## Tools for Creating Multimedia Instructional Content

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Slide Handout for
Tools for Creating Instructional Content

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# Knowledge

Declarative (Concrete)

Conceptual (Abstract)

Procedural (Active)

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## Teaching - Learning

Move Students from
the Concrete, Observed, Experiential, and Inductive
to
the Abstract, Conceptual, Predictive, and Evaluative

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## Most teachers want their students to develop analytical skills to abstract information and to apply procedures.

How can you do this in your classroom presentations?

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## How Do You Best Learn Concepts?

- The analytic procedure that recognizes abstractions (concepts) in text is beneficial once it is understood and applied effectively.
- Sorting through paragraph text to abstract information and recognize concepts in a matter of seconds is inefficient and ineffective!
- Show me the money –the conceptual relationships!
- Let me do the analysis outside of class.
- Let me extend the analysis with other students in class.

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## How Do You Best Learn Concepts?

- Presentations are not documents:
  but most classroom presentations are.
  - Nancy Duarte (*Slide:ology*)
  - Garr Robinson (*Presentation Zen*)
  - Edward Tufte (*Visual Explanations*)
- Presentations are flash cards.
- Make the documents available on-line!
- But then, what do you have left?

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The best presentations (TED) use graphics with text labels to help audiences recognize and remember the concepts—the abstract.

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Illustrations and
Annotated Images
are the most effective way
to present
Conceptual (Abstract) Content.

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## How Do You Best Learn Procedures?

- Textbooks and workbooks have illustrations and static examples, but are they effective?
  - Are the instructions easy to recognize and use?
  - Most people write instructions in a paragraph instead of numbered and separate actions (verbs).
- Long procedures need to be *drawn and quartered*, chunked, and sectioned.

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## How Do You Best Learn Procedures?

- Text instructions are problematic because the audience has to construct their own reality—has to create a detailed picture of the objects in the situation.
- The best instructions are captured *in situ* for incremental playback.
- Action-by-action video and action-by-action text are good instructions because they are easy to "rewind".

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## Temporal (Sequential) Relationships

- Activity Capture and Edit: Scenes and Screens
  - Slides or Movies?
  - Scene Capture Tools and Screen Capture Tools
- Software for developing time-based graphical instructions needs the capacity to animate and annotate.

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## Slide 1

Captured or animated
audio-video material
with
selections for emphasis and
annotations
are the most effective way
to present
Procedural Content (Instructions).

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## Slide 2
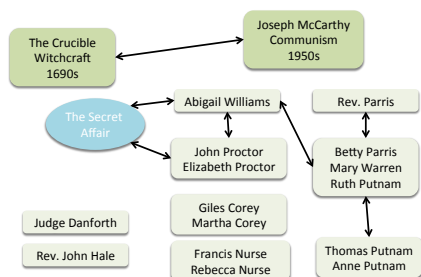
### Change How You Present!

- Build and Present Concept (Mind) Maps
  - Diagrams with Shapes, Labels, Images, and Connectors
- Use Sequences of Frames or Diagrams that change emphasis on particular pieces of the diagram to illustrate procedures
- Overlay Shapes and Annotations to draw attention to items in captured video
  - Concepts and Operations
- Offer documentation and instructions online

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## Slide 3

### Concept (Mind) Maps



The Crucible Witchcraft 1690s — Joseph McCarthy Communism 1950s — The Secret Affair — Abigail Williams — Rev. Parris — John Proctor Elizabeth Proctor — Betty Parris Mary Warren Ruth Putnam — Judge Danforth — Giles Corey Martha Corey — Rev. John Hale — Francis Nurse Rebecca Nurse — Thomas Putnam Anne Putnam

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## Slide 4

### Engage Your Students



You know what's Important — Create Emphasis — Draw Attention — Use Graphics — Shapes — Connecting Lines — Images — Bullet Points — Labels Annotation — Text
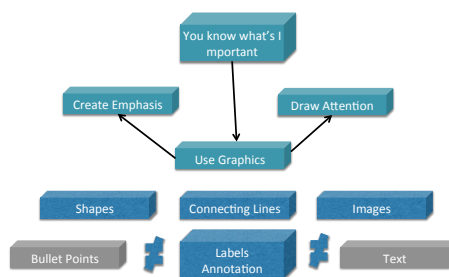
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## Slide 5

***REPRESENT CONCEPTS AS LINKED,
GRAPHIC SHAPES WITH TEXT LABELS.***

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## Slide 6

### Your Tool Boxes

- Mind Mapping Software
- MS OneNote, Circus Ponies Notebook
- MS PowerPoint, Visio, Word
- Apple Keynote, iSpring Presenter, Google
- Prezi
- Adobe Captivate, Techsmith Camtasia
- Adobe After Effects
- Adobe Edge Animate

