

Is Environmental Literacy Relevant?

“The promise and opportunities for our Nation in the decades ahead will depend on the role that science and technology can play in the generation of new wealth, in safeguarding the health of our planet, on opportunities for learning and individual development, and on the integration of our national interests into a global perspective. The environment, in this context, is a vigorous, essential, and central theme in both domestic and international affairs.”

The National Science Board

In this age of acrimony and achievement gaps, budget cuts and teacher lay-offs, what IS the relevance of Education for Sustainability (Efs)? Where does environmental literacy fit into the picture defined in large part by fiscal and academic crisis? We are devoting this newsletter to a close look at environmental literacy; why we care about it (it’s in our name after all) and why you should too.

We were thrilled last spring when U.S. Secretary of Education Arne Duncan announced plans to recognize schools that embrace energy efficiency and environmental literacy as “Green Ribbon” Schools. The first selection of Green Ribbon Schools will be heralded in 2012.

“Environmental literacy is an important part of a well-rounded, world class education,” Duncan said in a press release announcing the program. It is exciting that CELF’s mission is recognized at the federal level. However, critics still abound, claiming Efs (the path to environmental literacy) is an unnecessary and expensive distraction. Others still confuse environmental literacy with tree hugging. Yet sustainability education embraces so much more than just trees. So, what exactly IS environmental literacy?

Are Green Schools Environmentally Literate Schools?

Greening school facilities and practices is certainly part of environmental literacy, as is achieving cost savings through increased efficiency. But unless students understand causal relations such as *why* motion sensors have been added to the lights, or low flow toilets installed in the bathrooms, they are not members of a “green school” community, and are therefore not environmentally literate. The “green” *must* encompass the school’s academic and social culture, permeating the school grounds from the library to the bus stops. The building and grounds and cafeteria should be “greened” and so should the curriculum. (continued on pg 4)

Students participating in the CELF Eco-Footprint Program (shown here in Katonah Elementary School) explore the boiler room as part of the “back stage tour” of their school.



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- A fundamental understanding of the systems of the natural world and the interactions between the living and non-living environments.
- The ability to make responsible decisions based on scientific, economic, aesthetic, and ethical considerations.
- The confidence and motivation to exercise rights and responsibilities as a member of a community.

Connecticut Outdoor & Environmental Association

Fall/Winter Events:

CEL F Efs Curriculum Design Workshop

Aug 29-30, Far Rockaway, NY

UN International Water Forum

Sept 16, New York City

Women: Inspiration and Enterprise Symposium

Sept 20, New York City

Clinton Global Initiative

Sept 21-24, New York City

NY Times Schools for Tomorrow Conference

Sept 21, New York City

NAAEE Conference:

Oct 12-15, Raleigh, NC

Green Schools of Westchester Fall

Conference: CEL F & GSCW
Oct 19, Scarsdale, NY

CEL F School Eco-Footprint Program

December 16, Pleasantville, NY

Green Schools National Conference

February 27-29, Denver, CO

NWEAC/SWEAC Conference & Green Schools Conference:
March 17, SUNY Purchase, NY

“How I spent my summer ...”



The CELF Summer Institute is defined by supportive, energetic instructors, large and small group activities, curriculum development with individualized consultation, and access to vast and relevant resources.

Participants learned strategies to help their students apply learning to real-world situations.



Teachers explored the Manhattanville College campus to connect teaching and learning with nature, exploring the school grounds, the school community, and nearby green spaces.

A group of CELF students & teachers joined the action at the Student Climate Conservation Conference (VA), co-sponsored by the GSA in June.



CELF Student volunteer demonstrating the LifeStraw at the 2011 Green Schools Alliance National Conference.

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Collaborate and Reinvigorate with CELF-Help!

We asked 2011 participants what aspects of the CELF Summer Institute contributed most to their learning.

Read what some teachers had to say:

“Sustainability is NOT environmentalism!”
Tom Hall, Westlake Middle School, NY

“I learned so much from the instructors, but I also benefitted greatly from hearing others perspectives and thoughts. This class really forced me to think.”

Beth Tyler, Dobbs Ferry MS/HS, NY

“Developing a better, more accurate, understanding of “sustainability” and a better understanding of the interdisciplinary nature of EfS.”

Kate Daly, Rippowam Cisqua School, NY

“The presenters enthusiasm, useful and clear curriculum examples and their support in the process of curriculum writing”

Michael Galego, Boston Latin School, MA

“The idea that I can make my history class assignments real and this will help students build life-long skills.”

Gerald Hughes, School for Performing and Fine Arts, MA

Far Rockaway High School for Environmental Science braces for Irene and embraces EfS

Two days after braving Hurricane Irene, energetic FRHSES ninth grade faculty and administrators found the relevance of EfS (Education for Sustainability) vital to preparing their students for a sustainable future. They gathered for two full days of EfS overview and curriculum integration work. Participants developed lesson plan ideas across disciplines and completed a sustainability curriculum map for the 9th grade.

