

# Thinking and *Troubled Lands*: Supporting Student Inquiry with a Sustainability Simulation Game

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**Abstract:** In this poster, I assess the first phase of a two-phase classroom research project designed to investigate student knowledge-making elicited by play of *Troubled Lands*, a multi-player, collective action problem card game. During gameplay, players of unequal abilities managed a shared common pool resource. Qualitative findings indicated insights related to public policy process and participatory governance (two of the topics of the course), and appreciation for game play as a knowledge-making experience. Students participating in phase 2 of this project during 2015-2016 will play *Troubled Lands* in a different academic context, that of an educational games course.

## Introduction

Games are among a variety of strategies I use to prompt student learning in interdisciplinary courses at The Evergreen State College (Olympia, WA). This poster presents qualitative findings from phase 1 of a two-phase action research project to integrate game-based activities into two undergraduate courses. The first course, taught during fall quarter 2014, focused on public policy making and related topics; the second, which is scheduled for fall quarter 2015, will center on the design and use of educational games. After looking at a number of policy-related and politics-themed games, I selected a tabletop version of *Troubled Lands* (formerly entitled *The Farmers*) for use in both courses, in part because the game is designed to elicit reflection on player experience of social dilemma—conflict between self- and collective-interest (Fennewald & Kievit-Kylar, 2012, 2013, 2014). *Troubled Lands* also features three different win conditions that can simulate various interpersonal approaches to problem solving (or to public policy making and implementation), as well as asymmetrical abilities among participants. Finally, the game's rules can be grasped quickly, it is easily available, and play can be adjusted to fit to time available.

## Methods

Players of *Troubled Lands* make a series of choices while they manage crop yield from a grid of 12 land plots in various and fluctuating states of productivity. Three rounds of play allowed phase 1 students to experience each of the game's win conditions – direct competition, full collaboration, and a mix of indirect competition and collaboration. Faculty asked students to reflect on connections between game play and making public policy (represented in *Troubled Lands* by game rules), about policy-making process in situations where inequity is present, and on the game as a tool for learning.

Gameplay took place during weeks four and five of a 10 week academic quarter. Course content to that point addressed various aspects, and methods, of public governance. In the week before gameplay, students viewed a short video about policy and common pool resources, and read and discussed a relevant article (Ostrom, 1999). Students were introduced to *Troubled Lands* through written rules and a related slide presentation, after which they drew numbers to form playing groups. One of the game's designers was present via phone and internet video technology during all three playing sessions. Prompts designed to solicit students' written expectations, and their reflections on insights associated with gameplay, were administered before and after the collaborative round of play (round 1), and before and after gameplay a week later, a class session in which participants played first a competitive round (round 2) followed by an independent, or mixed condition, round (round 3). Players also responded in writing to post-play questions at one week, and again at three months, after the final in-class round of play.

## Results

Phase 1 students' written statements of game-based knowledge-making in part addressed both personal and shared values, and the fact that "throwing our values out the window" was rejected in a variety of ways during play (even under the competitive win condition). The contributions of communication to fruitful collaboration, and to achieving "peaceful and effective and fair solution[s]" to problems, also appear repeatedly in reflection writing. Several students wrote about the possibility and importance of policy flexibility and change. For example, one student said, "If public policy sets the goals and strategies [as do game rules, in this student's view], it changes outcomes. We can change policy, as we did with the goals of the game, in order to change outcomes." A second respondent (again in company with several others) focused on the transfer of observations about in-game competitiveness to

public policy making:

If everyone were to be working for what would give them the most individual points, the other community members, resources and land would crumble. This is applicable to politics because if the “action making characters” care only for personal gain, then the greater community will first be tested for resilience, but eventually [will be destroyed].

A third comment, this one focused on what games might contribute to policy making, read: “Playing games opens us (people) up to learning and trying new ideas and new ways to . . . establish policies that work,” concluding that “Playing games [is] light and fun . . . Making policy is heavy and difficult. What if we could make policy challenging and fun?”

## Implications

Phase 1 of this research suggested the usefulness (within the specific setting of one Evergreen course) of gameplay to inquiry-based learning: specifically, the usefulness of repeated play of the game *Troubled Lands*, to thoughtful reflection on public policy making and participatory governance. Participants also expressed appreciation for game play as a knowledge-making experience. Methods-related adjustments suggested by situations encountered during phase 1, including allowing adequate time for thorough debriefing discussions and for written reflection, will be made during phase 2. Phase 1 playing groups also spontaneously amended game rules, especially during the competitive round, in ways that phase 2 debriefings will be modified to record, if applicable.

Danish game scholar Thorkild Hanghøj (2013) draws on the work of John Dewey to explore classroom uses of games as “inquiry-based laboratories . . . used to explore and experiment with the construction, deconstruction, and reconstruction of knowledge” (p. 82-83). In keeping with Evergreen’s stated expectation that graduates demonstrate ability to address practical problems through several modes of inquiry, the phase 2 course – focused on designing and using games as tools for learning – will continue to explore the relationship of gameplay, including play of *Troubled Lands*, to inquiry-based learning.

Researchers welcome comments regarding plans for phase 2: Participants will approach initial rounds of *Troubled Lands* play much as did phase 1 students; engagement with the film and article will be followed by a short introduction to the game itself. After gameplay and associated reflection, work with the game will become a small-scale participatory research project. That is, students will research, identify, and then propose what they want to learn about (a) educational gameplay in general, and (b) how best to design, introduce, conduct and debrief gameplay sessions for a post-secondary audience, with specific learning objectives in mind. Phase 1 participants documented conceptual application of insights acquired during gameplay to policy making and governance beyond the classroom. Phase 2 students also will be asked to apply their experience and knowledge from *Troubled Lands* to a larger frame—educational gaming in general—as they propose redesigns of pre-play activities, learning assessments, and the game itself.

## References

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