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## Your Tool Boxes

- Adobe Illustrator – Vector Graphics
  - Artboards
- Adobe Photoshop (Elements) – Pixel Graphics
- Windows Movie Maker, Media Capture
- Apple iMovie
- VideoLAN Movie Creator
- Adobe Premier Pro (Elements)

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## Building and Presenting Mind Maps

- Build your script first and create your slides (concept maps) from it
  - MS OneNote, Circus Ponies Notebook, Mind Maps
  - Use your script to accommodate the graphics
- PowerPoint and other presentation software is built to create Slides First
  - No way to add Notes except to cut and paste

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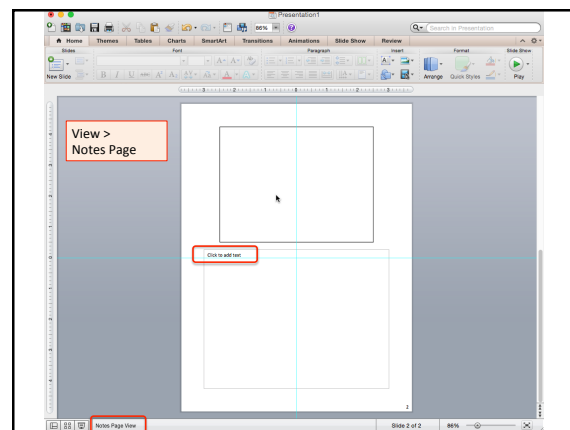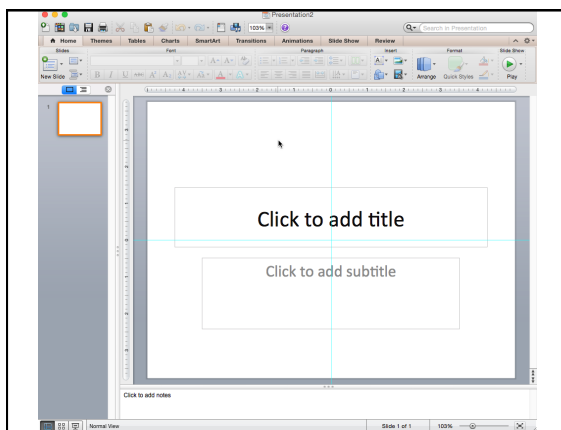




## Your Tools

- Import Images and Videos
- Film Strip or Timeline
  - Sequence of Slides or Sequence of Frames
  - Control: Click-to-change or Click-to-play-or-pause
    - Automatic Slide Transitions
- Shapes and Text Boxes
- Lines and Connectors
- Animation:  Tracks, Keyframes, Motion Paths
- Audio for narration
- Export PPTs, PDFs, MOVs

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## Concept (Mind) Mapping Software

- Text is serial even though outlines offer a two-dimensional hierarchy.
- Problem solving and developing conceptual relationships involve serial and parallel procedures.
- Even time-based media, at times, is too serial to teach problem solving and concept development that has become more complex than a simply parallel procedure.
- The most important skill of the presenter is the ability to convey relationships graphically.
- Software available for quickly developing graphical relationships:

| | | | |
|---|---|---|---|
| FreeMind | Mindly | MindJet | Personal Brain |
| Xmind -> SVG | MindMup | iThought | Mind Manager |
| MindMiester | iMindMap | Think Buzan | Mindomo |
| iMindQ | | | |

- MS OneNote, Circus Ponies Notebook (MacOS), MS Visio

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## Narrowing the Aperture

- There is a need to focus on and display smaller parts of these larger graphical relationships.
  - MS PowerPoint (MS Visio) -> slides
    - Apple Keynote
    - iSpring Presenter
    - Adobe Presenter
  - Adobe Captivate (Timeline and Branching) -> video
  - Techsmith Camtasia Studio (Timeline) -> video
  - Adobe Illustrator
  - Adobe Photoshop (Elements)

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## Time-based Audio Instructions

