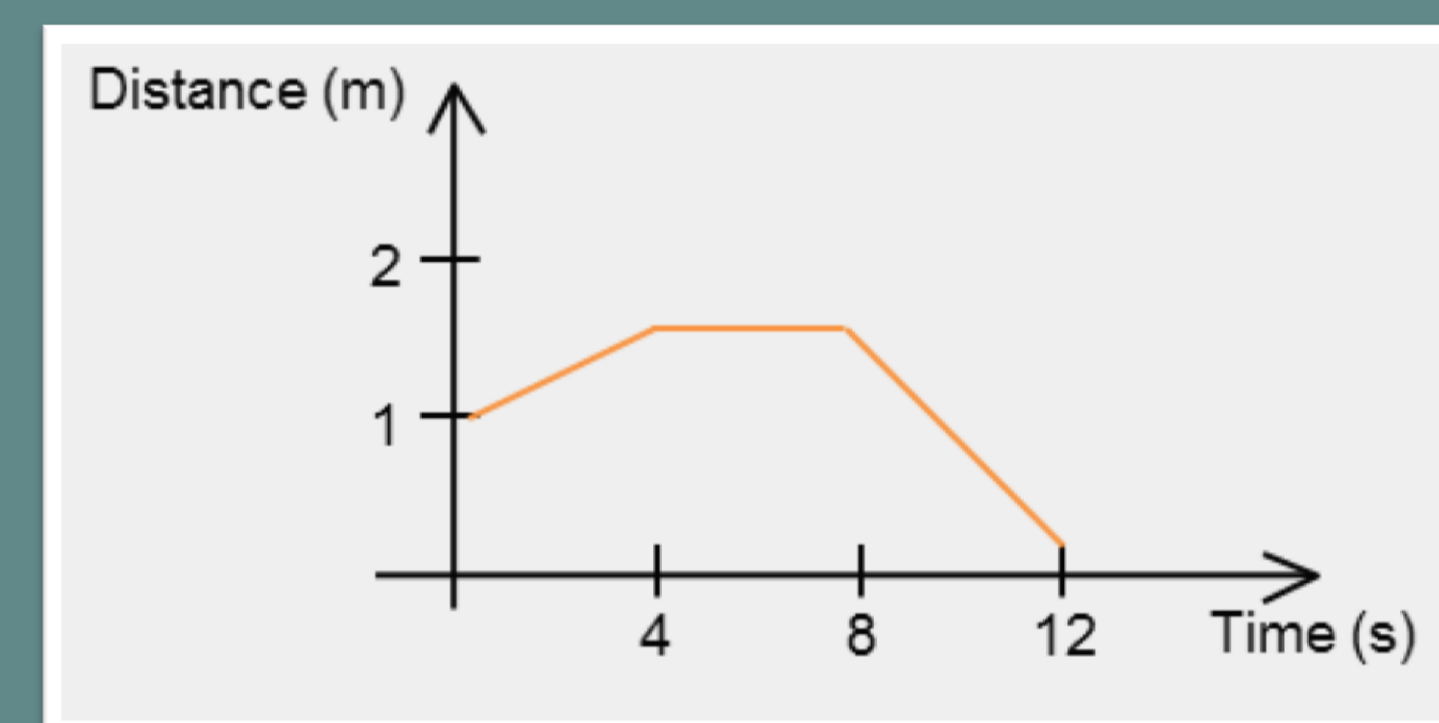
The Action Review Cycle (ARC)

Method developed by U.S. Army Training Center⁴ for learning through simulation

- Before Action Review: plan for what you intend to learn
- Action: experience the simulation
- After Action Review: compare goal and actual results

Example from a Second-Semester LA

Activity: Predict what the velocity vs. time graph would look like for the motion described by the distance vs. time graph above.⁵



Before Action Review (BAR)

- *Student Learning Goals:*
 - velocity is given by the slope of a position vs. time graph
 - meaning of a straight line on position and velocity vs. time graphs
 - position and velocity graphs of the same motion may look different
- *Target Pedagogy Skills:*
 - find out what they know
 - give them time to answer before jumping in
 - relate to equation for velocity for students who prefer math
 - use open-ended Q's to find out what they think w/o guiding too much
- *Anticipated Student Ideas:* trouble with distinguishing between position, velocity and acceleration

Example (continued)

