brock

international prize in education

2015 Brock International
Prize in Education Nominee

Jaimie P. Cloud

Nominated by Larry M. Frolich

PRESENTING JAIMIE CLOUD
PIONEER IN SUSTAINABILITY EDUCATION

- **30 Years Promoting Education for Sustainability**
- **Leader and consensus-builder among Sustainability Educators**
- **Cloud Institute Framework— comprehensive guide to Sustainability Education**
- **Hundreds of districts/schools have adopted the Cloud approach**
- **Fish Game—innovative hands-on modeling of sustainability for any age**

WHY SUSTAINABILITY EDUCATION?

If Education is about preparing for the future, sustainability is the key issue of our times.

Whereas the environmental alarm cry is by now well known, the road to positive action is not.

Sustainability concepts break disciplinary bonds and require creative, systems thinking.

Only proactive education, from the learner to the school to the community to the curriculum will lead to change in favor of the next generation.

THE challenge for education in our times. Jaimie Cloud is paving the way.

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September 1, 2014

Dear Brock Prize Jurors,

It is a sincere pleasure and an honor to nominate Jaimie Cloud for the Brock International Prize in Education. Jaimie was an obvious choice as a prize nominee, just based on the quality, consistency and persistence of her work. She was one of the early pioneers of Education for Sustainability, invented much of the language and concepts involved, and began promoting those ideas 30 years ago, before most of the world was even thinking about sustainability. In the ensuing decades, she has been one of the instrumental leaders in bringing sustainability concepts into the educational arena. But whereas much of the sustainability community has been satisfied to remain a side-line to the educational process, Jaimie has managed to mainstream sustainability at the classroom, school and even district level, with major curriculum reforms, and even the design of completely integrated classroom/curricular approaches that focus on sustainability, but also bring so many of those key learning innovations, like systems thinking, hands-on approaches and inquiry-based learning, into the fold.

I have no doubt that Jaimie would handily join the distinguished group of past Brock prize winners based on her outstanding accomplishments alone. Her record of inspired and dogged pursuit of integrating sustainability concepts into the educational process stands for itself. But I believe there is a larger consideration at stake here. If education is about preparing us for the future, as individuals, as a population and as a community, then sustainability should be at the forefront of all our educational efforts. It is, then, the concept of sustainability education, as much as Jaimie's pioneering work, which merits the recognition that would come with a Brock International Prize award.

Sustainability Education, as pioneered by Jaimie and as is increasingly implemented across the country, is not simply an environmental issue. We now know that maintaining and improving human quality of life depends on a multi-tiered approach where economic, social and ecological concepts are integrated into a systems-level understanding. In Education for Sustainability, as envisioned by Jaimie Cloud, social, economic, ecological, and even ethical/moral factors, are combined in an educational process that gives students real tools for solving complex life questions. And in education, every problem or question is a subset of the ultimate challenge for our times: how to insure and improve quality of life for ourselves and future generations. The primacy of this mandate, along with the consistency and quality of her work, is why I believe Jaimie Cloud deserves our strong consideration as the ideal Brock International Prize Laureate.

Thanks for your careful consideration of Jaimie's body of work, and the important Education for Sustainability doctrine that it represents.

Sincerely,

Larry M Frolich, Ph.D.
Faculty, Natural Sciences, Miami Dade College
Editor, Journal of Sustainability Education

OVERVIEW

JAIMIE P. CLOUD, Founder and President
The Cloud Institute for Sustainability Education
307 7th Avenue, Suite 1201, New York, NY 10001

Jaimie P. Cloud is the founder and president of the Cloud Institute for Sustainability Education in New York City. The Cloud Institute is dedicated to the vital role of education in creating awareness, fostering commitment, and guiding actions toward a healthy, secure and sustainable future for ourselves and for future generations. We monitor the evolving thinking and skills of the most important champions of sustainability, and transform them into educational materials and a pedagogical system that inspire young people to think about the world, their relationship to it, and their ability to influence it in an entirely new way.

Cloud is a pioneer of Education for Sustainability (EfS) in the U.S. She writes and publishes extensively, and consults, coaches and teaches in schools and school districts around the country and in other parts of the world. She has developed exemplary curriculum units and full courses of study, and has produced an EfS framework and a set of EfS Standards and Performance Indicators that schools are using to design and innovate their own curricula to educate for sustainability.

Jaimie is a Founder and Principle Partner with Peter Senge of the Society for Organizational Learning's (SOL) Education Partnership. She is a member of the Advisory Committee of The Buckminster Fuller Institute, and serves on the advisory board of "The Future We Want" and the National Sustainable Communities Coalition with David Orr and Bill Becker. She also served for six years on the Editorial Board of the International Journal of Education for Sustainable Development. Recently, Ms. Cloud joined the Advisory Board of the Center for Green Schools at the U.S. Green Building Council and the Faculty of the MFA Design for Social Innovation program at the School of Visual Arts, and will serve as a Mentor for Doctoral Students studying Sustainability Education at Prescott College, and as guest editor of the Spring and Fall 2014, and Spring 2015 issues of the U.S. Journal of Education for Sustainability.

The Cloud Institute for Sustainability Education prepares K-12 school systems and their communities to educate for a sustainable future by inspiring educators and engaging students through meaningful content and learner-centered instruction. Our services include: consulting and leadership development; professional development and coaching; curriculum design, assessment, mapping, and alignment, and facilitating school and community partnerships.

We define **Education for Sustainability (EfS)** as a transformative learning process that equips students, teachers, and school systems with the new knowledge and ways of thinking we need to achieve economic prosperity and responsible citizenship while restoring the health of the living systems upon which our lives depend. EfS has multiple, positive effects on student achievement, school culture, community vitality, and ecological integrity.

The knowledge, skills, attitudes and habits of mind of Education for Sustainability (EfS) are embedded in The Cloud Institute's EfS Standards and Performance Indicators. Aligned to national and state educational standards, each EfS Standard has a set of coded Performance Indicators used to guide educators as they infuse their school culture, curriculum, instruction and assessment practices with Education for Sustainability. We believe that by meeting these EfS standards, young people will be prepared to participate in, and lead with us, the shift toward a sustainable future. The Cloud Institute's EfS Framework illustrates our whole systems approach, which springs from the recognition that lasting transformation in education requires innovation at the curricular, institutional, and community levels.

Our Mission is to ensure the viability of sustainable communities by leveraging changes in K-12 school systems to prepare young people for the shift toward a sustainable future.

- We monitor the evolving thinking and skills of the most important champions of sustainability, and transform them into educational materials and a pedagogical system that inspires young people to think about the world, their relationship to it, and their ability to influence it in an entirely new way.
- We believe that K-12 education can substantially influence beliefs, attitudes, values, and behaviors related to sustainability. This is the most fertile ground for helping to shape a society committed to sustainable development.
- We develop in young people and their teachers the new knowledge and ways of thinking needed to achieve economic prosperity and responsible citizenship while restoring the health of the living systems upon which our lives depend.

The Cloud Institute was founded in 1995 as a program of The American Forum for Global Education known as the Sustainability Education Center. From its inception, The Cloud Institute has been a pioneer of Education for Sustainability. Jaimie P. Cloud, founder and president, has dedicated over fifteen years to distinguishing the importance of educating for sustainability, rather than about sustainability, in K-12 education systems.

"Inspiring young people to think about the world, their relationship to it,
and their ability to influence it in an entirely new way."

Jaimie Cloud with students at Ossining High School

Cloud Programs & Services

This **Introduction to EfS** one day workshop combines systems thinking, sustainable economics, and the science of sustainability to inspire participation in the shift toward a sustainable future.

NJL provides introductory and advanced level EfS programming, coaching and instructional support for schools, individual educators and community leaders New Jersey.

SDS offers structured time, space, coaching and peer reviews for teachers, admins and program designers interested in developing units and protocols that educate for sustainability.

Schools Learn | Teachers, Administrators and Staff Make the Shift to Educate for Sustainability
Schools Learn is a long-term and comprehensive approach to developing whole school capacity to educate for sustainability. We support efforts to embed EfS into curriculum, instruction and assessment, and organizational learning practices, while working in partnership with the community.

