

# ***Introduction to Systems and Language Arts***<sup>1</sup>

The Model introduced in *Introduction to Systems*<sup>2</sup> (IS) allows learners to apply its insights and organizing scheme across the whole realm of knowledge. Below are some additional investigations in the field of language arts, illustrating the range of possibilities. Comments for teachers or mentors are marked “TN”

## **Investigation: “Fog index” patterns**

Some writing is easy to read and understand; some is difficult. Many people would find it hard to understand an article in *The American Journal of Economics and Sociology*. An article in a magazine for kids is certain to be easy.

**Long words and long sentences make reading more difficult.** Several ways have been developed to measure “readability.” One fairly simple way of calculating this is called the “fog index.” Here’s an Internet link to a step-by-step procedure for calculating “fog indices:”

[https://en.wikipedia.org/wiki/Gunning\\_fog\\_index](https://en.wikipedia.org/wiki/Gunning_fog_index)

***Choose three pieces of writing and calculate the “fog index” for each: (1) The first paragraph or two from a front-page article in a local newspaper, (2) a similar-sized sample of writing from a book or magazine you think is “difficult,” and (3) a sample from your own writing. Include enough sentences to add to about 100 total words in each of the three samples.***

**TN:** Some teacher/mentor guidance in learning the process of calculating fog indices may be required. Printing out the procedure as a handout, and working through a couple of examples with the class or group will be helpful.

(Additional questions): If a writer has a hidden goal of wanting to impress other people with his or her knowledge, what effect might this have on the fog index? If a sample of writing has a low fog index, is it sure to be easy to understand? Explain. Could a very low fog index cause problems? If so, what kind?

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<sup>2</sup> <http://www.marionbrady.com/IntroductiontoSystems.asp>

## Investigation: Clarity in translation

**TN:** This investigation is an “active-mode” communications skill exercise. It relates most closely to the Model component of “setting,” increasing the ability of learners to both see, and describe what they see, verbally and graphically.

In high school English classes taught by Marion Brady early in his career, he removed the housing from the classroom’s manual pencil sharpener, and asked learners to generate a written description. He then read several of the descriptions aloud to the class, and, as he read each one, drew a picture on the blackboard based on the words. As might be expected, resemblances between the drawings and the actual pencil sharpener were minimal—and the lesson was memorable. This exercise is derived from that experience.

The cognitive process of “translation” converts information from one form to another. Describing a visualized (or imagined) scene in words is an example. One language arts skill related to clarity is *precision* in performing this translation. This investigation exercises that skill, and the opposite skill of translating words into images, in a version of the old parlor game called, variously, “Chinese whispers,” “gossip,” “telephone,” etc.

A page of abstract diagrams follows. Print out the page, making enough copies so that when they’re cut apart, each learner will have one diagram. Use care in passing out the diagrams, so learners aren’t likely to see a diagram they’ll be reading about later.

In the first part of the investigation, each learner translates her or his diagram into words. In the second part, each learner is given a written description of a diagram prepared by another student, and attempts to recreate the original diagram based **only** on that description. (This will work best if learners aren’t told about the second step in advance. Make sure no student gets a written description of a figure she or he has previously seen, and that descriptions and diagrams are labeled with the figure’s number.)

Neither translation in this exercise is easy. Comparing the final results with the original figures will indicate problems in translation. Learners, working in small groups, then analyze each set of descriptions and drawings to find reasons for translation errors. The analysis should include determining the extent to which errors are due to inaccurate or incomplete descriptions (first translation), or due to inaccurate graphic interpretation of the writing (second translation).

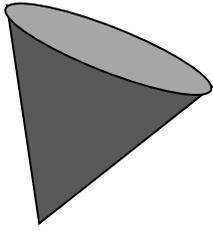
If the activity is repeated, with each learner starting with a new diagram, a marked difference in the descriptions, and a significant improvement in accuracy of final diagrams is likely.

Applying what’s learned to describing real world scenes and events is a logical extension. Describing *events*, of course, requires learners to use all four main categories of the Model.

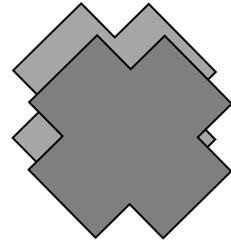
(Howard Brady, September 2011)

Link to webpage describing *Introduction to Systems*:  
<http://www.marionbrady.com/IntroductiontoSystems.asp>

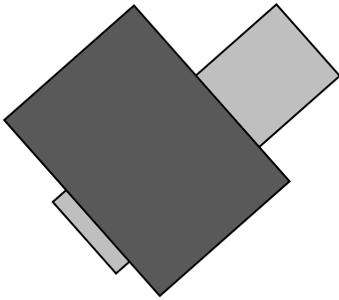
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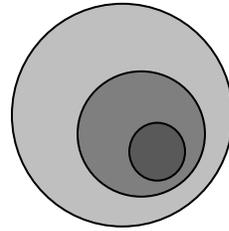
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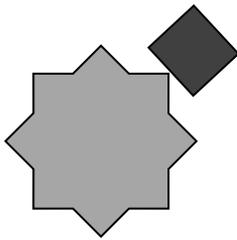
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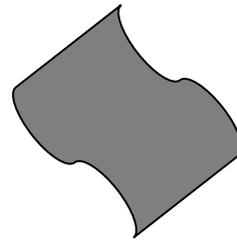
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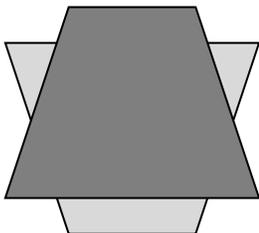
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