

Workshop: Using the System Dynamics Process on News Articles in the Classroom  
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Goal: to learn how to use the System Dynamics process<sup>1</sup> to understand what the author of a news article is trying to convey. Although we will be focusing on one article in the workshop, participants will discover that the process is useful for better understanding many news articles.

Preparation: Read the short article, “The Closing of the American Mind” by Evan Thomas in Newsweek magazine’s Dec 31, 2007 – Jan 7, 2008 issue, downloadable from <http://www.newsweek.com/id/81599>. The article will also be passed out in the workshop and time allowed to read it there.

1) Problem articulation

- a) At each table, discuss the article to discover together the dynamics of concern in the article. The group at each table develops and draws on a flip chart sheet a BOTG (behavior-over-time-graph) of the one variable that the table believes is of primary concern to the author of the article. Each table finds evidence for its selection in the article and writes this evidence on the same or a separate flip chart sheet. Each table selects a person to present their BOTG and evidence to the group, and posts their flip chart(s) on the wall.
- b) After each table has presented and posted their BOTG and evidence, I will present and post mine.

2) Dynamic hypothesis (story)

- a) Using any one of the posted BOTGs - the one your table initially chose, another table’s BOTG, or mine - each table again discusses the article, but this time to discover together what the author of the article believes might be causing the variable’s behavior in the BOTG. That is, what is the story in the article that causes the behavior over time? Again, each table will select a person to present their story and evidence from the article to the group on one or more flip charts in any form the group chooses, whether words (write it down on the flip chart), storyboard sketch, a causal loop or stock and flow diagram (CLD or SFD), or a hybrid of these approaches. If you don’t know what a CLD and SFD are, don’t worry, but just tell your story in words or a storyboard. Part of the intention of this workshop is to help you become acquainted with CLDs and SFDs.
- b) After each table has presented their story and evidence, I will present mine.

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<sup>1</sup> There are many published system dynamics “processes;” all of them very similar. The particular process used in this workshop is from Chapter three of Sterman, John (2000) Business Dynamics: Systems Thinking and Modeling for a Complex World. Irwin McGraw-Hill.

- 3) Building and testing a simulation model.
  - a) Formulating a simulation model. I will walk you through how I converted my story into a simulation model.
  - b) Testing the simulation model. There are many tests one can use to build confidence in our simulation models, one of which is the degree to which the model can reproduce the BOTG. I will show you this test, and others if there is time.
- 4) Policy analysis.
  - a) Each table will explore what the article says, as well as the table's own thoughts, about policies to improve the problematic behavior expressed in one of the BOTGs in steps 1 or 2 above. Each table will choose one policy, and document and present on a flip chart either in writing, or via a storyboard, CLD, SFD, or hybrid of the above, the story of how their chosen policy would act to improve the problematic behavior.
  - b) We will discuss together how the simulation model would have to be modified to test some of the policies presented.

Workshop participants who would like a copy of the simulation model used in the workshop, may email their request to me at [hongyann@u.washington.edu](mailto:hongyann@u.washington.edu)