Sites Learn | Schools & Communities that Learn Together
Sites Learn programs contribute to sustainability through collaborative initiatives developed through school and community partnerships.

Districts Learn | Multi-District Collaboration to Educate for Sustainability
Districts Learn is designed to encourage regional efforts in ongoing curriculum innovation, dissemination, professional development, and organizational change.

Curriculum Development
We work with clients to design custom EfS units and courses that meet appropriate State, National and EfS standards.

Jaimie with Educators and Community Leaders who have completed the 2014 NJ Learns Program

∞ Learn more about The Cloud Institute's Model Programs: http://cloudinstitute.org/model-programs

JAIMIE P. CLOUD

Educator, Speaker, Author, Curriculum Developer, Consultant

CURRENT EMPLOYMENT

The Cloud Institute for Sustainability Education

1995-Present	Founder and President

1984-1995	Director for Program, The American Forum for Global Education

PROFESSIONAL ACTIVITIES (Recent)

- **EfS Consultant, Coach, Professional Developer**, Schools, Districts, Colleges and Universities

- **Principle Partner,** Society for Organizational Learning (SOL) Education Partnership

- **Chair Emeritus, Board of Directors,** Communities for Learning, NY

- **Member, Education Advisory Committee,** Buckminster Fuller Institute, NY

- **Member, Advisory Council,** Center for Green Schools, U.S. Green Building Council

- **Member, Advisory Board,** "The Future We Want"

- **Consultant,** National Sustainable Communities Coalition

- **Faculty**, MFA Design for Innovation program, School of Visual Arts, NYC

- **Mentor**, Doctoral Students, Prescott College

SELECTED PUBLICATIONS

- Cloud, Jaimie P. (2012) Chapter "**It Takes a Child to Raise a Village**", *Schools that Learn*, Peter Senge, Editor, 2012

- Contributing Author, "**Acting as if Tomorrow Matters: Accelerating the Transition to Sustainability**" John Dernbach, 2012

- Cloud, Jaimie P. (with Pramod Parajuli and Rosemary Logan). "**How our Teaching Changes our Thinking, and How our Thinking Changes the World: A Conversation with Jaimie Cloud**." Journal of Sustainability Education, Prescott College. May 8, 2011

- Cloud, Jaimie P. (2010). Chapter, "**Educating for a Sustainable Future",** *Curriculum 21: Essential Education for a Changing World*, Heidi Hayes Jacobs, Chapter 10, ASCD Member Book

- Cloud, Jaimie P. (2009). **Some Systems Thinking Concepts for Environmental Educators during the Decade of Education for Sustainable Development**. *Education for Sustainable Development--Papers in Honour of the UN Decade of Education for Sustainable Development.* Section II, Chapter 2.3

- Cloud, Jaimie P. (2009). **Kindergarten through Twelfth Grade Education: Fragmentary Progress in Equipping Students to Think and Act in a Challenging World**. *.Agenda for a Sustainable America. Environmental Law Institute,* 109-127

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- Cloud, Jaimie P. (2006). Ecological Literacy book review. **Educating Our Children for a Sustainable World**.

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- Cloud, Jaimie P. (2005). **The Mindset Thing**, *Environmental Building News*

- Cloud, Jaimie P. (2005). **Thin Line Between School and Real World**, *Times Union Newspaper* (Albany)

- Cloud, Jaimie P. (2004). **Education for Sustainability: What is Its Core Content?** *NAAEE Communicator,* 1, 10.

- Cloud, Jaimie P., Federico, Carmela. Byrne, Jack. Wheeler, Keith. (2003). **Kindergarten Through Twelfth Grade Education for Sustainability**. *Environmental Law Institute,* 10117-10131

- Cloud, Jaimie P. (2000). Foreword. *Education for a Sustainable Future: A Paradigm of Hope for the21st Century.* Wheeler, Keith, Perraca Bijur

Courses and Units Developed by Jaimie Cloud and The Cloud Institute

- Ecological Economics for Life
- Introduction to Sustainability
- Introduction to Education for Sustainability
- Changing Consumption Patterns
- Core Content and Habits of Mind of Education for Sustainability
- From Global Hunger to Sustainable Food Systems
- Business and Entrepreneurship Education for the 21st Century (BEE 21)
- Inventing the Future: Leadership and Participation for the 21st Century ("Inventing the Future")
- Ethics, Sustainability and Design

EDUCATION
1998-2001 Doctoral Work in Environmental Psychology
Center for Human Environments, The Graduate Center of The City University of New York

1991 Master's Degree in International Administration
Emphasis on organizational development and change and cross-cultural communication
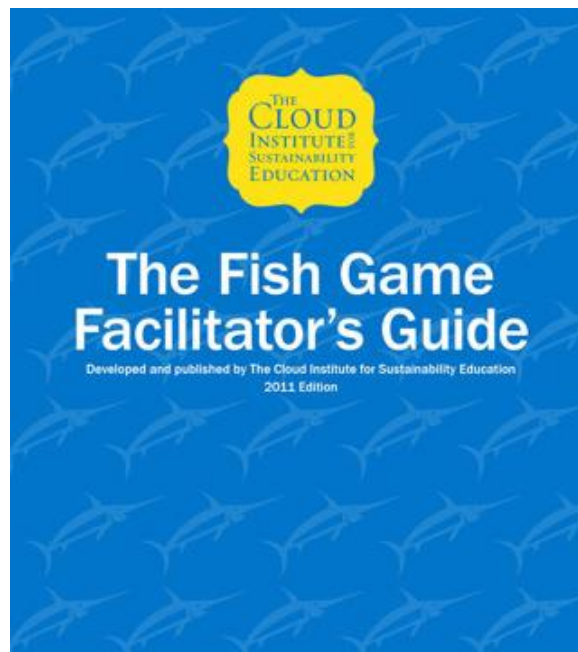*School for International Training, Brattleboro, Vermont*

1980 Bachelor of Arts Degree.
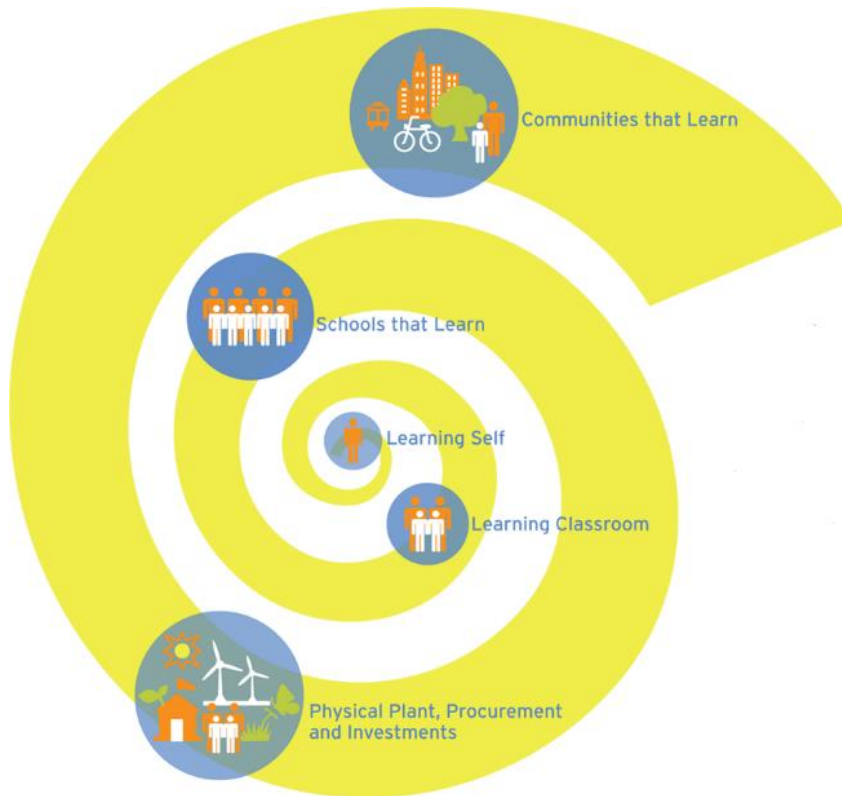Emphasis on World Literature, Political Science and Photography.
Goddard College, Plainfield, Vermont

1975-77 Photography Major.
Arizona State University, Tempe, Arizona

THE CLOUD INSTITUTE FRAMEWORK

The Cloud Institute for Sustainability Education prepares K-12 school systems and their communities to educate for a sustainable future by inspiring educators and engaging students through meaningful content and student-centered instruction.