- Adobe Audition Au
- Audacity
- NCH WavePad

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Microsoft PowerPoint

**THE MOTHER OF ALL PRESENTATIONS**

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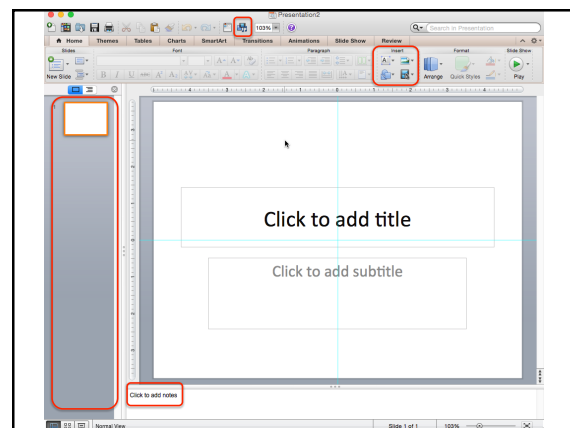


Slide Show > Presenter View

Concept (Mind) Map
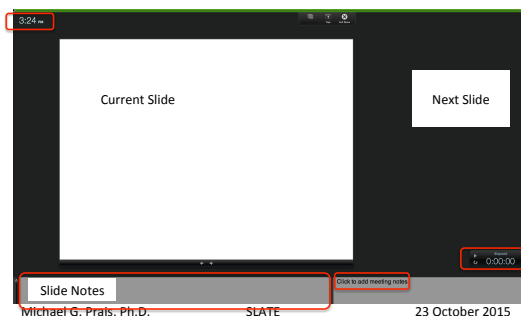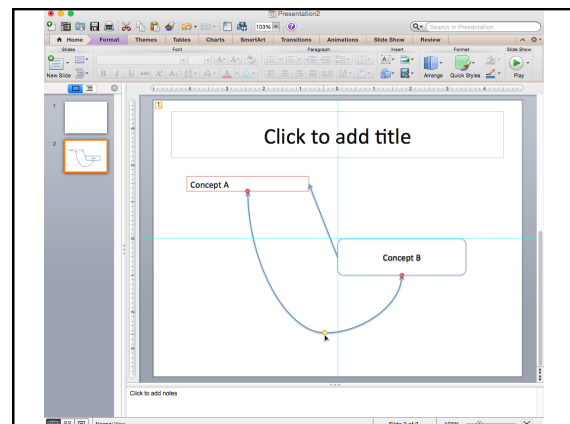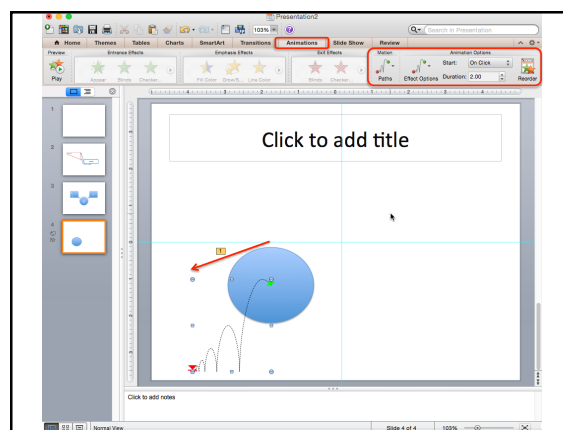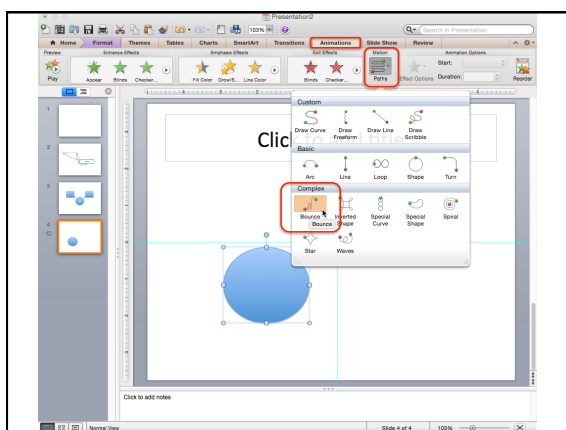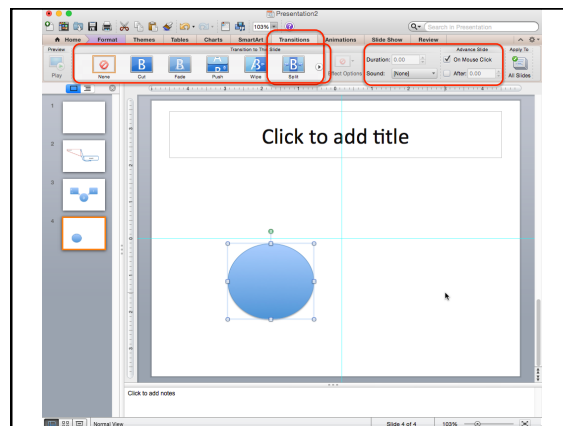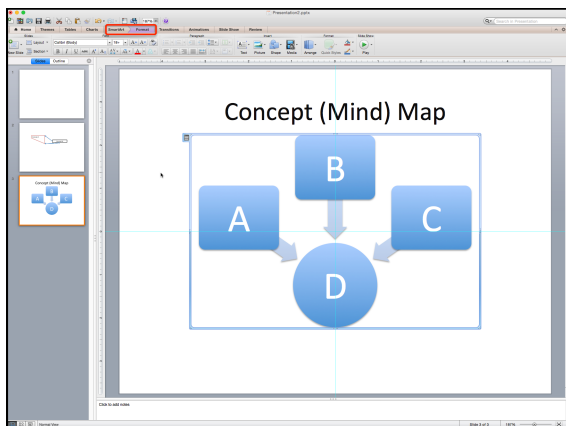






