

Vermont Education for Sustainability Project

NEWSLETTER • SPRING 2002



Learning that Connects: Education for Sustainability

Education needs to be meaningful — it needs to make sense” reflects a kindergarten teacher. “Sustainability is the thread that sews the pieces of the curriculum together. It helps students find meaning in what they’re learning.”

“My students ... showed genuine interest, to me that means they are learning,” says a high school biology teacher. “They said the sustainability stuff was the most interesting. I think that is because it was so ‘hands on,’ and they had ownership.”

“The network that came out of Making Connections has been huge,” says a high school science teacher. “I found tremendous value in seeing the connections between my work and other teachers’ work.”

Can an approach to learning and curriculum innovation work for both kindergarten and high school teachers — and their students? For the K-12 educators who participated in the Vermont Education for Sustainability project (VT EFS) the answer has been yes.

Education for Sustainability (EFS) is “learning that links knowledge, inquiry, and action to help students build a healthy future for their communities and the planet.”

Over its four-year tenure, VT EFS has achieved even more than bringing new ideas, techniques, and connections to dozens of Vermont schoolteachers. The partnership has also:

- Organized a statewide discussion that led to the Vermont Board of Education’s adoption of two new standards, *Sustainability* and *Understanding Place*, into the VERMONT FRAMEWORK OF STANDARDS AND LEARNING OPPORTUNITIES.
- Conducted four summer professional-development institutes, “Making Connections,” for teachers and other Vermont educators, and a 2001 Making Connections conference that attracted over 200 educators and other participants.

- Facilitated the development of 63 new units and courses that integrate sustainability into classroom learning.

- Helped 77 non-formal educators learn how they can provide teachers, schools, and students with programs aligned to the Vermont standards.

- Funded projects by 60 teachers and organizations that helped build EFS capacity statewide.

- Developed dozens of new or stronger partnerships among Vermont teachers, school leaders, non-profits, public agencies, and other programs.

VT EFS is a partnership of:

- VT Dept. of Agriculture
- VT Dept. of Education
- VT Dept. of Public Service
- VT Agency of Natural Resources
- Agriculture in the Classroom Partners
- SWEEP (*StateWide Environmental Education Programs*)
- University of Vermont
- VISMT (*Vermont Institute of Science, Math, & Technology*)
- Shelburne Farms

What Is EFS?



The three primary goals of the sustainability movement are environmental integrity, economic prosperity, and social equity.

Education for Sustainability tries to bring these three goals closer to reality. It promotes an understanding of the interconnectedness of the environment, economy, and society. EFS links this knowledge with inquiry and action to help students build a healthy future for their communities and the planet. In other words, EFS develops the knowl-

edge and skills for taking care of all living things within the means of the earth’s resources.

The Vermont EFS project uses sustainability as an integrative concept in blending place-based inquiry and service learning into standards-based curriculum. VT EFS works to integrate sustainability into K-12 education, and to demonstrate how EFS can strengthen student learning, teacher quality, and community development.

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Thank you from the VT EFS Project

In carrying out this project, VT EFS has learned the depth of Vermonters' commitment to creating a better world. After all, sustainability is simply a new term for a long-standing Vermont tradition: working to meet the needs of the present without compromising the ability of future generations to meet their own needs.

We would like to thank everyone who participated in the VT EFS project and to honor the following groups for their enthusiasm and support for Education for Sustainability in Vermont:

- Vermont educators – for learning new ways to engage their students in making connections and discovering how they can make positive change for their communities' future.
- Vermont school leaders and teachers – for opening up their schools to local communities, and to new working partnerships, bringing fresh dimensions to student learning.
- Vermont non-profits and state agencies – for collaborating with educators to build learning that benefits the state and all its resources: economic, social, and environmental.
- The lead funders of VT EFS: the U.S. Environmental Protection Agency and the Josephine Bay Paul and C. Michael Paul Foundation – for supporting genuine curriculum innovation in a small state that will serve as a model for EFS across the nation.

In this brief publication, we present a concise overview of Education for Sustainability and its rich potential for learning, and profile the process of developing the new Vermont EFS standards. We also highlight some of the work by educators that the EFS project made possible and name many of the individuals and organizations that deserve specific recognition and thanks.

Erica Zimmerman & Anne Bijur, VT EFS Coordinators

What is EFS? continued from p. 1

Most educators have found within EFS a set of universal concepts – or essential ideas – perfect for building meaningful standards-based curriculum. Brought to the fore in the curriculum and classroom, these concepts can forge stronger connections for students in their learning, their relationship to their communities, and their motivation for the future. And for educators, these concepts, which are supported by Vermont's Framework, can bring connectedness and community – even efficiency – to the challenges of a crowded curriculum.

