Use of Gaming as a Tool in Education:  
Resources for Teachers  
Dennis Meadows

I list below a variety of materials that may be helpful to teachers interested in using games to supplement other methods for conveying the principles and tools of systems thinking. This is a partial list. There are many hundreds of games in use; I have listed a set here that illustrates the diversity of the materials and that is comprised of items which, except for Bancroft, are easy to obtain. My apologies to the many authors whose valuable and relevant work I have omitted.

There are two books, one old and one new, that provide the rules for a large number of very playable games. Neither text has any explicit reference to systems. A creative teacher can, however, take many of these games and adapt them for use in making points either about conceptualizing a model of social behavior or about aspects of communication and decision making.


This classic text, with illustrations for about 500 games, is long out of print. But so many 100’s of thousands were sold, copies were commonly to be found in the games sections of the better used book stores. It is unique among the many hundreds of game books published early in this century for the introductory chapters that reflect on the uses of games and on strategies for making them effective. I usually pay about $15.00 for a copy.


This is the reference work on simple games for many trainers engaged in team-building programs. Over 150 games are presented clearly and simply. There is discussion of safety procedures, but there is no guidance on framing or debriefing. All of these initiatives have been tested thousands of times, and they work for audiences of all ages. Pick out a couple and let your imagination suggest interesting new ways to link them to the field of systems.


This small red binder contains 20 exercises with extensive narrative about how each can be linked to the skills, attitudes, and habits required of a “systems thinker.” It is presently priced for the corporate training market, so it costs $69.95. E-mail Tracy L. Botting for a brochure. tlb@cnrista.unh.edu *The Systems Thinking Playbook*, http://www.unh.edu/ipssr/Lab/playbook.html
• Meadows, Dennis and Amy Seif, *Creating High Performance Teams of Sustainable Development: 58 Initiatives*, University of New Hampshire, 1996. $25.00.

This manual is the first of a two-volume set created to provide a very detailed teacher’s guide and material collection for an intensive 4 day seminar that teaches systems thinking, skills of high performance team work, and principles of sustainable development. This text is the detailed presentation of 58 games. The exercises range from 1 minute to several hours in duration. There are detailed instructions for framing and debriefing the exercises along with half-page reproductions of the overhead slides you need to introduce and debrief each game. The games are divided into 12 categories according to their function within the workshop: warm-up, problem-solving, communication skills, trust, conflict resolution, ethics, systems, feedback, and related topics. *Creating High Performance Teams: 58 Initiatives*, [http://www.unh.edu/ipssr/Lab/Initiatives.html](http://www.unh.edu/ipssr/Lab/Initiatives.html)

• *Fish Banks, Ltd.*

A computer-assisted role playing board game on the dynamics of renewable resource use. One game kit serves groups of up to 50 participants for a game session that takes about 2 hours. The exercise can be divided into shorter periods and spaced over several class periods. Works for ages 12-100. Available from the University of New Hampshire, $110.00 The Creative Learning Exchange has a valuable set of STELLA-based simulation exercises and a student guide to complement this game. *Fish Banks, Ltd.*, [http://www.unh.edu/ipssr/Lab/FishBank.html](http://www.unh.edu/ipssr/Lab/FishBank.html)

• *STRATEGEM.*

A computer-assisted role playing board game on the dynamics of long-term regional development. One game kit serves a group of up to 10 participants. This is essentially a gaming version of the World3 model that underlies the two books, *Limits to Growth* and *Beyond the Limits*. The game shows the interrelation of population growth, energy production, industrial output, agriculture, environment, human services, and international trade in determining whether a country will develop sustainably or overshoot its carrying capacity. The World Bank recently bought 100 copies for use in its training programs. The game is also used widely in high schools of many nations. Available from the University of New Hampshire, one kit costs $75.00 and a classroom set of 4 kits costs $200.00. *STRATAGEM*, [http://www.unh.edu/ipssr/Lab/Stratagem.html](http://www.unh.edu/ipssr/Lab/Stratagem.html)

• *Beer Game.*

The System Dynamics Society now publishes the original *Beer Game*. The complete set consists of a vinyl game board, instructions for running and debriefing the game, a videotape of the game being led by John Sterman, and a short bibliography of writings about the game. One kit serves a group of 8 players. The complete set costs $120.00, and extra game boards are $85.00 each, though you can make them for yourself on a long sheet of wrapping paper for almost nothing. The price includes postage in the US. *Beer Game*, [http://www.albany.edu/cpr/sds/Beer.htm](http://www.albany.edu/cpr/sds/Beer.htm)

Revised, links and prices verified 3/00