# MS PowerPoint

- Film Strip: Sequence of Slides
  - Control: Click-to-change
  - Presenter View
  - Automated Transitions
  - In-slide Animation, Motion Paths
- Text Boxes, Shapes with Text, Connectors
  - SmartArt: Compound Shapes
- Slide Notes (as a second thought)
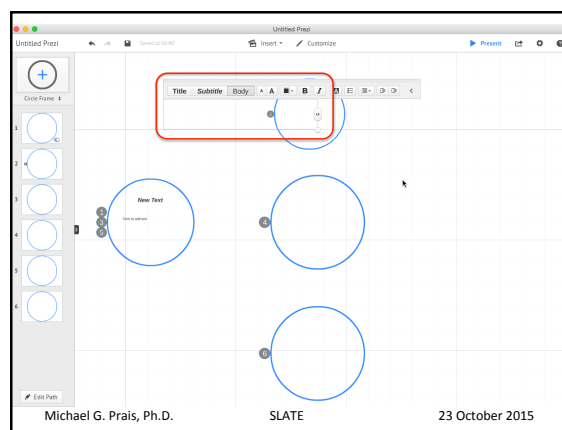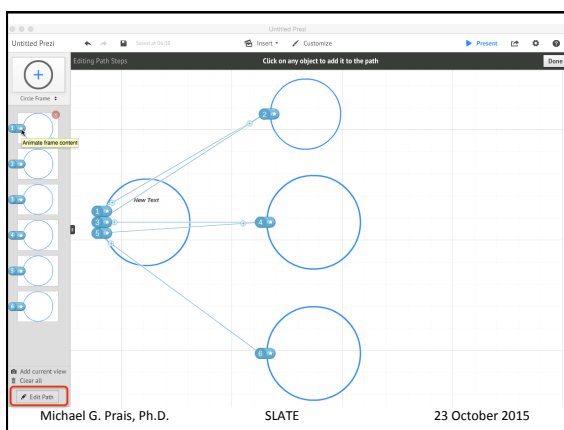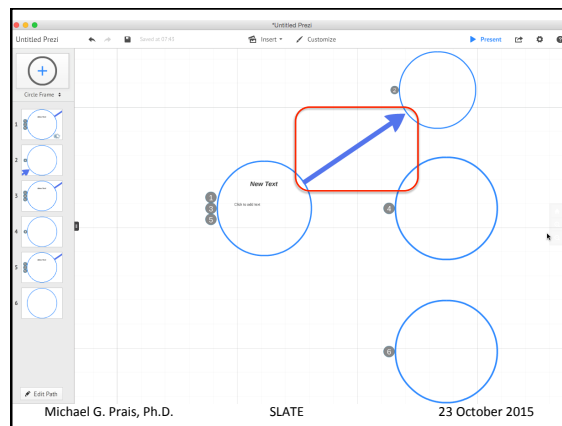
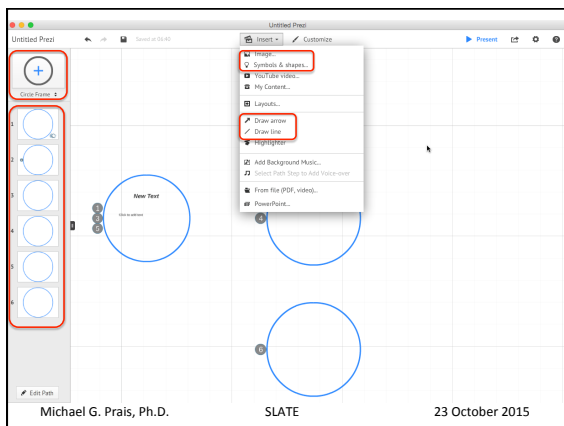Michael G. Prais, Ph.D.          SLATE          23 October 2015