The Cloud Institute's Education for Sustainability (EfS) Framework illustrates our whole systems approach, which springs from the recognition that lasting transformation in education requires innovation at the curricular, institutional, and community levels.

No single element within our framework stands alone. Rather, all of the elements are interdependent and represent our learner-centered vision and our approach to educating for sustainability.

THE LEARNING SELF
The Learning Self encompasses the knowledge, skills, attitudes and habits of mind that make it possible to live well within the means of nature.

THE LEARNING CLASSROOM
In the Learning Classroom, curriculum and instructional methodologies produce authentic and engaged learning.

SCHOOLS THAT LEARN
In Schools that Learn, the organizational cultures and structures encourage innovation, collaboration, reflection and self-correction.

PHYSICAL PLANT, PROCUREMENT AND INVESTMENTS
Buildings, grounds, procurement, operations and responsible investments positively contribute to the long-term health of our economic, ecological and social systems.

COMMUNITIES THAT LEARN
In communities that learn, stakeholders partner with schools to learn and work together toward a sustainable future.

∞ Learn more about The Cloud Institute's Framework: http://cloudinstitute.org/our-approach

ENDURING UNDERSTANDINGS

1. **A HEALTHY AND SUSTAINABLE FUTURE IS POSSIBLE**
   We can learn how to live well within the means of nature. This viewpoint inspires and motivates people to act.

2. **WE ARE ALL IN THIS TOGETHER**
   We are interdependent on each other and on the natural systems. In this context, self-interests are best served through mutually beneficial relationships.

3. **HEALTHY SYSTEMS HAVE LIMITS**
   Rather than exceeding or ignoring the limits, tap the power of limits. Constraints drive creativity.

4. **RECOGNIZE AND PROTECT THE COMMONS**
   The Commons are the creations of nature and society that we inherit jointly and freely, and hold in trust for future generations. We all depend on them and we are all responsible for them. Who is tending them at the moment?

5. **RECONCILE INDIVIDUAL RIGHTS WITH COLLECTIVE RESPONSIBILITIES**
   Responsible and ethical participation and leadership are required in order to make the changes we need to make. We must reconcile the conflicts that exist between our individual rights and our responsibilities as citizens.

6. **DIVERSITY MAKES OUR LIVES POSSIBLE**
   Diversity is required to support rich complex systems (like us), to build strength and to develop resilience in living systems. Biological diversity, cultural, gender, political and intergenerational diversity all serve this purpose.

7. **CREATE CHANGE AT THE SOURCE NOT THE SYMPTOM**
   Distinguish problems from symptoms and goals from indicators. Identify the most upstream problem you can address within your sphere of influence, and then solve more than one problem at a time while minimizing the creation of new problems.

8. **THINK 1000 YEARS**
   Envision the kind of future we want and start working towards it. We do not have to sacrifice our children's future to meet our needs. In fact, that is irresponsible and just plain wrong.

9. **READ THE FEEDBACK**
   We need to pay attention to the results of our behavior on the systems upon which we depend. How will we measure success? Sometimes the results of our behavior are inconsistent with our values and our desired outcomes. If we keep our eyes on the feedback, we can adjust our thinking and behavior before we cross detrimental thresholds.

10. **IT ALL BEGINS WITH A CHANGE IN THINKING**
    Thinking drives behavior and behavior causes results. The significant problems we face cannot be solved with the same level of thinking we used to create them. (Einstein) Think systems, cycles and out of the box.

11. **LIVE BY THE NATURAL LAWS**
    We must operate within the natural laws and principles rather than attempt to overcome them. It is nonnegotiable.

12. **WE ARE ALL RESPONSIBLE**
    Everything we do and everything we don't do makes a difference.

EDUCATION FOR SUSTAINABILITY STANDARDS - KNOWLEDGE & ACTION

A. CULTURAL PRESERVATION AND TRANSFORMATION

The preservation of cultural histories and heritages, and the transformation of cultural identities and practices contribute to sustainable communities. Students will develop the ability to discern with others what to preserve and what to change in order for future generations to thrive.

B. RESPONSIBLE LOCAL/GLOBAL CITIZENSHIP

The rights, responsibilities and actions associated with leadership and participation toward healthy and sustainable communities. Students will know and understand these rights and responsibilities and assume their roles of leadership and participation.

C. THE DYNAMICS OF SYSTEMS & CHANGE

A system is made up of two or more parts in a dynamic relationship that forms a whole whose elements 'hang together' and change because they continually affect each other over time. Fundamental patterns of systems include growth, decline and vacillation. Students will know and understand the dynamic nature of complex systems and change over time. They will be able to apply the tools and concepts of system dynamics and systems thinking in their present lives, and to inform the choices that will affect our future.

D. SUSTAINABLE ECONOMICS

The evolving theories and practices of economics and the shift towards integrating our economic, natural and social systems, to support and maintain life on the planet. Students will know and understand 21st century economic practices and will produce and consume in ways that contribute to the health of the financial, social and natural capital.

E. HEALTHY COMMONS

Healthy Commons are that upon which we all depend and for which we are all responsible (i.e., air, trust, biodiversity, climate regulation, our collective future, water, libraries, public health, heritage sites, top soil, etc.). Students will be able to recognize and value the vital importance of the Commons in our lives and for our future. They will assume the rights, responsibilities and actions to care for the Commons.

F. NATURAL LAWS AND ECOLOGICAL PRINCIPLES

The laws of nature and science principles of sustainability. Students will see themselves as interdependent with each other, all living things and natural systems. They will be able to put their knowledge and understanding to use in the service of their lives, their communities and the places in which they live.

G. INVENTING AND AFFECTING THE FUTURE

The vital role of vision, imagination and intention in creating the desired future. Students will design, implement and assess actions in the service of their individual and collective visions.

H. MULTIPLE PERSPECTIVES

The perspectives, life experiences and cultures of others, as well as our own. Students will know, understand, value and draw from multiple perspectives to co-create with diverse stakeholders shared and evolving visions and actions in the service of a healthy and sustainable future locally and globally.

I. A SENSE OF PLACE

The strong connection to the place in which one lives. Students will recognize and value the interrelationships between the social, economic, ecological and architectural history of that place and contribute to its continuous health.

∞ Download the full package of The Cloud Institute's Standards and Performance Indicators:
http://cloudinstitute.org/cloud-efs-standards

EDUCATION FOR SUSTAINABILITY RESEARCH AND RESULTS

Education for Sustainability has multiple, positive effects on student achievement, school culture, community vitality, and ecological integrity.

"When a school has employed this approach for several years, implemented in day-to-day actions of school community members, a well-planned curriculum and explicit instruction, Education for Sustainability not only improves learning outcomes but also, students' sense of place within their community is an indispensable foundation for other learning…as is their understanding that their relationship with their community is both reciprocal and valuable…."

(Becker-Klein et al, 2008; Duffin, 2006; AED, 2007; Sobel, 2008; Department for Children, Schools and Families, 2010; Ofsted, 2009; Gayford, 2009; Barrat-Hacking et al, 2010; PEER Associates, 2010).

