

## **Track Gaming & Simulation Methodology**

### **Proper terminology**

To enhance communication among the participants of the sessions of the methodology track, the authors are kindly requested to use the following terminology.

1. When focusing on **form** they should use the term “game” or “simulation”, referring to two different sorts of model. Games as models consist of three interconnected building blocks: actors (players), rules, and resources. Simulations as models of a certain form represent a formal - mathematical - model, mirroring a dynamic reference system. Simulation is widely used in the natural sciences and engineering.

When addressing the **function** of those artefacts, games are being used to simulate processes of a reference system: a company, a classroom, eco-systems, various types of infrastructure, and so on.

In research and practice, games (as form) are being used to simulate (function) reference systems. The proper terminology - to distinguish between form and function - would then be: “**Game to simulate X**”. The authors should **refrain from using** the terms “**gaming simulation**”, “**simulation game**”, and “**gaming/simulation**”. Those terms mix form and function, and confuse professionals who are engaged either in gaming for professional practice, or in simulation modelling, and computer gaming: social and behavioural sciences, natural sciences, engineering, computer sciences. The confusion arises from distinct methodologies underlying these branches of model building. The use of those hybrid terms would hamper the communication and mutual understanding during the methodology sessions.

2. The authors should refrain from using the term “serious game”. It is a marketing term to set gaming for professional practice apart from entertainment gaming. However the classification “serious game” is scientifically not correct. It is difficult to consistently draw a demarcation line between serious games and non-serious games. It all depends on position and perspective of those involved. Who would dare to say that a cup final is not a serious game, providing the stakes involved?

Therefore, the authors are kindly requested to renounce the term “serious game” and use the term “game (design) for simulating professional practice X.” That professional practice could be, training, management and policy development, theory development and testing, and so on.

Taking both recommendations into account will result in a consistent use of games - of a certain form, and their function: simulating a certain activity with the game involved.

### **Design sciences and analytical sciences approach**

Design is a key activity in gaming & simulation. As Klabbers (2008) has pointed out, design - broadly conceived - aims at implementing courses of action with the purpose of changing

existing (dysfunctional) situations or systems into preferred ones. According to Klabbers we have to distinguish two levels of design: a) design-in-the-small and b) design-in-the-large. Design-in-the-large offers a basis for various forms of consulting, training and education in an attempt to foster new ways of thinking and acting in the context of organizational development. Games & simulations, and related design methodologies offer effective approaches to the framing and better understanding of social systems and to the generation of ideas and the shaping of action repertoires for change. Design-in-the-small produces games and simulations (artifacts) as such, and related interactive learning environments with the aim of modifying existing organizational cultures and structures. Used with that goal in mind, they contribute to the design-in the-large process of social systems.

Games can be designed for dual purposes: a) to generate a practical tool (artifact) for supporting the design-in-the-large, or b) to devise a method or model in the analytical science tradition for developing and testing theories. In both cases games are being used to simulate (to model) existing social systems. Klabbers stresses the fact that members of gaming and simulation associations represent two distinct branches of science: a) design sciences (communities of practice) and b) analytical sciences (community of observers). The basic concept of the design sciences is to build games and assess their effects and usability. The scientific methods of the analytical sciences aim at using games for developing and testing theories. Both communities focus on different notions of causality and use different criteria for success.

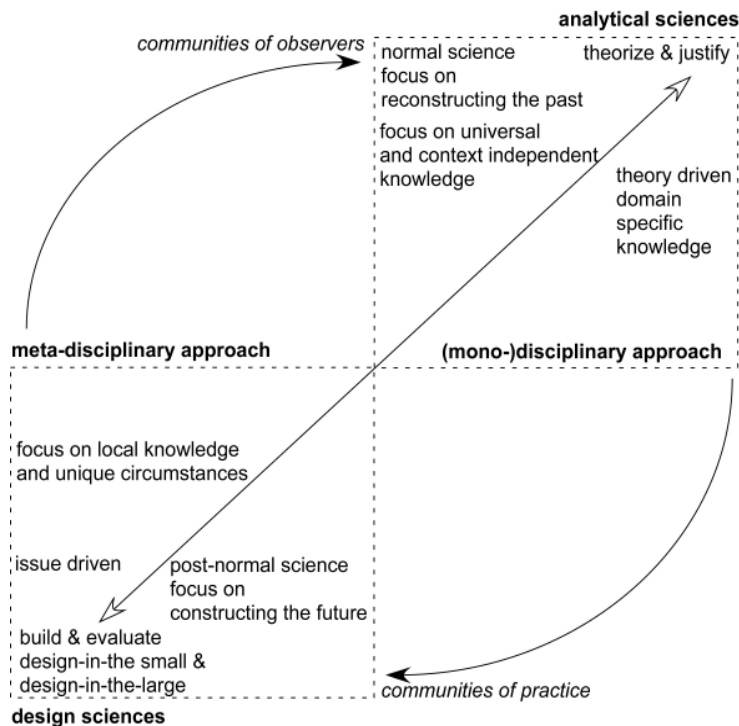


Figure: Framework of two interconnected gaming and simulation communities (Klabbers, 2008).

The methodology track will focus on and welcome papers that explore such topics as

- game design
- theory testing
- assessment studies (evaluation)
- gaming & change processes (design-in-the-small & design-in-the-large)

- game research (e.g., comparison between various sorts of games or classification schemes, playfulness of rigid-rule versus free-form games, competitive versus cooperative gaming, and so on).

Submissions are welcome on all methodology related issues with respect to simulation and gaming, their design, use, and evaluation. We plan “traditional” paper presentations with discussion and we also plan to organise a panel discussion with interactive Q&A session on “*Bridging the gap between design science and analytical science domains of gaming & simulation*”. We further plan a joint publication with invited participants of the track.

Excellent background discussions can be found in the following symposiums (guest editor Jan Klabbers) in *Simulation & Gaming: An Interdisciplinary Journal* <http://sg.sagepub.com>:

- “State of the Art and Science of Simulation & Gaming”, Volume 32, 4, 2001
- “Simulation and Gaming: The Art and Science of Design”, Volume 34, 4, 2003
- “Artifact Assessment versus Theory Testing”, Volume 37, 2, 2006

the symposium (guest editor Willy Kriz) in *Simulation & Gaming*:

- “Bridging the Gap: Transforming Knowledge into Action through Gaming and Simulation”, Volume 40, 1, 2009

and in the books:

- Duke, R.; Geurts, J. (2004): *Policy games for Strategic Management*. Tilburg.
- Klabbers, J. H. G. (2008): *The Magic Circle: Principles of Gaming & Simulation*. Rotterdam.