Feedback from workshop participants:

“This was a wonderfully practical program. We identified EfS standards and projects in each subject area and are well on our way toward completing a curriculum map for our new 9th grade teachers to have.”

“It was so helpful to have guidance in coming up with our own working definition of sustainability. It seems much more relevant to my teaching now.”

“The curriculum examples were very clear and useful.”

CELF STATS:

CELF Programs

of teachers who have participated in CELF programs:

2,150

of students reached:

300,000

of students who have participated in CELF programs:

5,700

of schools that have participated in CELF programs:

553

Thank you to all of our partners and supporters who have helped make these past eight years possible!

Clarence E. Heller Foundation, The Heineman Foundation, Con Edison, National Grid Foundation, NYPA, Whole Foods Market, NYC Department of Education & United Federation of Teachers, Vestergaard Frandsen, Wells Fargo, Aveda, Steelcase, EPA, Powersmiths International, Anvil, Pace University, Rotary Club, Manhattanville College, Simmons College, Divney Tung Schwalbe, Waldner’s Business Environments, OLA, FCWC, NYLVCV, KG&D Architects, CliffBar, Honest Tea, Ben & Jerry’s, The Cooper Union, Pratt Institute, Creative Change Educational Solutions, P/NW BOCES, Westchester County, Boston Latin School Youth Climate Action Network, Green Schools Alliance, the Green Schools Coalition of Westchester

... and generous, forward-thinking family foundations and individuals.

Is Environmental Literacy Relevant to Your School?

Last spring, CELF worked with Chatsworth Elementary School in Larchmont, NY to calculate the school's ecological footprint. CELF's full-day program activates inquiry in students as they investigate how their school uses energy and water, paper and packaging, food and transportation. Students learn how much land and ocean is required to produce the goods they need each day, and to absorb the waste they create. Once they understand and appreciate the enormity of their environmental impact, they devise solutions to decrease it.

As a result of their new insight into the school's use of paper, some fourth grade students in teachers Jodi Scozzafava and Rachel Morse's class decided to raise money for the planting of 150 trees, the equivalent number of trees their school had used in paper that year. They also committed to enforcing double-sided copying as well as researching recycled content copy paper.



Chatsworth students participate in the Resource Scarcity Activity as part of the CELF Eco-Footprint Program. During the program they experience real-world challenges such as time and resource management while developing leadership and negotiating skills.

“Nothing beats authentic inquiry. Now the students can understand that this school environment links to the larger environment.”

Chatsworth Elementary School
Principal Gail Boyle

These students appreciate that paper is essential to school life. But they also understand that paper production is highly resource intensive, using massive amounts of water, energy and wood; they connected their every-day actions to consequences in the larger world.

Chatsworth Elementary School, like many others CELF has worked with, is embracing sustainability in other ways. Developed at the CELF Summer Institute, the new school garden is incorporated into the curriculum at all grade levels.

“By understanding the interdependence between the systems that provide us with what we need to live fulfilling lives, students will be better prepared to make decisions,” says high school science teacher Chris DeMattia.

So now that you understand what it is, why is Environmental Literacy important?

In a struggling economy, no one – school districts, administrators and taxpayers alike – wants to pay for something that is not cost effective. Skeptics of Education for Sustainability believe it distracts teachers, stealing time away from the essential learning tools that will make their children succeed. But the reality is, **EfS enhances, rather than replaces existing curricula**; it does not detract from traditional subjects. In fact, this method of teaching – problem-based, systems thinking, hands-on – has been shown to improve academic achievement in all areas.

Chris DeMattia believes his students

benefit in many ways from the sustainability education he has integrated into his curricula:

“Helping my students use their homes, schools, and communities as laboratories for learning helps bolster engagement, enthusiasm and relevance in the classroom.”

Are teachers burdened with an extra “environmental literacy” workload?

CELF has worked with hundreds of teachers since the first Summer Institute in 2005, helping them bring the concepts and interdisciplinary approach of sustainability alive in their classrooms. When applying EfS, teachers reframe their existing curricula, addressing traditional subjects from multiple perspectives and with innovative inquiry-based activities, thus their teaching is not overtaxed but enriched. The CELF Summer Institute enables teachers to weave sustainability concepts into their existing lesson plans.

Ok, but will Environmental Literacy and Education for Sustainability translate into greater student success in LIFE?