**PREZI**

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## Prezi

- Uses 2D to display relationships between slides
- Film Strip: Sequence of Slides
  - Control: Click-to-change
  - Paths that visit slides multiple times
  - No Notes, No Presenter View
  - Limited Animation and Transitions
  - No Motion Paths
- Shapes = Text boxes
  - Lines, No Connectors
- Zoom in and out to show relationships

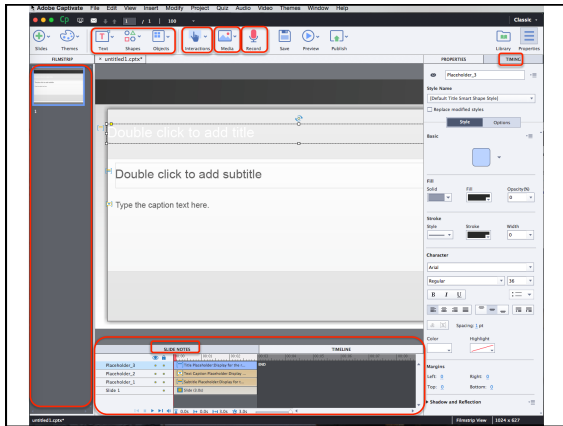Michael G. Prais, Ph.D.　　　　SLATE　　　　23 October 2015

## ADOBE CAPTIVATE

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## Adobe Captivate

- Film Strip: Sequence of Slides
- Timeline to control slide visibility and duration
  - Tracks, In and Out Points
- Export as Flash (SWF) or HTML5 video
- On-screen controls to play and pause
- Shapes, Text Boxes, Lines, No Connectors
- Slide Notes
- Quizzes and Branching
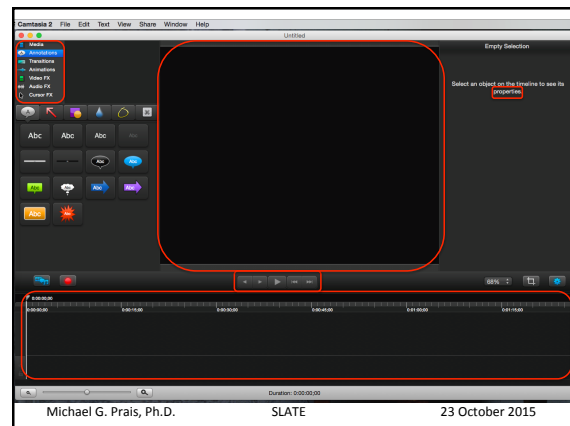
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**TECHSMITH CAMTASIA**

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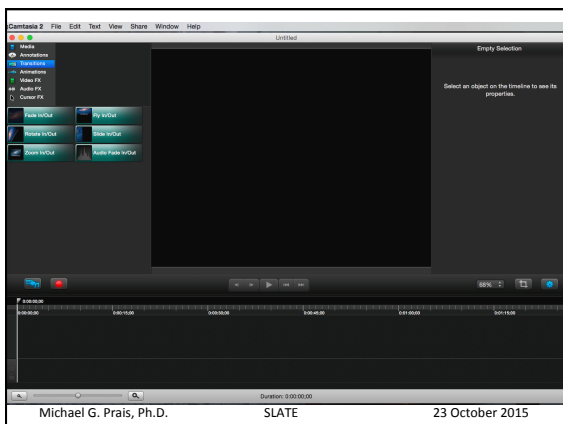


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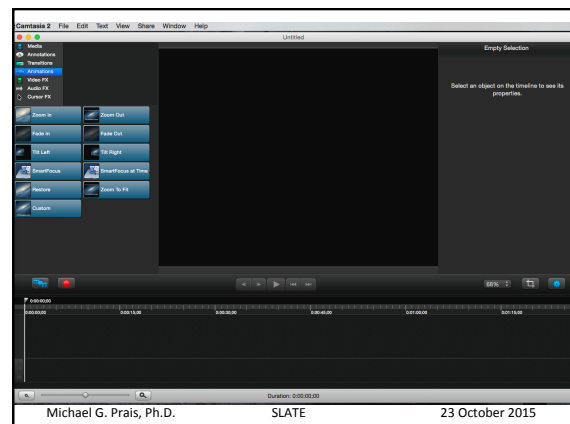