IMPACT ON STUDENTS
improves student learning and standards achievement
enhances attitudes toward learning
significantly decreases students' feeling that they cannot succeed
produces better behavior and attendance
is consistent with human's natural style to learn holistically
attends to the needs of the whole child
provides a safe and secure space in which children can take risks and develop skills of active participation
encourages students to make connections between themselves and the systems of which they are a part
produces statistically significant increases in the strength of students' attitudes about civic engagement
develops in students a greater awareness of community, and a greater appreciation of the democratic process

IMPACT ON TEACHERS
meaningful effects on teacher attitudes
both new and veteran teachers are able to achieve strong academic outcomes from their students

IMPACT ON SCHOOL & COMMUNITY
whole school cultures and improved relationships between the school, parents and the community
models actions and attitudes that promote sustainable living
improves air quality, reduced waste, decreased energy use
contributes to children's health by improving children's food eating choices

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- Duffin, M., Murphy, M., & Johnson, B. (2008). Quantifying a relationship between place-based learning and environmental quality: Final report. Woodstock, VT: NPS Conservation Study Institute in cooperation with the Environmental Protection Agency and Shelburne Farms.
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ARTICLE 1: Educating for Sustainability with the Brain in Mind – Notes by Jaimie P. Cloud, adapted from the work of David Rock and Jeffrey Schwartz

Create a Shared Understanding

A shared experience, shared understanding, and shared vocabulary within the organization or group of people you are working with will save you a lot of time. That statement couldn't be truer in relation to our work to Educate for Sustainability. Don't assume that everyone has the same understanding of what sustainability is, why it is important, or what it means to educate for it.

Understand How Our Brains Process New Learning

Our brains need a rationale in order to learn new things and to make new and sustained cognitive connections (make things stick). We all learn on a "need to know" basis. To encourage our participants to develop a rationale for educating for sustainability, we begin our workshops by asking them, "Why educate for sustainability?" Their initial rationale is a useful entry point through which we can engage our audience. If they don't have a rationale yet, asking them to think of one "primes the brain" for learning.

As part of rationale building, people need to first be able to identify what is un- sustainable about their current practices and our current global reality (un-sustainability). Once they learn this, they will be able to understand why it is necessary to learn about what sustainability is. Then they can move to thinking about what it will take to make the shift toward practices that contribute to a sustainable future.

At the end of the Introduction to Education for Sustainability Workshop we ask people again to address the question, "Why educate for sustainability?" We do this for a few reasons. First, we are interested in growth and changes in thinking. Second, we want to make sure that each participant has a personal rationale for Education for Sustainability by the end of the day. Third, we collect rationales over time as a way to predict and teach to the entry points and rationales that are most likely to be present in new audience groups as a way to be learner centered even before we know our learners.

Know Your Terminology

Different fields have different names for the same basic premise: our thinking drives our behavior and our behavior causes results. Here is some of the terminology from the fields we draw on: Mental Models (Systems Thinking); Mental Maps (Neuroscience); Paradigms (Innovation); an Accepted Premise (Rhetoric); and Frames/ Framing (Cognitive Linguistics); "In the box" Thinking (Design); and Schema (Education). Popular terms used for the same concept include worldview or frame of reference. The phrase, "Right Thinking, Right Action" also describes this idea well. Thinking about our thinking is the most "upstream" place we can intervene in order to make transformative personal, organizational, and societal change. The thinking itself comes next.

Ask Permission to Shift People's Paradigms

The shift toward sustainability and regeneration will require new and different thinking. We liken the shift to the Copernican Revolution. No matter who your target audience is, its members are most likely still operating in the "old paradigm" (most people are). Before playing The Fish Game or any transformative learning experience with adults, ask permission to cause new learning which could "shift their existing paradigm(s)".

Piaget called learning something that reinforces your existing schema "assimilation." He called learning something new that requires shifting your schema to understand it "accommodation". We call it paradigm shifting or "out of the box" thinking. The reason we ask people for permission to "leave their comfort zone" is because being explicit about it both primes the brain for learning and reduces resistance (impasse) which provides a safe space for the brain to "re-frame" or "re-appraise"—literally "re-wire"—in order to make new cognitive connections (create new maps/neuro-pathways).

"Changing circuitry" (creating conditions for learning/paradigm shifting) makes it possible for people to pay attention to, and literally see, different aspects they could not perceive before. They can and do pay attention to things they could not—and therefore did not—pay attention to before.

Understand What Triggers Tremendous Learning and What Triggers No Learning At All

We want to create a learning environment where people feel comfortable and safe to learn, to change, to think "out of the box", and to grow. Shifting people's paradigms is disruptive and potentially threatening for people. We have found "SCARF", a brain based model for collaborating with and influencing others very useful in ensuring that tremendous learning takes place in our programs. Developed by David Rock, Author and Founder of the Neuro-Leadership Institute, SCARF is a useful acronym to remember if you want to create the conditions for tremendous learning ("the "toward" response) to take place in your participants, and to avoid no learning at all or "the away" response.

<u>TREMENDOUS LEARNING</u> (The "Toward Response") Takes Place When People Experience:

STATUS: Status refers to a person's self-esteem, perceived status, position, and/or personal best. How can we connect sustainability, learning and new thinking to our participants' increased status?

CERTAINTY: The brain likes certainty. Uncertainty is perceived by the brain as a death threat. In uncertain times, focusing on principles and things that you can count on is critical. Make a case for why education for sustainability provides us with more certainty and things that we can count on than does our current reality. We tend to hang on to what we know because it is impossible to predict the future and we need to exist in a "known" state even if this is just our perception.

AUTONOMY: Autonomy is a person's perceived ability to choose (e.g. "veto power" = free "won't" and free "will"), a sense that what I do matters. Moving toward a sustainable future will preserve our ability to choose wisely. Continuing down the unsustainable road we are on will reduce our options. Many people confuse sustainable practices with a loss of autonomy. It is important for people to connect making responsible and sustainable choices with their autonomy.

RELATEDNESS: Relatedness is the perception that I am among friends, trust and fairness are assumed, and I have a desire to be connected/to belong. Creating learning communities, communities of practice, or geography of interest gives people a sense of belonging and connectedness to one another. We can help each other make the shift toward sustainability.

FAIRNESS: Fairness is a person's perception of what's honest, just and equitable. We are "hardwired" to pay attention to fairness and justice because we depend on one another in our groups. Ironically, fairness only applies to "us" not to "them." Emphasizing that in the context of interdependence, there is no "them", helps people extend their need for fairness and justice globally and across generations.

The "toward" response reinforces new insights and new "re-wiring" by connecting to previous knowledge. As a facilitator, help people connect new ideas and new thinking to things they already know so they are reminded that they have a foundation on which they can attach the new thinking.

The Result: Much more is possible in the "toward" state; more creativity, greater capacity for problem solving, and more energy.

CONVERSELY, <u>NO LEARNING</u> takes place when the "away" response is triggered. The "away" response takes place when people:

- Cannot make connections to previous knowledge (this causes anxiety, tiredness, uncertainty, and is threatening and causes retreat)
- Feel no sense of autonomy (no choices, no agency)
- Do not feel part of the group (among foes, no empathy distrust and unfairness assumed)
- Status Threatened (left out, challenged/questioned, not respected, not valued)

The Result: Much less is possible in the "away" state; loss of attention, loss of focus, distracted, fuzzy thinking, and anger.

Be Prepared To Regulate Emotional Responses

An audience will have emotional responses to what you are saying. This will vary depending on whether they are in the "Away" state or the "Toward" state. By tuning into their feelings you will be able to know what is needed to flip an "Away" response into a "Toward" response. People need to express their thinking so they can evolve it. Expression is the first step to moving from current reality to new learning. A gesture of empathy and/or respectful and timely humor can serve as comic relief for people who are in or passing through the "uncomfortable zone".

Use A Learner Centered Approach

A learner centered approach assures that people can develop expertise which increases their status, allows them to make connections, demonstrates their relatedness and celebrates their autonomy. Self generated information is remembered best. Ask guiding questions that help your audiences to come to their own understanding and drive their own inquiry.

Concentrate On What We Want

When we concentrate on what we don't want it embeds those things even more into our thinking. Suppression makes us unhappy, impedes memory, and makes us feel bad.

Instead, concentrate on what we do want so we can re-wire toward that. Re-appraisal/Paradigm-shifting/ Re-framing/ Re-wiring/Lateral Thinking all change our interpretation, so it makes us happy, makes it possible to remember and it allows us to find comfort in the new interpretation. The kinds of things that contribute to making it possible for people to "re-frame" or shift to a new way of thinking include: transformative experiences; asking different questions; activating the creative process; telling stories or providing case studies and exemplars; empathizing; changing perspective; reflective thinking; reading the feedback; and mindfulness.

