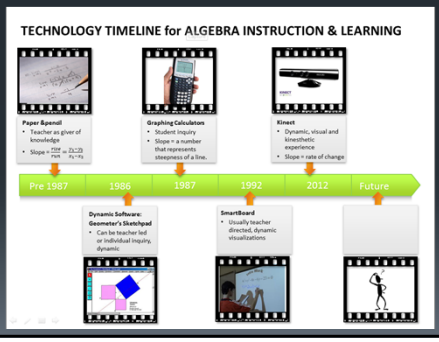
Microsoft Kinect & KinectMath as a Catalyst for Flipping Classroom Learning

Keri Johnson
Graduate Student, Education
University of Washington

Technology Tools Mediating Mathematics Teaching & Learning



'Flipping' the Classroom

- **Traditional math courses**
  - Lecture based
  - Focus on algorithmic procedures
  - Student goal: reproduce this knowledge
- **Flipped math classrooms**
  - Video recording lessons to watch as homework, outside of class
  - Bring in tools such as KinectMath to allow students to explore concepts in a new way

Microsoft Kinect & KinectMath

- **What is KinectMath?**
  - KinectMath software introduction

KinectMath Demonstration

- Algebra: Functions and Translations
  - Tracking Mode
  - Matching Mode
  - Editing Mode
- Geometry: Rotation, Translation, Scale
  - Geometry Mode
  - Birds Eye Mode

KinectMath Classroom Application

- Classrooms
  - College
    - Whole class demonstrations and discussion
  - Middle School & High School
    - Whole class
    - Small group inquiry

KinectMath Research Questions

- Research
  - Does KinectMath lead to deeper understanding of mathematical concepts?
  - Does this kinesthetic experience positively impact students' mathematical learning? For all students?
  - How do teachers learn to implement this kind of technology? In what ways do they incorporate it in their teaching?

Contact Info

- Software and user guide is free to download
  - www.kinectmath.org
- Questions and ideas
  - Keri Johnson, kerij@uw.edu
  - Dr. Robin Angotti, riderr@uw.edu