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## Techsmith Camtasia

- Timeline: Shows slide visibility and duration
  - Tracks, In and Out Points, Markers
- Export as Flash (SWF) or HTML5 video
  - Captions
- On-screen controls to play and pause
- Shapes, Text Boxes, Lines, No Connectors
- No Slide Notes
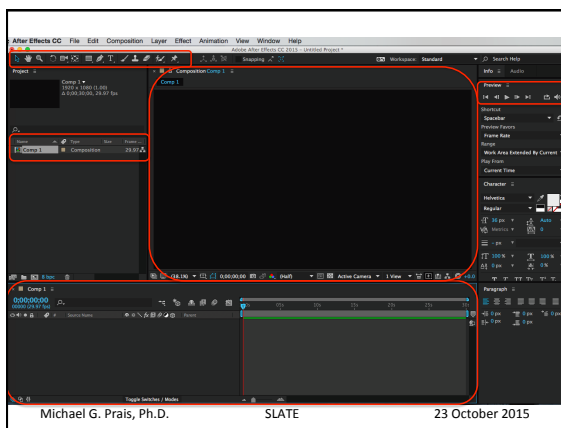
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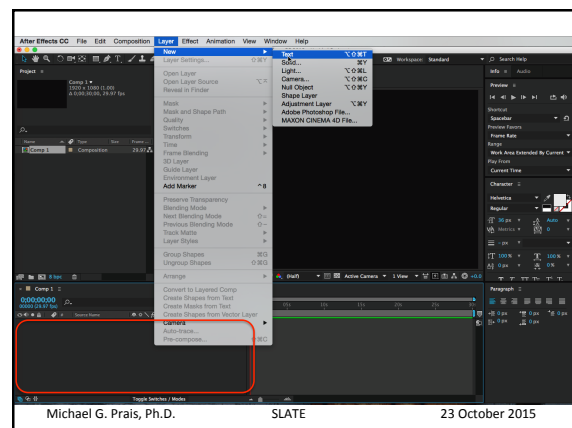**ADOBE AFTER EFFECTS**

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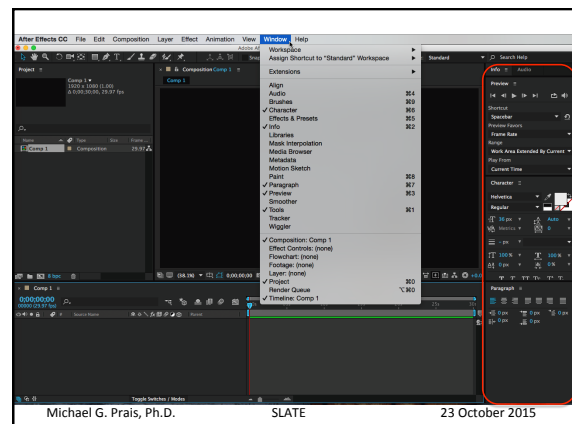Michael G. Prais, Ph.D.　　　　SLATE　　　　23 October 2015

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## Adobe After Effects

- Timeline: Shows "slide" visibility and duration
  - Tracks = Layers, In and Out Points, Markers
- Project > Compositions > Layers
  - Layers: Opacity, Masks, Blending
- Animation, Keyframes, Properties, Motion Paths, Puppet Pins
- Export as Movie
  - On-screen controls for play and pause
- Shapes, Lines, Text Boxes, No Connectors

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## Ae Tools and Panels

- Text (Type)
- Rectangle (Shape)
- Pen
- Tool Creates Shape
- Too Creates Mask
- Fill & Stroke
- Hand (Move)
- Zoom
- Eraser
- Rotate

- Project
- Info
- Preview
- Footage
- Composition
- Timeline
- Layers
- Flow Chart
- Tools
- Character
- Paragraph
- Media Browser
- Align

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## Animation Keyframes Properties

- Position
- Scale
- Center Point
- Rotation
- Opacity - Transparency
- Stroke and Fill
- Anchor Points
- Motion Path
- Lines
- Direction Handles
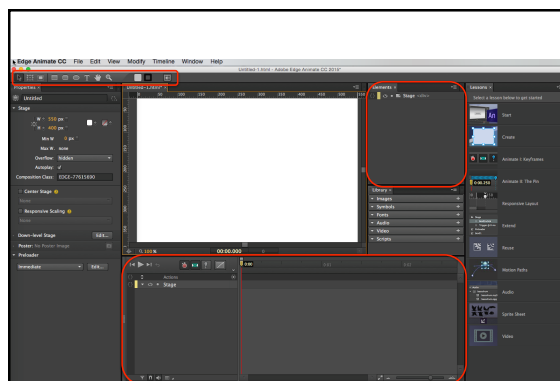
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## ADOBE EDGE ANIMATE

