**UNECOSOC Education Innovation Fair 2013**

**Name of the Approach:** Transnational Collaborative Informal Science Education

**Summary:** Science House Foundation is an international New York City-based 501(c)3 education innovation, cultural relations and human development NGO founded in 2010 whose mission is to engage the minds of kids worldwide -- especially urban and disadvantaged girls and boys -- about the excitement of science education to help them stay in school, improve self esteem and create viable 21st Century jobs skills. Our educational and programmatic approach is founded on creating a culture of collaboration, creativity, innovation, and passion for learning through an understanding of sound science.

Science House Foundation operates in over 28 countries. Our programs provide science equipment to teachers who work with 10-17 year olds, connecting students and teachers to our global digital network, and mentoring the teachers and students through our worldwide network of scientists. We believe global collaboration and a solid science and mathematics education are key skills required for tomorrow's workforce.

Our methodology incorporates informal science education innovation, teacher mentoring and cultural collaboration across unique digital platforms. Despite the global economic downturn, one of the key industries for which there is still a consistent demand for skilled labor is science. Science is a foundational skill not just for understanding our world, but also for creating viable jobs skills.

The work of Science House Foundation contains four major programmatic initiatives, each of which is focused integrally on improving the learning and teaching opportunities of students and teachers.

**Theory and Strategy:**
1. Create **authentic interest in science** and innovation by engaging kids at an age where they are cognitively able to understand science, and developmentally able to get excited about it authentically in a way that will last before tendencies driven by peer social priorities take greater emphasis. We begin work with kids before high school because they are more likely to become and stay interested in science through high school when priorities tend to be more socially influenced.

2. Provide equipment and tools that **spark creativity and innovation**. In our MicroGlobalScope program we provide microscopes that open kids' minds to the invisible world around them and their hidden potential within. Our Terrabotic program provides brand-agnostic robotics kits to provide kids with the collaborative challenge to invent and solve robotics challenges. In each case we work to catalyze discovery and ideas through informal science education and the ability to experiment and tinker.

3. Create a culture of **global collaboration** and teacher mentoring by connecting the kids and teachers to our globally collaborative digital network of kids, scientists and teachers. Kids in tomorrow's workforce will need to be sensitized to the fact that competition and collaboration in work will now occur across cultures.

**Practice and Programs:** Science House Foundation has four key operational programs.

**MicroGlobalScope** is a Science House Foundation program that donates microscopy kits for informal science to primary schools around the world and provides a digital platform for students to share their discoveries. The project is designed for students 10-12 years of age (5th-6th grade), and their teachers. The project encourages students to explore their curiosity about the microscopic world by giving them the

tools to see it up close. As with all of our projects, there is a cultural collaboration element. Students also play an integral part in building a world-first, global, educational resource to inspire other budding biologists, and to add to our scientific understanding of the distribution of microbiological life around the world. Scientists comment on student discoveries, which serve to both inspire students and mentor teachers. http://www.microglobalscope.org/about/

**Terrabotic** is a platform-agnostic global robotics project for high school students (15-18 years old). Participating schools receive a class set of robotics kits to start a school robotics program and also become a part of a network of schools around the world. Via videoconferencing and the Terrabotic blog, classes get together to attend virtual lessons, interact with experts in the field and collaborate with their peers around the world.
http://www.terrabotic.org/

Planet Checkup is a student environmental citizen science journalism monitoring initiative in schools around the world. Planet Checkup loans environmental testing equipment to schools to investigate the air and water quality in their local areas. Students carry out their own investigations, and share their class's findings on the Planet Checkup blog. Each and every student contributes towards creating a valuable, worldwide data set on environmental health, and helps sheds light on environmental issues around the country. Planet Checkup started with an idea proposed to the Science House Foundation by Ambridge Junior High School in early 2010 when an incident at a local power plant that left black soot raining from the sky, the environmental science class wished to find out what was in the air they were breathing.
http://planetcheckup.org/

**Video Science** is a series of video curricula available on the web and as a free-to-download iPad and iPhone app, produced by Science House Foundation providing applied science teaching exercises. The courses are lead by science teacher Dan Menelly, a veteran science teacher from the United Nations International School. Video Science has been downloaded over 300,000 times in every iTunes store on the Planet. http://sciencehousefoundation.org/videoscience/

**Impact**:
*New Incentives for Learning:* A teacher in New York City describes Science House Foundation's globally collaborative approach to science education as a "phenomenal secret" in helping to inspire his kids to want to learn. Here's a short video: http://bit.ly/QYcqHD

*Literacy:* Our science education work is now a gateway to literacy--inspiring young girls and boys in the projects of NYC and the slums of Brazil to want to learn to read and write and make more self-affirming life choices. A short video from Brazil: http://bit.ly/NGGDmw )

*Global Curriculum Development:* We are working to improve and support teachers worldwide by providing globally collaborative curriculum options to improve science education worldwide and create the next generation of scientists. We believe great students need great teachers.

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