Because EfS emphasizes critical thinking skills and real world connections, the National Science Board of the National Science Foundation also recognized environmental education as advantageous to student learning and lifetime achievement in their 2000 report, *Environmental Science and Engineering for the 21st Century*:

“The twin goals of learning are to acquire knowledge and gain skills such as problem solving, consensus building, information management, communication, and critical and creative thinking. ...Environmental issues offer excellent vehicles for developing and exercising many of these skills using a systems approach. ...There is a need to encourage changes in the formal educational system to help all students, educators, and education administrators learn about the environment, the economy, and social equity as they relate to all academic disciplines and their daily lives.”

Kevin Coyle is Vice President for Education and Training at the National Wildlife Federation - a founding member of the No Child Left Inside Coalition, a group of 1,500 members. "Having an environmentally literate citizenry is key to increasing interest in the STEM fields and keeping America competitive in the global, clean energy economy," Coyle says.

Education and sustainability are essential to our economic future - and our ecological future. The national Green Ribbon Schools Program is a good start; but CELF's mission is for EVERY student in this country to achieve

"EfS has made me a better teacher. I've reframed my teaching goals to better address the interconnectedness of all things. This allows me to ask my students better questions and develop bigger picture projects."

2011 CELF Boston Summer Institute participant

environmental literacy through Education for Sustainability. Preparing our students to be good environmental citizens is some of the most important work any of us can do; it's CELF's mission - for our children, our children's children, and generations yet to come.



Green Ribbon Schools Program

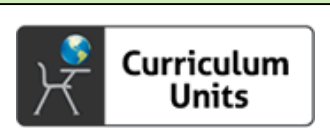
U.S. Department of Education Green Ribbon Schools will recognize public and private elementary, middle and high schools that save energy, reduce costs, protect health and exemplify environmentally sustainable learning spaces and educational programs to boost academic achievement and community involvement.

Find out if your state is participating in this program by emailing Green.Ribbon.Schools@ed.gov

If you are part of a state education agency or a school administrator, please contact Andrea Suarez Falken, Special Assistant, U.S. Department of Education Green Ribbon Schools at the email address above. For more: www2.ed.gov/programs/green-ribbon-schools/index.html

“In the past two years, the number of online job postings containing the keyword ‘sustainability’ has more than quadrupled to 8,245 according to Indeed.com, which aggregates online job postings. The number containing "wind" and "solar" more than doubled in the same time period.”

Wall Street Journal
July 11, 2011



NEW:

Online Library: CELF Curriculum Units

Explore hundreds of K-12 teacher-created EfS units in multiple subjects from participants around the nation.

Free subscription to all past Summer Institute participants!

www.celfeducation.org

For login info contact: info@celfeducation.org

914.238.4743

CELF Summer Institute: Meet the Faculty

Certainly the times are changing; education is changing; CELF is changing. This year's CELF Summer Institute programs - held in New York and Boston - were redesigned to focus more on practice and action than on theory, to great acclaim. Over the past eight years, the Institute has provided professional development and curriculum design seminars for teachers of any subject or grade level. Every teacher who participates leaves the program with a completed sustainability unit or curriculum map, content resources, an online network group, and connection to CELF staff for ongoing support.

This year, Institute participants were universally excited about our dynamic, experienced presenters.



Presenter and CELF Executive Director Katie Ginsberg with co-presenter Jen Cirillo (Shelburne Farms)

NEW YORK SUMMER INSTITUTE

Jen Cirillo - Shelburne Farms, VT

As Director of Professional Development at Shelburne Farms, Jen works with schools and communities here and abroad helping them to integrate the ideas of sustainability into curriculum development, campus practices, and community partnerships. She works with the Vermont Department of Education to refine state standards to incorporate place-based, sustainability, and environmental/agricultural issues. As a CELF presenter, Jen focuses on teaching and supporting teachers as they utilize "Understanding by Design" – the curriculum development model used at the Institute.

Why environmental literacy?

"I believe that we must start to develop environmental literacy in pre-school just as we do language literacy, numeracy, and communication skills. If we are to solve the problems of today and rethink the possibilities for the future then we must come to know the world in which we live – from the soil to the sky and everything in between." - Jen Cirillo

Chris DeMattia - Fox Lane High School, NY

An engaging facilitator, Chris resonates with teachers because he is one of them. He knows first-hand the frustrations and joys of the classroom and how to inspire students with sustainability and problem-based learning. As a science educator, DeMattia has designed and implemented effective, forward-thinking strategies that integrate Education for Sustainability (EFS) within standards-based curriculum. His *Take Action! Support a Sustainable Community* - a new online course - requires students to do community service for sustainability.



"The problem-based units I have developed aim to give students a chance to practice employing the tools and habits of mind necessary to grapple with the complex problems that we are facing on local and global fronts."

