



Association of Mathematics Teacher Educators

Welcome to the AMTE Webinar

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Using Animations to Create Teaching and Learning Scenarios for Mathematics Teacher Education

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PTMT project @ NC State

Using Artifacts of Practice in Teacher Education

For many years, teacher educators, and mathematics teacher educators in particular, have advocated for the use of artifacts of practice in the professional education and development of teachers.

(see sample reference list at end)

What types of artifacts of practice have you used?

(Let's take a Poll!)

Your Thoughts

**What do artifacts of practice afford
us as mathematics teacher
educators?**

Enter your responses in the Question box

“...teachers need robust examples with which to work, either from their own classrooms, or collected systematically from others. To be useful, artifacts of practice require careful collection and development.”

(Ball & Even, 2009, p. 256)

Potential Uses of Animation Authoring Tools

Mathematics Teacher Educator:

Use examples from research or practice to

- Construct a scenario of a classroom
- Represent students' work on a task

Preservice or Inservice Teacher:

Enact lesson planning and instructional skills to:

- Construct a scenario of how to introduce a task , or explain a concept to students
- Construct a scenario of sample student-teacher dialogue on anticipated work on a task

Example of Research-informed Scenario: Launching a Statistical Investigation and Student's Work



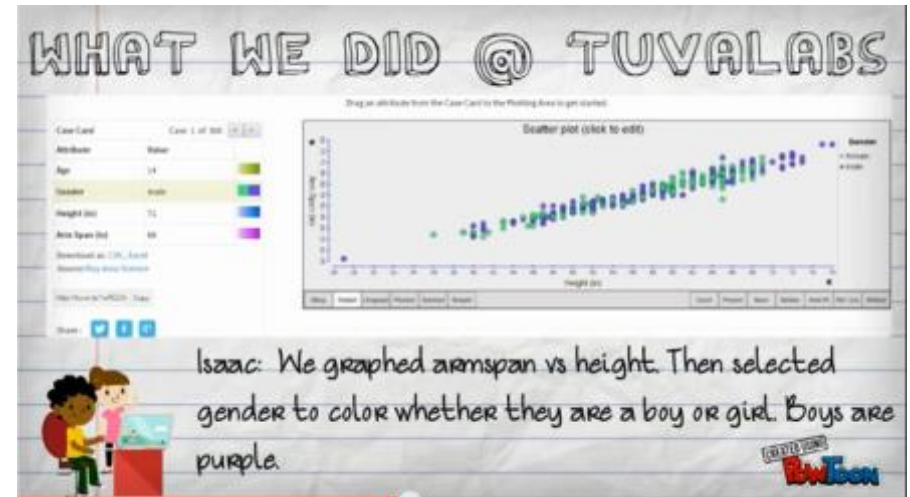
<http://tinyurl.com/kqx29fz>

Examples of Practice-based Scenarios



Made with GoAnimate

<http://tinyurl.com/ncznpqr>



Made with PowToon

<http://tinyurl.com/nybj29p>

Some Free (or Cheap) Tools

Commercial and Educational Tools:

Web-based tools

GoAnimate <http://goanimate.com> (\$58/yr)

Powtoon <http://www.powtoon.com> (free)

XtraNormal <http://xtranormal.com> (used to be free, but recently acquired and being redone)