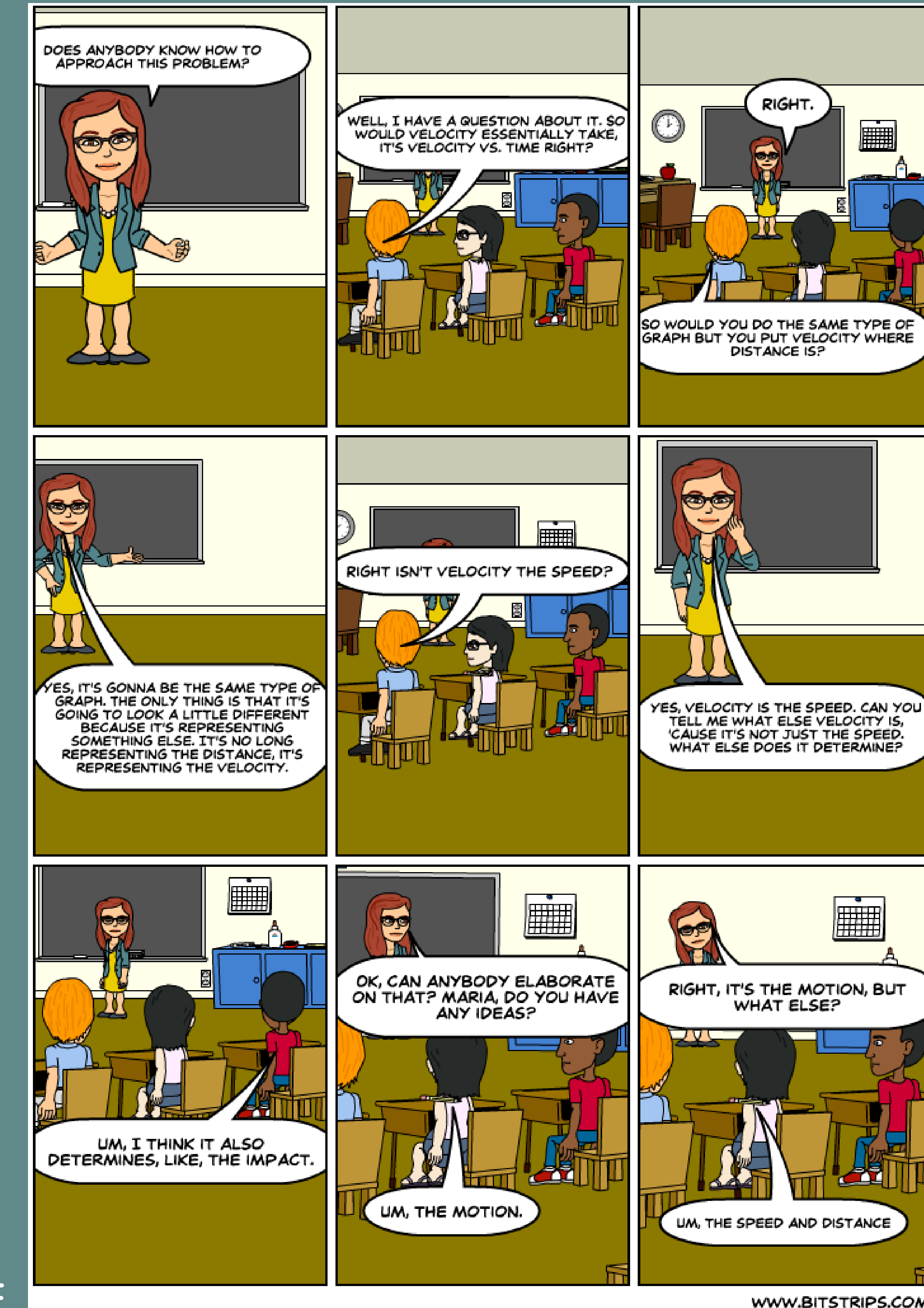
Action: LAs lead two ~5 minute discussions

Transcripts and videos allow analysis of pedagogical techniques:

- use of open and closed questions
- use of formative assessment
- attention to student's prior knowledge (*can be specifically planted!*)
- discourse processes, such as uptake, use of authentic questions and levels of evaluation⁶

After Action Review (AAR)

- *Strengths:* getting students to understand the question and the concepts needed; engaging all students, even if initially resistant
- *Areas for Growth:* keeping students on topic; involving shy or disinterested students.
- *Useful Pedagogical Strategies:* wait time; different types of questioning: “If I waited too long for students to respond, they got distracted and off topic. Similarly if I asked them questions that were too broad, they wouldn't know what to answer...”
- *Overall:* “Despite being animations, it was surprisingly lifelike and reminded me a lot of being in a classroom... I quickly found out that some of the same issues I have with real students, were present in the simulation class as well...I think that this is really something that every LA should experience because it really is a great way to make an assessment of your skill in a non-threatening, non-judging environment.”



Combinations of videos, BARs and AARs allow for analysis of:

- pedagogical techniques LAs felt fit the activity and simulation
- extent to which LAs enacted identified technique
- match between LAs self-reflection and performance

Future Work

- Analyze videos, BARs, and AARs from 3 individual LAs and 3 three-LA groups
- Assess extent to which the simulated activity met qualities for strong simulated environment,