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## Adobe Edge Animate

- Timeline: Shows "slide" visibility and duration
  - Tracks, In and Out Points, Markers
- Export as HTML5 (Web) movie
  - On-screen controls for Play and Pause
- Animation, Keyframes, Transitions, Easing
  - Transitions connect Keyframes
  - Automatic Keyframes created when properties change
  - Automatic Transitions created as needed
  - Keyframe and Transition reuse
- Elements: Shapes, Text Boxes
  - No Lines, No Connectors
  - Use illustrations from Adobe Illustrator

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## Tools and Panels

- Selection
- Transform
- Clipping
- Rectangle
- Rounded Rectangle
- Ellipse
- Type (Text)
- Hand (Move)
- Zoom
- CSS: background-color
- CSS: border-color

- Timeline
- Elements
- Position and Size
- Motion Paths
- Transform
- Playback
- Cursor
- Shadow
- Filters
- Clip

- Accessibility
- Library
- Images
- Symbols
- Fonts
- Audio
- Video
- Scripts
- Tools
- Properties
- Code
- Lessons

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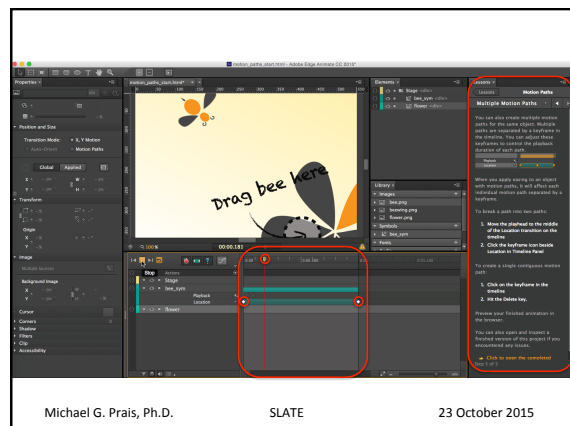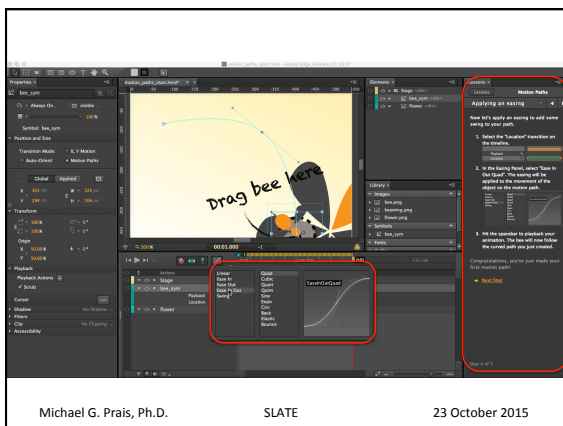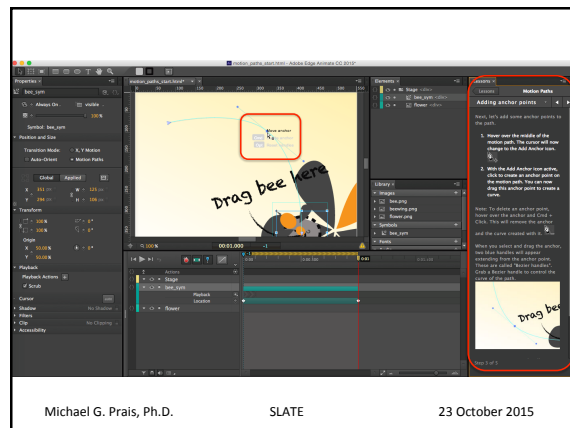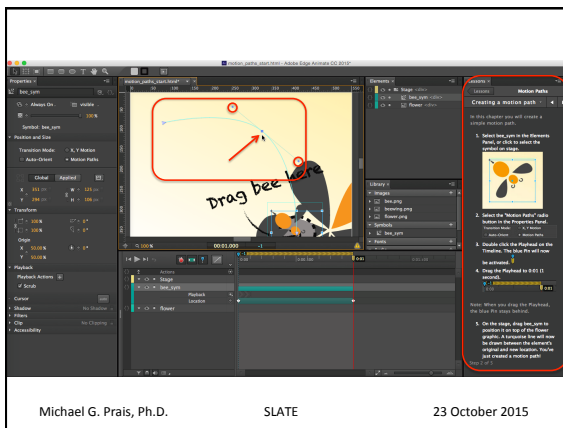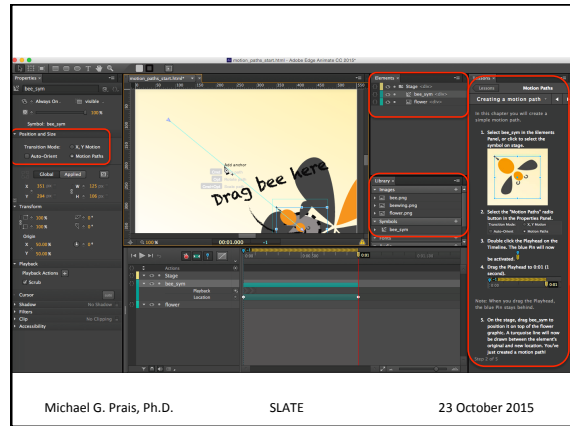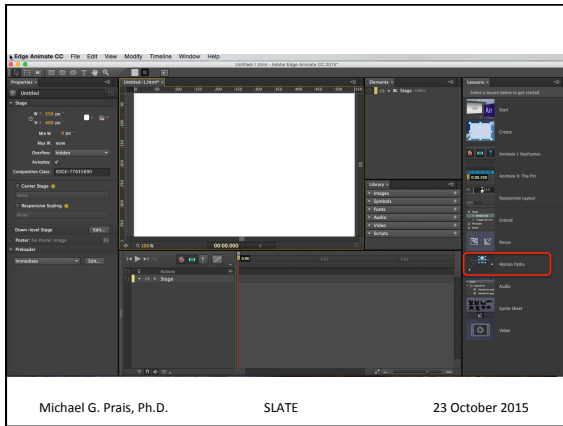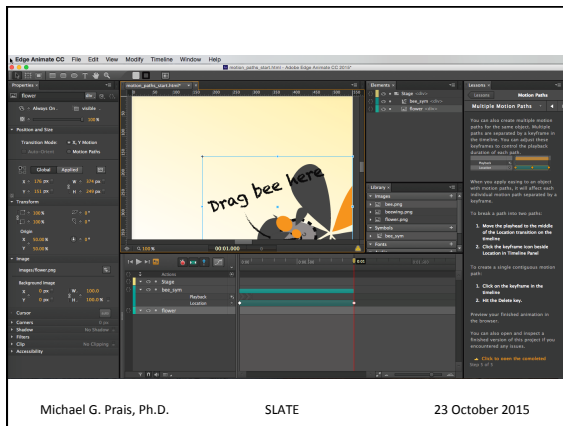
## Conceptual Presentations

