SYSTEMS + LITERACY

How to Use Folktales and Other Stories to Foster Systems Understanding and Develop Literacy Skills

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Learning in the 21st Century
People are talking, a lot about the skills our children will need to thrive in the 21st century.
  o What kind of future are we preparing our students for?

Thinking about (Living) Systems
Is everything a system? If not…
  o What is a system?
  o Why are the obstacles to thinking about systems?
  o What are the habits of mind of one applies systems thinking in everyday situations?
  o Where do we see these habits being encouraged or demonstrated in school?
  o What are the deeper questions a systems thinker asks?

Systems Thinking can be an antidote to:
  o Fragmented thought
  o Jumping to conclusions
  o Short-sighted decision making
  o Event focus
  o Excessive reductionism

A Bold Claim:
Systems thinking will make students better thinkers, better readers, better consumers and better citizens.
Weaving Systems Thinking into the Curriculum Web

Sometimes bringing systems thinking into schools has to be like bringing in a Trojan horse. It has to look like it is something else.

- Where does systems thinking fit into a curriculum web?
- Systems + Literacy Mash Ups: How do systems thinking and literacy skills mesh? What about Critical Thinking?
- How can teaching kids to “think about systems” improve comprehension and enhance understanding?
- What lies beyond “chain of event” maps?

Using Systems Stories

When we combine Systems + Literacy, we repurpose compelling stories (including folktales, fables, picture books and chapter books) to introduce the key concepts of systems thinking.

A Five-Step Systems Thinking Flow:

1. Tell the Story (retelling helps to improve comprehension)
2. Name the Elements (and build vocabulary)
3. Describe the Changes Over Time (create graphs)
4. Make the System Visible (help us see the threads of cause and effect)
5. Test and Share (talk with peers, make recommendations)

My Teachers  (a short Systems + Literacy resource list)

Stephanie Harvey and Anne Goudvis Strategies That Work: Teaching Comprehension to Enhance Understanding (2000)

Hope Vestergaard, Weaving the Literacy Web: Creating Curriculum Based on Books Children Love (2005)

Ellin Oliver Keene and Susan Zimmermann's Mosaic of Thought: Teaching Comprehension in a Reader’s Workshop (1997)

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**Classroom Activities/Systems + Literacy**
More, more, more!
Understanding reinforcing feedback

**Activities:**
- Read & Complete 2 stories
- Grade & Correct
- Graphing
- Make a Key (for Key Lab)
- Look for patterns

**Literacy/Critical Thinking Link:**
- Ask questions
- Class: alphabet, graphing, vocabulary, images (for “the system”)
- Ask specific questions

**Curriculum Link:**
- Language arts, social studies, physical science

**Extension:**
- See the “Linguistics” activity (7/7/08)

Nothing Stands Alone
Understanding interdependence

**Activities:**
- Read & Complete stories
- Grade & Correct
- The Old Lady Who Swallowed a Pie
- Look for patterns

**Literacy/Critical Thinking Link:**
- Ask questions
- Class: alphabet, graphing, vocabulary, images (for “the system”)
- Ask specific questions

**Curriculum Link:**
- Language arts, social studies

**Extension:**
- See the “Linguistics” activity (7/7/08)

Thinking Like a Bathtub
Understanding stocks & flows

**Activities:**
- Read & Complete 2 stories
- Grade & Correct
- Make a Key (for Key Lab)
- Look for patterns

**Literacy/Critical Thinking Link:**
- Ask questions
- Class: alphabet, vocabulary, images (for “the system”)
- Ask specific questions

**Curriculum Link:**
- Math, language arts, physical science

**Extension:**
- See the “Patterns” activity (7/7/08)

Why You Don’t Get 2 Cows If You Cut a Cow in Half
Understanding systems: integrity

**Activities:**
- Read & Complete 2 stories
- Grade & Correct
- The Old Lady Who Swallowed a Pie
- Look for patterns

**Literacy/Critical Thinking Link:**
- Ask questions
- Class: alphabet, vocabulary, images (for “the system”)
- Ask specific questions

**Curriculum Link:**
- Language arts, social studies

**Extension:**
- See the “Patterns” activity (7/7/08)

The Power of Doubling
Understanding Exponential Growth

**Activities:**
- Read & Complete stories
- Grade & Correct
- Look for patterns

**Literacy/Critical Thinking Link:**
- Ask questions
- Class: alphabet, vocabulary, images (for “the system”)
- Ask specific questions

**Curriculum Link:**
- Math, language arts, social studies

**Extension:**
- See the “Patterns” activity (7/7/08)

What Goes Around Comes Around
Understanding Natural Cycles

**Activities:**
- Read & Complete stories
- Grade & Correct
- The Myth of Doryphore
- Look for patterns

**Literacy/Critical Thinking Link:**
- Ask questions
- Class: alphabet, vocabulary, images (for “the system”)
- Ask specific questions

**Curriculum Link:**
- Language arts, social studies

**Extension:**
- See the “Patterns” activity (7/7/08)