Conclusions from Social Dynamics in Collaborative Environmental Didactics

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ABSTRACT

The social and didactic dynamics produced in implementations of the negotiation-oriented and partly web-based game “Surfing Global Change” (SGC) was analyzed by independent experts after their observations in advanced interdisciplinary university courses. It could be empirically demonstrated that the intended didactics of SGC were successful; namely that they were grounded on “active, self-organized learning”, training of “competence to act” and on responsibility for both practicable and sustainable solutions for the future society. The outlay of SGC succeeds in equilibrating competition vs. consensus, self-study vs. team work, sharpening the individual standpoint vs. readiness to compromise, differentiation into details vs. integration into a whole and hence mirrors professional realities. In this spirit, the architecture of SGC gives a framework for “game based learning” along its five interactive game levels. The conclusion is made that the set of game rules acts as a boundary condition for expected processes of social self-organization. The independent expert opinions express the importance of self-responsibility, for example when defining team size (ideally 3-5), during the identification of students with a project relevant to real life, and with the trainer staying on the meta level without entering into student discussions. Hence, self-organization in SGC allows for self-responsibility.

Keywords: Didactics, Game Based Learning, Self-Organization, Self-Responsibility, Surfing Global Change (SGC)

1. THE ORGANIC MEANING OF THE FIVE PHASES IN SGC

The overall design of the game SGC (see descriptions in Ahamer, 2004a, b, 2005, 2013; 2015; Öttl et al., 2014; Vogler et al., 2010; Lehner & Wurzenberger, 2013; Altmann et al., 2013) sets out to train students for the vicissitudes of professional life. Consequently a certain rhythm of fact-based analysis versus the social striving for acceptance of one’s own convictions is followed:

- Phases focusing on individual work (1, 2, 5) complement team oriented phases (3, 4);
- Phases focusing on defending individual views (1, 3) alternate with phases where openness for other standpoints is a necessary attitude (2, 4);

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Phase 3 with its richness in differentiation and details, as visualized in the matrix, is followed by phase 4 where formerly single aspects intertwine and where details converge to a common action program.

The main dramaturgy of Surfing Global Change lies in “arguments serving as tools for objectified interpersonal communication”:

- First define and foster your own precise standpoint in order to …
- ... then become able to make it more flexible for the sake of greater equilibrium.


In this light, SGC’s set of rules could be seen as a facilitator for social and academic evolution inside a class and has several organic functionalities (right in Figure 1).

SGC sets out to allow an organic maturation of standpoints (left in Figure 1):

1. Small isolated packages of traditional content representing only one side;
2. A process of text-oriented critiques at a slow pace allowing deliberation on a one-to-one basis mediated via asynchronous virtual communication;
3. A quick process of situation-dependent need to present and defend individual arguments as a function of the adversary’s behavior and strategy on a many-to-many basis within a team in synchronous real-time communication;

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Figure 1. Symbolic depiction of the communicative setting (left) and the consecutive social processes (right) in which the five phases develop: the evolution from dwelling upon single technical details towards a coherent view (image source: Ahamer, 2016)
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