

Games for Education for Sustainable Development: From knowledge to understanding.

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Introduction.

A person needs not only knowledge but also understanding for successful work. One can know everything about biochemical processes in onion roots, but does not understand how pesticide pollution would influence them. Traditionally, European education pays most attention to teaching knowledge and control over its digestion. Formal secular education powered by achievements of science, which is divided into branches, began to loose connections among things, internal connections, i.e. integrity of the world outlook. Lack of understanding, i.e. connections among facts and processes allows neither a person nor society to be efficient. So it is clear why modern methods of education for sustainable development try to reveal for children and adults connections among known facts and phenomena. For instance, everyone knows, that smoking is harmful for one's health; however, a lot of people smoke. While students create a game devoted to consequences of smoking for teenagers, they begin to understand how scientific data is connected with people's lives, their own thoughts and increased risk. So, children, who have created such a game, really cannot smoke.

Botanical gardens are still not widely recognized as unique centers of deep science and profound practice. One can be great in the lab and, sorry, helpless in the plant yard. Interactive methods of education and training are able to marriage theory and practice. And the babies are the educational games for personal and group decision-making.

After "Nuclear winter" modeling changed global policy and Russian way of development, interest to modeling with human participation (that potentially means simulation games- S&G) again became bigger. Sustainable Development shifted from global slogan to national plans, but it is still difficult to find human dimension of global model of sustainable development besides "Limits to Growth" (1972, 2003). It brings question "Is it possible to make S&G widely distributed and become part of mass culture?" There are several reasons why Environmental problems are more and more positively recognized while they are expanding, but methods of S&G are developing slower than area of sustainability problems is growing. The Strategy for Education for Sustainable Development was elaborated by EC UN and starts its life in March 2005 with special reference to interactive methods in education and training.

Key-note simulations.

Several simulations will be offered during keynote games.

1. Teaching and learning in "classroom for adults": just clap.
2. Do we know our hands and fingers?
3. What happens in one minute?
4. Make a plan with a piece of paper.
5. "Just follow me"

Debriefing of joint experience

1. Time horizon is still very close in public consciousness and it is still not in the toolbox of policy makers. The boys are not "bad"; the time horizon of their mind is short. Games are strong in expanding time scale. We are doing the "Time training" games and exercises. "Time management" is our resource in Environmental Management.

2. For serious decision makers, managers and government staff are globally perceived "games" as strange, "not serious", hardly equal tool. G&S are not recognized as single way to explore problems between people and with environment, exactly what we are facing in training botanists and gardeners.
3. May be because scientific modeling (ecology, mathematics, chemistry, etc.) is usually not giving place to human personality contradictory to our experience from childhood — we are the irreplaceable part of any of game.
4. Simulation experience in decision making for scientifically does not give new "knowledge", but understanding. As wise person is not more "knowledgeable", but profoundly understanding problem. Educators are usually oriented towards new knowledge. Who is giving classes in wisdom and understanding in botanical gardens?!
5. ENvironment being transformed into "INvironment" became ethic, and intellectual context of personal cultural outlook and decision making in small certain patterns of activity with plants.
6. "Green Bag" (see abstract in our Conference) is an example of the toolkit for training in decision making in Environmental problems that collect up to 20 S&G that designed and used in USSR/Russia in 1981-2003 years and now widely used in Moscow and Moscow region.
7. Education is facing new task: to support personal and public culture of decision making in context of culture of humankind. Culture of nature resource management as environmental heritage became less national and mainly international resource Human being giving chance to get the answer about simple question: achieving Sustainability: does it possible?
Simulation games are giving chance for positive answer.
What could be done in the nearest future will be discussed.

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