Sherie McClam, PhD - Manhattanville College, NY

Manhattanville College School of Education welcomed Sherie as Assistant Professor in Curriculum and Instruction in 2009, following her formative experience as a faculty member of the University of Melbourne in Australia. For more than fourteen years, Sherie has worked to reform science education in richly diverse contexts inside and outside of the United States. "For me, the basis and critical importance of environmental literacy has to do with the essential lessons that we must learn from nature. We must put back the pieces that we have pulled apart through the evolution of Western rational thought and we must model our systems/networks after the complexity of nature. Without environmental literacy, we will never succeed."



Institute participants benefited not only from Sherie's command of sound pedagogical approaches to EFS, but from her humor. According to a NY high school teacher participant: "Resource depletion and educational reform are pretty serious topics; it was refreshing when Sherie provided a profound insight and then some comic relief in quick succession."



Presenters Scott Beall and Katie Ginsberg pictured with Carmen Fields (National Grid Foundation board member) and participants of the CELF Boston Summer Institute and BLS Youth CAN students.

Henry "Jake" Jacoby, PhD - MIT, MA

Dr. Jacoby is Co-Director of the MIT Joint Program on the Science and Policy of Global Change, integrating the natural and social sciences with policy analysis as it applies to the threat of climate change. In this program, he directs the social science component of the Integrated Global Systems Model, a comprehensive research tool. Jake is the former director of the Harvard Environmental Systems Program.

Boston Institute participants appreciated Jacoby's straight-forward assessment, addressing both the science and the politics of climate change. Said a Boston Institute participant, "Professor Jacoby has forced me to rethink my role as an educator, by presenting the climate change issue in the simplest, most memorable and compelling terms."

BOSTON SUMMER INSTITUTE

Scott Beall - Integral Vision Learning, NY

An international education consultant, innovative curriculum designer, middle school enrichment and math teacher, and professional musician, Scott Beall motivates teachers and students alike. Scott's own project-based sustainability enrichment course utilizes systems thinking and community-based learning with themes of sustainable development, entrepreneurialism and social responsibility.

"Scott's implementation of sustainability was inspiring and really made the process seem do-able and rewarding. To see (the presenters') accomplishments really helped me build the courage to begin to take action in my own classroom," commented a high school physics teacher who participated in the Boston Institute.

Scott teaches his enrichment at H.H. Wells Middle School, Brewster, NY, and runs a national youth action network, "DoRight Leadership Corp".



Teachers at the 2011 Summer Institutes exploring the new **FREE CELF Curriculum Library** (also available online).

The 2011 CELF Summer Institute programs were made possible thanks to the generosity of CELF supporters – National Grid Foundation, Con Edison, The Heineman Foundation, Wells Fargo, Whole Foods Market and Boston Latin School Youth CAN, and our higher education partners Manhattanville College School of Education (NY) and Simmons College (MA).



CELF Professional Development Programs:

- **CELF Summer Institute (NY & MA)**
- **On-Site Staff Development**
 - Introduction to EfS
 - Advanced Topics in EfS
 - EfS Curriculum Design

Staff Development Programs are available in a range of formats from 2-hour workshops to multi-day programs. Each is tailored to suit the needs of the client. For further information or to book a staff development program for your school or district please contact CELF Executive Director Katie Ginsberg:

katie@celfeducation.org or call 914.238.4743



Teaching the LifeStraw: An Educator's Guide

An exploration of water issues and product design appropriate for grades 3 – 12.

Topics include:

- ◆ **H2O - Earth's Essential Compound** Examine water from multiple perspectives: biological, geographical and historical. Explore the effects of climate change on the water cycle.
- ◆ **Water-Friend or Foe?** Understand water pollution, its causes and consequences for health, economic and social well-being. "Visit" communities around the world that lack clean water and see the impact of LifeStraw products on certain populations.
- ◆ **Water Filtration** Look at water filtration and the science and engineering of the LifeStraw.
- ◆ **Water Scarcity** Examine social, political and economic issues related to limited fresh water.
- ◆ **"Design for the Other 90%"** Learn about mindful design, appropriate technology and the evolution of the LifeStraw.

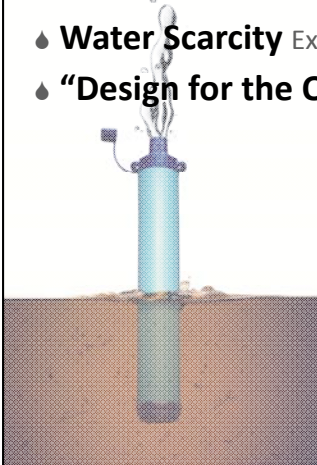


Create a LifeStraw School Fundraiser:

Lack of access to clean water means disease, missed school, lost income, and even death. Create a LifeStraw fundraiser in your school or community. Download the FREE educational guide and learn about water issues and product design for developing countries.

Help provide clean water for children and families in need. 100% of donations go directly to purchase and deliver LifeStraws in partnership with Rotary 1090 Foundation.

For information click on the LifeStraw @ www.celfeducation.org



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