Be Mindful and Create Conditions for Mindfulness

Mindfulness is required when open "mindedness", new learning, and new behaviors are required. Attention, intention, focus, consciousness, and choices (veto power) are essential in order to create different results. Before we can employ "free will," we often need to employ "free won't." It is our decision not to continue thinking and behaving in the old way that makes the space for the new thinking/behavior.

Provide Enough Time

Make sure you have left enough time for new learning to be applied so it has a chance to sink in and be reinforced before participants leave the program. Encourage low stakes application of new learning before high stakes application. Provide enough time to be able to adequately debrief difficult concepts so that people do not leave with too much uncertainty or ambiguity. This could backfire and reinforce their "old" thinking. Sometimes, this means that "less is more." On the other hand, avoid feeling the need to answer all the questions people are asking and be happy that they are being generated as a result of your facilitation.

The adult learning curve—from awareness to trial and error (mostly error) to internalization or being "hardwired"— is three to five years. Mastery is never finished.

Balance Authority with Humility

We must be authoritative enough to keep our participants in the "toward state" and humble enough to generate new and better thinking among the collective that goes beyond what we alone have already learned. There is no such thing as an expert in the field, and we are no exception.

Why Are We Doing This?

Our job is to create the conditions for people (including us) to learn and to continue to learn. We want people to ask better questions than the ones they came in with—and even better questions than the ones we are asking. We need to create new knowledge and understanding as a result of our work—that is what is required.

ARTICLE 2: IMPACT 2030: Transformational Leadership and the Fish Game

By Dr. Emma Theuri, Intro by J. Cloud

The back story to the following wonderful article is worth sharing. I received a call one day out of the blue from a Dr. Emma Theuri from Kenya. Dr. Emma told me that she was involved in developing an upcoming Forum for Kenyan leaders and that she had asked Peter Senge to be the keynote speaker at the forum. She went on to say that he had agreed to do it on one condition: "That the leaders play the Cloud Institute's Fish Game first." He went on to say that she could reach out to me for details, so she did. She downloaded the Fish Game from our bookstore and we set a time for a SKYPE coaching session to prepare her to facilitate it at the Forum. The SKYPE time came and went—no Dr. Emma. The next day, I received an email from her explaining that the Internet had gone down in the village and that she was hoping to re-schedule our conversation. No problem. We re-scheduled for the next day, and two hours before our scheduled conversation, Dr. Emma called me on the phone: "Jaimie?" she said, "I came to Nairobi to a hotel so that I could SKYPE with you today, and the electricity has just gone out. I am sitting in my hotel room with a cell phone, a candle and a print out of the Fish Game Facilitator's guide. Can we talk now?" Of course we did—then and a few more times after that. As we unpacked the mental models of unsustainability and those that are more likely to help us to shape the future we want, Dr. Emma kept saying over and over, "Jaimie: Have you been to Kenya? Do you know these folks? Are you sure you don't know them?" I explained that though I have in fact been to Kenya once, I did not know those individuals personally and that the mental models of un-sustainability seem to be universal and even archetypal. Tragic and true. In exchange for my time, I asked Dr. Emma to write about her experience facilitating the Fish Game to tribal leaders in Kenya. This is what she wrote:

Leadership and Kenyan Renaissance, 2012

Background

Within the last decade, an unprecedented wave of development has swept through Africa. New faces appear across the landscape such as the Chinese, now common on some African City streets. Highways are being built to connect African countries together. One country leading in this forward development is Kenya. And, while commending this development, one Kenyan scholar believes that for this to work and still have an impact, Kenyan leadership will have to shift in a new direction. More so, because a wave of resource exploration is revealing that Kenya has lots of natural resources including oil, coal, geothermal, natural gas and wind power. For these resources to benefit the public, a new type of leadership will be critical.

 "Kenya is undergoing the most aggressive devolution that the world has ever witnessed" (World Bank Report, Dec. 2011). The goal is to curb negative systemic social, economic, political and development issues. A recently amended Constitution (CK2010) seeks to reshape the way citizens relate with the government, and places a strong emphasis on principles of participation, transparency, and accountability. The new constitution avails ordinary Kenyans an opportunity to take the lead in the development of their counties, innovatively modeling a development that works for them. Leadership styles and models for the 21st Century will be critical and must be learned. This period of change comes at a time when Kenya is witnessing new recourse identification to include:

oil, natural gas, wind power, geothermal power, coal, and biofuels on a limited scale. The Cloud Institute's Fish Game simulation was played to create awareness about resources and leadership, deemed critical in the development of Kenya.

Dr. Theuri adds that Kenyan success will depend on how well leaders harness the county synergy to reap the benefits that are independently un-obtainable, and, which will be greater than the sum of all 47 Kenyan counties. Recognizing the need to identify available resources, and utilizing them without depleting will be key to local and national development. To achieve this, a *"Shared servant leadership is critical, and it must be the new song"*, says Dr. Theuri.

The Issue
But how does this rebirth take place, "Dr. Theuri asks", when Kenyans and the international community are grappling with uncertainty and a lack of trust with the Kenyan leadership? A time when Kenyans are wondering whether the great hopes they have on the new constitution will come to fruition, given that it will be implemented by the same leadership that brought Kenya down. A leadership that is likely to protect its own interests, and has the power to do just that. What will support the hopes among Kenyans, that the strong roots of corruption, eroded ethos, joblessness, and hopelessness will no longer prevail, in a country where over 65% of the population is youth aged under 35years?

The Fish Game was used against this background, to communicate the role of servant leadership in resource mobilization and sustainability; to demonstrate the power of unselfish leadership in economic development, and the power of collaboration and re-union between the government and the people of Kenya in resource mobilization, utilization and sustainability.

The Forum
Dr. Theuri conducted the four-day *IMPACT2030: Transformational Leadership Forum in Kenya 2012,* with participants hailing from government and private corporations.

Participants were from government and corporate managers, CEOs and an ex-ambassador. Their role at the forum was to endure 12 hours a day, exploring the uniqueness of their counties and their country. Also, engaging in thought-provoking hands-on experiences, addressing global roots of poverty and how this is sustained.

Further, looking at servant-like, and the 21st Century leadership; mental models and change. An introduction to systems thinking and its application in a Kenyan context was an eye opener into leadership greed, corruption, root causes and impact on resources. Local invited speakers spiced the Forum. Forum participants became residents of the 48th Kenyan County by default, a simulated County that exposed them to the reality of living on 2$ a day, and as government planners, coming up with a plan how the 48th County in Kenya should develop and grow.

The Game
Groups of four teams (1, 2, 3, and 4) played the game. Teams 1, 3, and 4 depleted the fish in their first round. But, when playing Game # 3, they were able to play several rounds without depleting the fish pond. Team #2 did not deplete the fish even in the first round. Apparently, they had an individual who insisted that they could not take as much as they all wanted. She was the only female in the whole training crew. She stood her ground and sort of dictated that the group ration fishing from the word go, because without the rations, some people would get no fish. The group negotiated, disagreed, and finally settled to one fish per person. For this team, they were able to keep going for 5 rounds before the instructor stopped them, they could have gone on and on for a long time.

Lessons Learned

During the debriefing, the teams used Kenya as the Fish Pond to analyze the case of Kenyan resources and poverty. They were in agreement that in Kenya, people believe that:

- Natural resources belong to the government so, no one takes care of them, and as a result, they are easily depleted by the citizens.
- That the leaders have misused natural resources because they are the government property, and so, they own the (resources).
- After the game, participants had two critical observations:
- That if people were educated about the impact of resources on their lives, and the ownership they democratically possess, then, the citizens would protect those resources for their children, and future generations.
- That development of Kenya lies on the hands of the Kenyan people.