- Document Concepts in Mind Mapping software
- Create Conceptual Relationship Diagrams
- Consider how you want to control your presentations
- Copy and paste pieces of documentation into Slide Notes
- Use Graphics in Slides to show Conceptual Relationships
  - Don't ask students to draw relationships from text presented on slides
- MS Power Point is not perfect, but it is perhaps the best tool for creating Conceptual Maps
  - MS Visio
  - Techsmith Camtasia, Adobe Captivate
- Use the text document for accommodating text readers

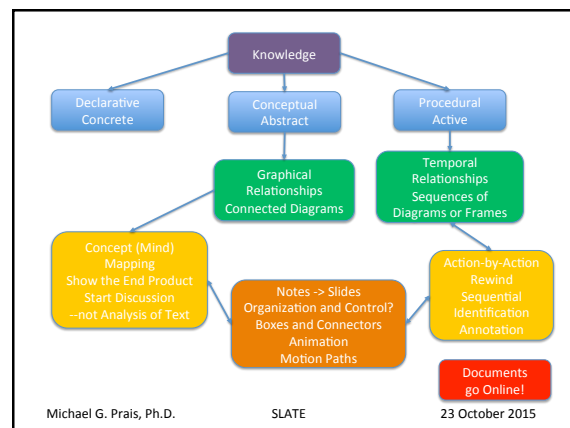Michael G. Prais, Ph.D.          SLATE          23 October 2015

## Procedural Presentations

- Separate each step (verb-action) in a script
- Create an abstract flowchart in mind mapping software
- Consider how you want to control your presentations: Slides or Movies
- Capture a video or slides of the actual process
- Adobe After Effects or Techsmith Camtasia allow combinations of slides and videos
- Use the script to accommodate text readers

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## Suggestions?

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## Questions?

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Thanks for your Attention!

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Slide Handout for
PowerPoint Presentations: Breaking Bad



https://app.box.com/PPTBreakingBadPrais

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