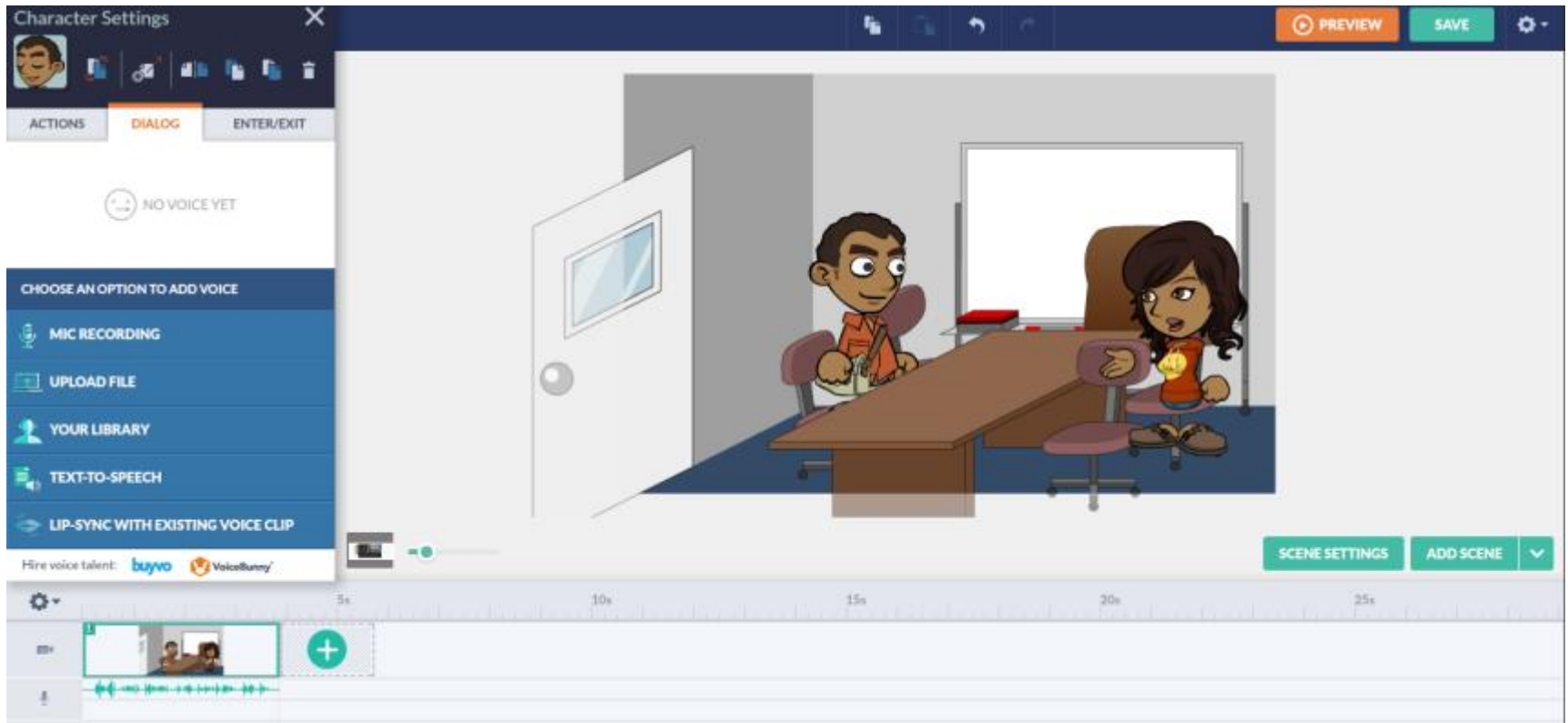
Muvizu <http://www.muvizu.com> (free-Windows Only)

Designed for Teacher Education Purposes:

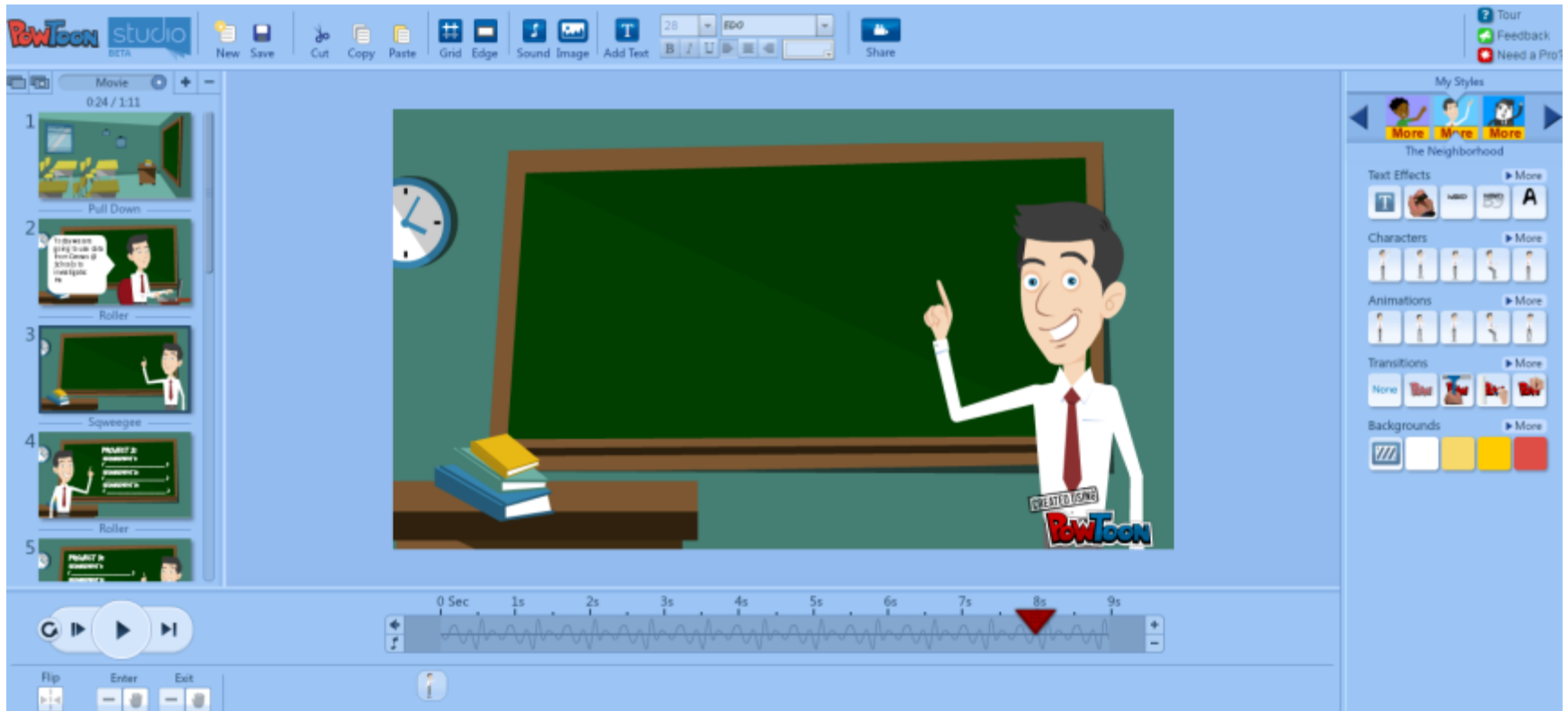
Dynalogues <http://dynabook.sri.com/dynalogue/>