The Fish Game served as a self-reflective process on the participant's leadership, their management styles, and use of public resources. After the program, participants had the following to say: verbatim):

- *"I learned that to be a leader, one must first become a human being.*
- *Learned that leadership is about taking a stand no matter how unpopular you become.*
- *If resources are used wisely, our nation will prosper.*
- *I learned how to optimize the gift of leadership.*
- *The vision that is important is that which people share.*
- *A great leader provides an opportunity for people to shape their future.*
- *That there is a lot of potential in our counties and Country.*
- *Strategies to transform a county, and even communities.*
- *Major learning was that our country is endowed with a lot of wealth and potential.*
- *The resources and potential in Kenya are enormous.*
- *If resources are used well, then the country will prosper.*
- *There is need to have a clear understanding of our National Goals and work together to achieve them.*
- *General overview of leadership at community level.*
- *Problems in agriculture sector in Kenya and how it can be advised through empowerment of community.*
- *Communication between leadership and the grassroots.*
- *How to contribute to community development".*

Conclusion

In summary, the learning from the Fish Game was powerful. It was amazing that a simple game of Fish could provide such deep penetration, quest, and awakening for knowledge and skills building in areas that matter the most in life. It was clear that simplified communication of knowledge has the ability to provide a deeper meaning of the subject. Participants did grasp the power of servant and team oriented leadership. They gained a better understanding about resource utilization. They realized that Kenya has lots of resources which, if properly utilized are enough for all, and for future generation. There was a deep self-reflection, and change of mind sets, on leadership and resource utilization. Participants left the forum fired up to go make change in their leadership positions.

The Leadership Forum would not have been such a success without the great contribution of renowned trainers and speakers such as Dr. Peter Senge, who joined the Forum participants in Kenya via video conference from USA. Dr. Peter Methabula from South Africa; Dr. Jonathan Ciano, the CEO Uchumi Kenya; Peter Kenneth, the Assistant Minister in the Ministry of National Planning and Development; and Dr. Emma Theuri, the convener.

Special thanks go to Jaimie P. Cloud, President of The Cloud Institute for Sustainability Education. Jaimie is commended for her flexibility and zeal in getting the work done. Being in the US at the time, she spent over three hours on a Phone Training about the Fish Game with Dr. Theuri who was in Kenya at the time. *(The only*

communication channel they had, after several power outage experiences in their earlier attempts to accomplish the task via Skype). Without this effort, the Fish Game exercise would not have taken place.

Dr. Emma Theuri is the Founder, [Institute for Promotion of Sustainable Community Development](#) (IPSCoD), an organization with a focus on transformational leadership as a tool for change and empowerment.

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∞ Learn more about The Cloud Institute's Fish Game: http://cloudinstitute.org/fish-game

The Cloud Institute's popular Fish Game, engages participants in an interactive, replicable learning experience that combines systems thinking tools with interdisciplinary content for a deeper understanding of our role in moving toward a sustainable future. The exercise allows for discussion of 'mental models that contribute to sustainability' and 'behaviors and strategies that contribute to desirable outcomes', and provides participants with a hopeful paradigm for education and community action.

The Fish Game is a transformative experience for adult and youth learners.

ARTICLE 3: How our Teaching Changes our Thinking and How Our Thinking Changes the World (excerpt)

By Pramod Parajuli and Rosemary Logan

(Guest Editor's Note: Jaimie Cloud is the Founder and President of the Cloud Institute for Sustainability. A systems thinker and a thought leader in Education for Sustainability (EfS), Jaimie concludes this conversation with five-fold working principles. First, live by the natural laws. Second, read the feedback. Third, a healthy and sustainable future is possible, we just have to educate for it. Fourth, it all begins with a change in thinking. And, finally, we are all responsible. Jaimie also points out that only 29% of her EfS clients are attracted to this area due to their concern with the environment. This is eye opening and demands our attention to other dimensions of learning and seeking sustainability. Perhaps they are social, cultural, economic, political, ethical and moral. I hope you enjoy this conversation. Pramod Parajuli, Ph.D.)

1. Rosemary and Pramod: Jaimie, you are recognized as one of the thought leaders of the Education for Sustainability (EfS) concept and movement. Will you tell us about your background? Who are you and what led you to found the Cloud Institute? What is the work that you do, with whom, and how did your organization come to be?

Jaimie: I was in one of the first experiments in global education from the 6th-12th grades. As a result, my work began at the age of 11. I grew up in Evanston, Illinois. Our teachers were influenced by Buckminster Fuller and other luminaries of the time. The gist of the experiment was to prepare us to thrive in the 21st Century, to become agents of change and inventors of the future we want. They provided us with learner-centered, constructivist methodologies that produced reflective, flexible and creative questioners, systems thinkers, lateral thinkers, media literate, self-regulated learners prepared to deal with rapid change, increasing complexity and interdependence, uncertainty, diversity, and global challenges, including the environment, peace and security, human rights and human development.

In middle school, I could not have predicted that I would be a founder of the field of Education for Sustainability. The term sustainability and sustainable development, as we understand it today, would not be coined until 1987, nineteen years later, and the field of Education for Sustainability would not be born until 1992 in Chapter 36 of Agenda 21—some 24 years later.

I grew up to become a Global Educator because that's what I knew. In 1987, when the word sustainability appeared in a U.N. report, *Our Common Future*, I thought to myself, "That's the name for the desired condition I want to educate for." I had been tracking the state of the planet data since 1968—since I was 11. Now I had a word to describe what I saw: The situation was un-sustainable for humans and other species of plants and animals with whom we share the planet. Sustainable seemed like a better idea. Once I had the word, I had the concept. Once I had the concept, I knew I needed to educate for sustainability. My first questions were: What is sustainability? How do you measure it? What knowledge, skills and attitudes will be required to make the shift toward a sustainable future? How will we educate for the sustainable future we want? Am I already doing "it" as a global educator? How will it change what I'm doing now? Who is being attracted to this work? Are they smart, creative whole systems thinkers? Can they dance?

I founded the Sustainability Education Center in 1995 at The American Forum for Global Education. I felt like a laggard. It had been three years since Chapter 36 of Agenda 21 was written. In 2002, we officially spun off and

became a 501-C3, and we were eventually re-branded by Heller Communications as The Cloud Institute for Sustainability Education. As thought leaders involved in the development of the field of Education for Sustainability (EfS), we work to define the field of EfS through our framework, our EfS standards and performance indicators, enduring understandings, and the articulation of all the fields that inform EfS and the other frameworks and standards with which we are aligned. Our mission is to ensure the viability of sustainable communities by leveraging changes in K-12 school systems to prepare young people for the shift toward a sustainable future.

- **We monitor** the evolving thinking and skills of the most important champions of sustainability and transform them into educational materials and a pedagogical system that inspires young people to think about the world, their relationship to it, and their ability to influence it in an entirely new way.
- **We believe** that K-12 education can substantially influence beliefs, attitudes, values, and behaviors related to sustainability. This is the most fertile ground for helping to shape a society committed to sustainable development.
- **We develop** in young people and their teachers the new knowledge and ways of thinking needed to achieve economic prosperity and responsible citizenship while restoring the health of the living systems upon which our lives depend.

That is my story. Please also visit *our blog at:* http://www.cloudinstitute.org/blog/category/resources

2. Rosemary: Though EfS is a relatively new term, the concept is not. Could you, for example, describe some of the precursors to EfS? What fields most strongly contribute to EfS? What, for example is the relationship between EFS and environmental or ecological education? Has environmental education played a role in the identity formation of EfS?

Jaimie: Precursors to EfS are global education, future studies, environmental education, wholistic education, diversity education, win/win conflict resolution, systems thinking and system dynamics education, to name a few. From my perspective, there is no one field that dominates EfS in the U.S. Each country is different in this regard. In the U.S., the field grew because a handful of people from a lot of different fields emerged simultaneously, independently and co-constructively. The momentum to grow the field is much greater internationally than it has been in the U.S. My colleagues globally are in Ministries of Education and Colleges of Education. Here, we are a few NGOs holding the space for the development of the field, and a very few colleges of education have taken the lead. Prescott College is one of the few.

