Visualization tools have two major uses:
1. Interpretive-help learners view and manipulate visuals, extracting meaning from the information being visualized
2. Expressive-helps learners visually convey meaning to communicate a set of beliefs

**5 Types of Visual Tools**

1. **Scientific Visualization Tools**
   - *Allow us to see things that are often too small or too big*
   - *Ex. Chemistry Vis. Tools allow us to see molecules (McSpartan Program)*
   - *Ex. Students can visualize geography with Geographic Info Systems- great way to support students’ spatial thinking*

2. **Mathematical Visualization Tools**
   - *Allow use to manipulate formulas and equations and observe the effects of that manipulation*
   - *Ex. Graphing calculators allow students to visualize formulas and support their mathematical sense making*
   - *Ex. Tabletop enables students to see different patterns and clusters in statistical data*
   - *Geometric Supposer is a tool for making and testing conjectures in Geometry*

3. **Digital Cameras and Mobile Phones**
   - *Allow us to take high-resolution pictures, download them onto a computer, and manipulated in a variety of ways using the appropriate software*
   - *Ex. Digital documentaries add the key visual element that is crucial to documentaries*

4. **Video Productions**
   - *Producing videos requires students to be active, constructive, intentional, and cooperative*
   - *Ex. Camcorders gives students an opportunity to display their imaginations and creative abilities while keeping them engaged through video making*
   - *Ex. To create a Digital Storytelling students go through preproduction, production and postproduction to write, create and edit a story*

5. **Video Modeling and Feedback**
   - *Video models allow us to model specific performances (a great tool for teaching!)*
   - *Ex. Students can learn by reflecting on their own performance through video feedback*

**Chapter 9: Visualizing With Technologies**

**Chapter 10: Assessing Meaningful Learning with Technology**

**Technology-Based Assessments**

*Makes assessment more feasible and effective*
*Allow teachers to provide more and better feedback to students to improve their performance*
*Allows for formative assessment*

**Electronic Portfolios**

*A collection of digitized artifacts (representation of a variety of accomplishments of an individual or group)*

*Allow teacher to assess growth over time from a range of learning outcomes*
*Can be created through HTML editors or commonly available tools (Ex. Microsoft Frontpage)*

**Authentic and Performance Assessment:**

We must assess the product and performance of the learning activity that the learner engages in so that the assessments are “congruent” with the activities and meaningful for the future.

**Tech-Based Rubrics**

*Banks of existing rubrics help teachers who are short on time create an effective rubric*

*Rubric generators support teachers in creating a rubric that is customized to the learning plan in a step-by-step approach (ex. Rubric Processor)*

*Effective Rubrics: all important elements are included, each element is unidimensional, ratings are distinct, comprehensive and descriptive, communicates clearly with both students and parents, provides rich info about the multiple aspects of the performance*

**Clicker Assessment Tools**

*“Student or Audience response”*
*Engage and motivate students and allow teacher to give a quick pretest*, gauge whether the students are understanding the material, have students hypothesize and report predictions about a class demo, assess conceptual knowledge*
*Help facilitate active learning and interaction in the classroom*

I love the idea of Digital Storytelling! I will be thinking of ways to use this in my class!