Lesson Sketch <http://www.lessonsketch.org>

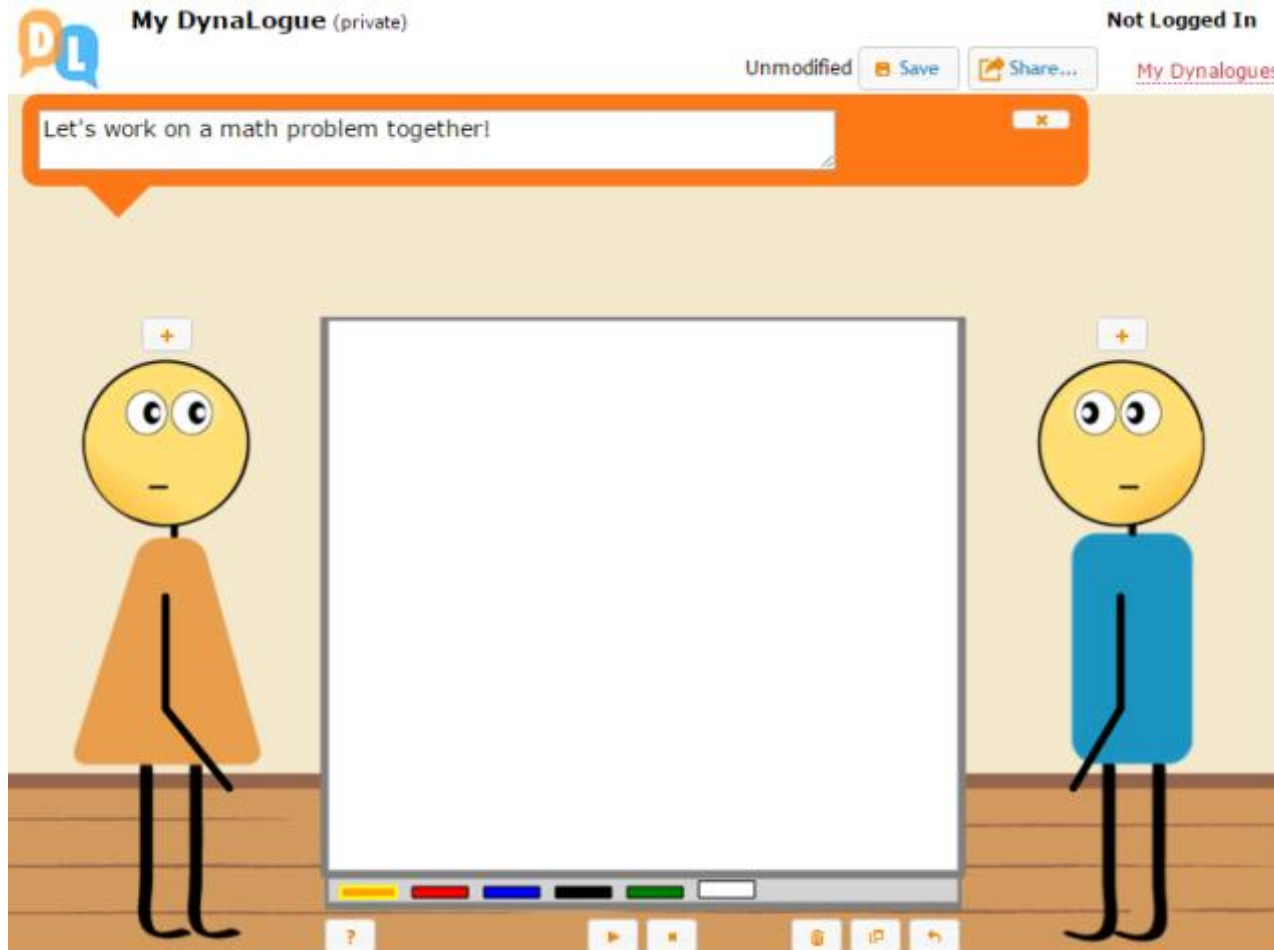
GoAnimate



PowToon Studio



Dynalogues



Lesson Sketch

The screenshot shows a web-based lesson sketch interface. At the top, there is a navigation bar with buttons for HOME, COLLECTIONS, TOOLS, RESOURCES, EXPERIENCES, FORUMS, GROUPS, MY PROFILE, and HELP. Below this is a sub-navigation bar with tabs for Original Collection, Contributed Stories, Shared with Me, and My Stories. On the left side, there is a vertical menu with a list of items: A Number Rule, The Isosceles Triangle (Version D), The Midpoint Quadrilateral (Version F, Version H), and The Square. The central area features a cartoon blue character standing in front of a whiteboard. The whiteboard displays a diagram of an isosceles trapezoid with vertices labeled A, B, C, D and its midpoints labeled E, F, G, H. Lines connect the midpoints to form an inner quadrilateral. To the right of the whiteboard, there is a text box containing a summary and a note. At the bottom of the interface, there are three buttons: Annotate, View, and Go to Forum.

HOME COLLECTIONS TOOLS RESOURCES EXPERIENCES FORUMS GROUPS MY PROFILE HELP

Original Collection Contributed Stories Shared with Me My Stories

- A Number Rule
- The Isosceles Triangle
Version D
- The Midpoint Quadrilateral
Version F
Version H
- The Square

Summary: A geometry teacher discusses properties of isosceles trapezoids with his students. After asking students to identify the quadrilateral formed by connecting the midpoints of the adjacent sides of an isosceles trapezoid, the teacher asks the students to prove that the figure is a rhombus. The different versions of the episode vary with respect to the problem set-up and the solutions offered by the students.

B: Main branch of story. C-I: Abridgements of B.

Annotate View Go to Forum

Affordances and Constraints of Animations

- Time
- Purpose/Re-purpose
- Realistic but not “real”
- Enact dialogue
- Ease of use
- Bang for your buck

Sample Animated Videos

My Playlist on youtube.com with sample animated videos

- <http://tinyurl.com/mathedanimate>

Samples from Dynalogue from Janet Bowers

- <http://www.screencast.com/t/ig0xWJhg>
- <http://www.screencast.com/t/lw3f4JwT>

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- Herbst, P., Chazan, D., Chen, C. L., Chieu, V. M., & Weiss, M. (2011). Using comics-based representations of teaching, and technology, to bring practice to teacher education courses. *ZDM*, 43(1), 91-103.
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