The fields that strongly contribute to EfS are:
- **Sciences**
– Environmental Science and Education
– Science Education (Physics, Biology, Chemistry, Earth Science…)
– Neuroscience
– Quantum Physics
- **Economics**
– Sustainable Economics
- **Social Sciences**
– Global Education
– Ecological Design and Architecture Education

- Holistic Education
- Future Studies
- Arts and Humanities (Literature, History, Performing, Visual…)
- Organizational Learning and Change
- Environmental Ethics and Philosophy
- Ecological Psychology
- Positive Psychology
- Science of Happiness
- Conflict Resolution Education
- Systems Thinking and System Dynamics Education
- Game Theory

The field of neuroscience and the new research on the brain has been extremely useful in contributing to our ability to teach and learn about the paradigms, frames, or mental maps that drive people's behavior. Thinking drives behavior, and behavior causes results. If you don't like the results, the most upstream place to intervene is the thinking. That is why education of a certain kind (Orr) is key to making the shift toward sustainability and regeneration. Piaget explained the difference between assimilation and accommodation. So much of our current reality is a result of old ways of thinking and a gap between old mental models and current reality. Our job is to close the gap between mental models and the reality itself based on the evidence—based on the data. That is why Neuroscience is included on The Cloud Institute's list of fields that contribute to EfS.

Understanding the relationship between EfS and environmental education is interesting because it is not as simple as you might think. From a conceptual point of view they are, in many ways, aligned and complimentary. Certainly, we are all interested in contributing to a sustainable future through education. What is in a name? This is where things get tricky. People call what they are doing whatever they want to call it—whatever there is funding for, or whatever they are used to calling it. The only way to know whether a program is EE or EfS is to study the attributes, the competencies, and the measureable outcomes.

If one is doing outdoor education and kids are connecting to nature and falling in love with nature by studying science and biology or ecology and ecosystems, then some people would call that environmental education, place-based education, Environment as an Integrating Context (EIC), environmental science, and/or outdoor education. EE has a robust set of standards that are well respected and do an excellent job of capturing what EE is and does. The Cloud Institute's EfS Content Standards for Education for Sustainability include Responsible Local and Global Citizenship, Sustainable Economics, the Dynamics of Systems and Change, Healthy Commons, Multiple Perspectives, the Natural Laws and Ecological Principles, Inventing and Affecting the Future, Sense of Place, and Cultural Preservation and Transformation. Embedded in the content standards are twelve enduring understandings, five distinct thinking skill sets, six core attitudes and a host of best instructional practices. It is quite easy to see the similarities and differences between EE and EfS if you look carefully at the core content and learning outcomes we have each articulated. Everyone wants to be the umbrella and no one wants to be under it. So there is no sense in trying to determine which one is the "umbrella" field.

The purpose of Education for Sustainability, from our perspective, is to contribute to our individual and collective potential and that of the living systems upon which our lives depend. We have to *learn* how to be well in our places without undermining their ability to sustain us over time. Even better is to learn how to develop a

regenerative relationship with the living systems upon which our lives depend. The foundations of our knowledge, skills, and habits of mind are cultivated in our schools. All the children and young people are legally required to go to school. That is why we work in schools.

4. Pramod: As of now, there are some 400 plus definitions of sustainability. Is there a particular definition of sustainability (or a mix) that you prefer? What are foundational concepts of sustainability that you and the Cloud Institute are comfortable with?

Jaimie: Yes…there is one that I love. The one I love is from Donella Meadows, "A sustainable society is one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support."

Sustainable solutions solve more than one problem at a time and minimize the creation of new problems (Wendell Berry). They contribute to the health of the very systems upon which they depend. Think about the word Sustain-*ABLE*- what makes something sustain-*able*? What makes human life on Earth sustain-*able*? Mutually beneficial relationships with all of the living systems upon which we depend. It's real simple. It's not sustain-GUARANTEED. Death and taxes are still the only two guarantees. I do not see evidence of a shared understanding among a critical mass of human beings on Earth about what it takes to sustain us as a species over time. We have created incredibly unfavorable conditions for humans to survive (let alone thrive), as well as for all the creatures with which we are interdependent to survive and thrive over time. Unintentionally, to be sure, but the feedback is the feedback.

5. Pramod: Among others, your work with the K-12 school teachers seems to be very prominent and rigorous. I call it the "one teacher at a time" approach to deepening sustainability. What is your experience in working with teachers? Do you have some success stories (or lack thereof) to share?

Jaimie: Actually, we work with "one system at a time." One teacher at a time would take too long. The most whole system work we do is with school districts and their communities learning together for a sustainable future. We call those our Sites Learn initiatives. Examples include the nine sites around the country that are members of the Society for Organizational Learning (SoL) Education Partnership that Peter Senge and I created with a team of colleagues, and also our New Jersey Learns program which is funded by The Geraldine R. Dodge Foundation and is made up of a growing number of sites around New Jersey that participate in Sustainable Jersey. The next level on the continuum is our Districts Learn work. We work with individual districts and consortia of districts to Educate for Sustainability. The best example of that is our work with seventeen districts through the Putnam Northern Westchester BOCES on a massive and multifaceted EfS initiative that is grounded in a core set of web-based exemplary units of study across all grade levels and disciplines (www.pnwboces.org/efs). Next, we work with individual schools (Schools Learn) from PS 208 in Harlem to the Denver Green School, and from Trevor Day School in NYC to Marin Country Day School in Corte Madera, California, to name a few. We need to have models and exemplars of what EfS looks like in a school, a district, and a community. If you go to our website you can see our approach and all our programs described there. We network all with whom we work so we can scale up the quantity and quality of the work as efficiently and effectively as possible.

6. Pramod: In my experience, K-12 public education and the role of teachers in its success (or failure) has always been one of the most contentious and difficult issues in the United States. Recently, there has been much praise as well as vilification of the public education system. Amidst the push for privatization of the school system, how does your work around Education for Sustainability fit in? How does your work empower public (or private) schools and teachers to succeed and thrive?

Jaimie: Many people have given up on public schools and yet we keep sending the majority of our children there. It is a bad scenario. We can either give up on them and create something else in their stead, or we can transform them into learning organizations that contribute to our children's individual and collective potential and that of the living systems upon which our lives depend (we actually like a bit of both.) We cannot, I would argue, continue to send the majority of our nation's children to places for thirteen years of their lives that we have abandoned financially, psychologically and emotionally. That's just a disaster. That's part of the problem. I'll say that upfront.

Schooling has not, for the most part, evolved and changed with the evolving and changing world in which we live. It's no secret. The old industrial form for education (public and independent schools can both be guilty of this) is part of the reason our schools are failing our children, our society, and our world. We cannot blame that on our teachers. Actually no blame can be assigned to any one of the players responsible for K-12 education in our communities. All systems are perfectly designed to get the results they get (Senge). Education in the U.S. is a systemic problem. Schools that are still modeled after the industrial revolution were not designed to change, were not designed to respond to, or to make change, and were not even designed to produce learning. They were designed to train people to work in factories. We know the history of schooling here in the United States. Schools are outdated if they are teaching the disciplines in silos, if class periods are forty-two minutes long or close to it (which no research on *learning* supports, by the way), and if teachers are still standing, delivering, and testing for recall. They will not be successful in the 21st Century and they will not prepare our children and young people to be successful. It is a design challenge to be sure. You can put that design challenge on top of challenges presented by the No Child Left Behind initiative that put many public school systems in a tailspin, which on the one hand was useful, and on the other hand destructive. Useful in that they asked teachers/districts to be accountable for student learning and student performance, destructive because of the unintended consequences of test preparation and a focus on tests. Test scores are an indicator of success; they are not the *goal* of education.

How does Education for Sustainability address the current reality of schooling in the U.S. today? We create learning organizations that are vision-oriented and feedback driven. We improve the relationships between schools and their communities, which generates emergent properties that benefit the health of both by accelerating the shift toward sustainability in those places. We inspire educators with aspirational goals, high quality teaching and learning, and low tolerance for mediocrity or failure. We stand for authentic teaching and learning and youth leadership. We use all the best instructional practices that improve teaching and learning, including backwards design in our curriculum planning with educators, curriculum documentation and mapping, and the use of data (feedback in the form of student work, evidence of growth over time and, yes, standardized test scores) to inform practices continuously improving through teacher development and critical conversations. We use learner-centered, standards-based, feedback driven, place and project-based, differentiated instruction in EfS (to name a few). We increase critical, creative, and systems thinking, which contributes to good test scores and college acceptances while contributing to civic engagement and the sustain-*ability* of human life on the planet. EfS is 21st Century education at its best.

8. Pramod: You have also been enthusiastic about considering schools as learning organizations. Your approach to EfS seems to be informed by a whole systems approach. I will throw one more metaphor for your consideration: schools as ecosystems. How successful have you been in getting across these ideas to school administrators, teachers, and parents?

Jaimie: In schools that "learn," everyone is encouraged to keep thinking, innovating, collaborating, talking candidly, improving their capabilities, self-correcting, and making personal commitments to a shared future…

We have a description of our whole systems approach on our website at http://www.cloudinstitute.org/our-approach

To me, the difference between using the term "schools as ecosystems" vs. "schools as learning organizations" is the perception of these two terms in the marketplace. "Ecosystems" conjures up the word environment and that suddenly limits the market. This is my experience. As soon as people think what we do is related to "the environment," then either they are interested or not interested. Our research shows that consistently over time; 29% of our audiences are interested in education for sustainability because of the environment, and the other 71% want to educate for sustainability for a variety of other reasons.

On the other hand, it is sort of obvious that a school should be a learning organization—like a hospital should be a healthy hospital. It seems so obvious to people and doesn't scare anyone away. It explains that we're moving from industrial silos of training to a more integrated place for learning. Peter Senge coined the phrase "learning organization" in his book entitled, *The Fifth Discipline*. He then wrote a book called, *Schools that Learn.* We agree that the attributes of a learning organization are perfectly suited for schools that want to thrive in the 21st Century. That is why we use the term. Having said that, schools are of course ecosystems, and as biomimics, it makes perfect sense to think of them as such.

10. Rosemary: To put a more human face on assessment, could you share with us a personal story of a moment or a series of moments that communicated a student or group of students "got it?" "It" being the concept of sustainability. What did it look and feel like? What were you thinking at the time?

Jaimie: The first one that comes to mind is not one of our students but is a great story about a student from Bristol, Vermont, who eventually received a Brower Youth Award for the work she started through school. Her name is Jesse Ruth Corkins. I always tell her story because it is exemplary. Jessie Ruth was in the fourth grade when Vermont adopted State Standards for Sustainability Education. By the time she got to 9th grade, she was not new to the concept.

In 9th grade, a science fair challenge her teacher assigned her class was to convert their school building from oil to a clean, green renewal form of energy. Jessie Ruth and her partner, another 9th grader, did just that. They did the research, the science, the math, the business case, the politics, the economics, the planning, the writing, the fundraising, the purchasing, and the project oversight and completion. The school board gave them the money to convert their school building to wood chips. They saved the building $30,000 in the first year and $90,000 in the fourth year. Jessie Ruth is a poster child for sustainability education. Every EfS Standard is evident in her work. Jessie Ruth then moved on to organize a statewide coalition called the Vermont Sustainable Heating Initiative. Her coalition received 20 million dollars and 100,000 acres from the state legislature to grow switch grasses and other plant products so Vermont could grow its own energy supply in the form of pellets. They shifted the market for pellet stoves from one stove a week to 1,000 stoves per week. That was all before Jessie graduated high school.

You see every attribute for EfS in her thinking and actions and their integration. She represents the new paradigm in every way. She's smart, can do the math, and collaborate. That's not something you would be able to capture in a multiple choice test, and it is not something you can produce in one course or one year. You get that over time. EfS was normal for her from 4th through 12th grade. It was embedded in her consciousness. Now she's attending the University of Vermont.

Other examples include the 3rd grade students in Byram Hills, NY, who designed and implemented the recycling program in their school and community; the students in Portland, Oregon who saved the Swifts' "migration rest stop" by instituting an upgrade to their school's source of energy; the 4th grade students in Salt Lake City who responded to an RFP from the city and who won 4 ½ acres to build a nature trail and playground and park; and the secondary students at the Lawrenceville School in Lawrence, NJ, who serve as the "research arm" of the Sustainable Lawrence initiative. These are all examples of authentic assessments that produce learning and make authentic contributions to community sustainability.

16. Pramod and Rosemary: Any closing thoughts or comments you would like to share with the readers of the Journal of Sustainability Education?

Jaimie: Here are my five one-liners, elevator speech and sound bites:

- Live by the Natural Laws
- Read the Feedback
- A healthy and sustainable future is possible we just have to educate for it
- It all begins with a change in thinking
- We are all responsible

Jaimie P. Cloud is the founder and president of the Cloud Institute for Sustainability Education in New York City. The Cloud Institute is dedicated to the vital role of education in creating awareness, fostering commitment, and guiding actions toward a healthy, secure and sustainable future. Ms. Cloud has written several book chapters and articles, teaches extensively, and writes and facilitates the collaborative development of numerous instructional units and programs that are designed to teach across disciplines through the lens of sustainability. In addition she serves as an advisor, board or committee member to several organizations with related goals and interests.

∞ Read more articles at The Cloud Institute's blog: http://cloudinstitute.org/blog

NJ LEARNS

Keystone Intensive | Five-Day Program
Vision & Action Plan
"Knowing your goals, knowing your audience"

Certified NJ Learner & Community Day Speaker Judd Mandell describing his experience with NJ Learns, his role as a founding board member of BoroGreen and his small business Landscape Better LLC.

Jaimie Cloud and NJ Learns participants discuss sustainability, brainstorm and design programs to share what they've learned and increase capacity towards a green and healthy New Jersey.

Keystone participants present their project plans to colleagues for feedback and dialogue regarding communicating with and meeting the needs of their target audiences.

![sds summer design studio logo]

Presentation Day
For Curricula and Community Program Designers

Teachers and community leaders from across the country gather together for one week in the summer to learn, share ideas and design units of study and programs that educate for a sustainable future.
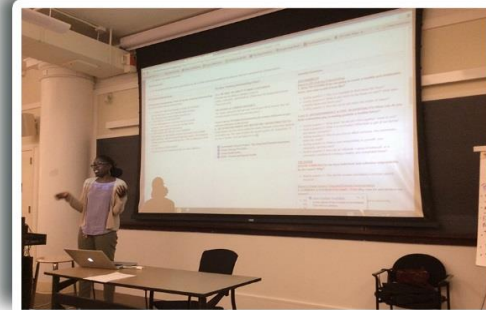

Jen Wagar of New Jersey wants her 3rd graders to discover how they matter in the world.


Rosemary Logan of Arizona describes her HS level course covering biocultural diversity.

The Compass Charter School team of Brooklyn, NY sharing the rationales, goals, and guidings questions that will inform planning for their new K-5 school.

Chanda Bennett, Manager of Education at The NY Aquarium, presents her plan for the HS level environmental club 'Project Ripple'.
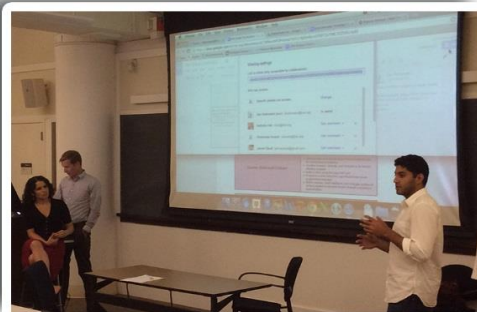
Teachers from LREI in NYC discuss mapping and aligning science curriculum to EfS standards.

Elijah Sivin of Poly Prep in New York, details his American Politics course integrating service learning and the EfS standard. Inventing & Affecting The Future

ENGAGE CULTIVATE SUSTAIN EDUCATE ENRICH TRANSFORM LEARN INSPIRE

The Cloud Institute For Sustainability Education prepares K-12 school systems and their communities to educate for a sustainable future by inspiring educators and engaging students through meaningful content and learner-centered instruction. Our services include: consulting and leadership development; professional development and coaching; curriculum design, assessment, mapping, and alignment, and facilitating school and community partnerships.

CURRICULUM DESIGN TOOLS CURRICULUM UNITS & COURSES CLOUD COMMONS DIGITAL LIBRARY SEMINARS & WORKSHOPS

Jaimie Cloud on Education for Sustainability

http://youtu.be/uXUHogIzjvA

Jaimie explains the object and rules of the Fish Game, then offers a short debrief.

http://youtu.be/WfCwFu8yaQc