Here are some of the EFS concepts most commonly used in integrative curriculum:

- Interdependence
- Diversity
- Balance
- Understanding Place
- Stewardship
- Connections between Economics, Environment & Equity
- Community
- Cultural and Natural Heritage
- Systems and Cycles
- Local to Global Perspectives
- Past to Future

Sustainability and Standards

In 1998-99, the VT EFS Project organized a series of focus groups across Vermont where over 300 participants — parents, educators, farmers, business people, school board members, students, scientists, and others — discussed the skills and knowledge that people need to live sustainably in this new century.



VT EFS focus group participants discuss the skills and knowledge needed to live sustainably.

Ideas generated at the public focus groups were categorized according to common themes, then compared with the first edition of the VERMONT FRAMEWORK OF STANDARDS AND LEARNING OPPORTUNITIES. Many of these important themes were already represented by existing standards in the Framework but several concepts were omitted. These concepts form the basis of the *Sustainability and Understanding Place* standards that were written by VT EFS Project partners, revised according to input from an Advisory Council and public hearing, and unanimously adopted by the Vermont State Board of Education in March 2000.

3.9 Sustainability (Personal Development): *Students make decisions that demonstrate understanding of human and natural communities, the ecological, economic, political or social systems within them, and awareness of how their personal and collective actions affect the sustainability of these interrelated systems.*

4.6 Understanding Place (Civic & Social Responsibility): *Students demonstrate understanding of the relationship between their local environment and community heritage and how each shapes their lives.*

A new version of the Natural Resource standard has also been proposed to the Department of Education, as part of its planned revisions of the Science standards.



Helping Teachers Discover EFS

Fifty-five Vermont teachers participated in the Making Connections summer institutes on understanding sustainability, creating community partnerships, and building standards-based assessment. Mark Skelding of Food Works led standards and assessment training. Community

leaders and educators presented local sustainability initiatives. The program emphasized ongoing networking and service-learning opportunities.

Aiming to develop teacher leadership for EFS, Making

Connections' success is evident from the participants' impressive curriculum projects and their involvement in many network activities. Participants rated all aspects of the program as very valuable and effective professional development. Teachers' comments pinpointed

"The more we do for our community and school, the more students understand. It gives them a voice and an understanding of how the systems work."

some outcomes and challenges:

"We learned from a tremendous number of resource people in the community."

"The topic of sustainability is NEW to most students. However, once students begin to understand

its relevance, they respond well."

"Making Connections encouraged me to broaden my thinking, which in turn sharpened my focus on what I wanted to teach."

"Sustainability is not only exciting for me to teach, but seems to draw upon and strengthen the analytical abilities of the students."

While some participants wrote units on specific topics, from consumerism to carrying capacity, most applied sustainability as a lens for their existing curriculum. They developed new questions to ask about familiar topics, questions that have added meaning, complexity and community relevance.

Inspiring New Thinking

Stacy Carter, a third grade teacher in South Burlington, comments, *"I connect sustainability with everything I teach ... I think sometimes I integrate it into the curriculum without even knowing, because my vocabulary has changed and the way I see things has changed."*

At Williamstown Middle-High School, Alicia Rominger has found that sustainability could sustain more than the single social studies unit she originally designed: *"A science teacher and I have designed a one-year course that integrates living systems and world history ... Sustainability is the main standard that we use to tie it all together. The culminating project for the class is to design a sustainable community by integrating environmental, political, social and economic concepts. The kids love it! We are having such success in this class."*

Ann Sorrell at South Burlington High School found a way to integrate not just cultural and ecological sustainability, but also enhanced use of technology. Her advanced French students read an inspiring story

and presented independent research on PowerPoint. *"My group did much better on their SAT II test. I think this is because they had a bigger vocabulary. The big vocabulary was due to the amount of different topics they had to reach in order to understand the sustainability concepts."*

After participating in a Making Connections institute, co-sponsored by local educational resources, Woodstock Elementary teachers are using economic-social-environmental connections not only to inspire stewardship skills, but also to convey more "big" ideas, more caring, and more ongoing community partnerships throughout the school. Winter outdoor activities, composting, and art share the 3rd/4th grades' focus on sense of place and sustainability. Teacher John Souter says, *"Taking the course has motivated us to revise our Vermont history curriculum so that it uses the sustainability lens. We are working with our staff to use it school-wide."*

The 4th/5th grade team at Champlain Elementary School in Burlington adopted sustainability



Mary Ross of Edmunds Elem. harvesting produce during a Making Connections service-learning day at the Intervale.

as the integrating concept for science and social studies during the year. The students developed a quality-of-life index as a reference point for their topics, from electricity to Vermont cultures. The index was even used to introduce a Burlington town meeting. The whole faculty is now embarking on EFS through the new Sustainable Schools Project.



Network Activities: Putting Ideas & Standards to Work

To encourage and support curricular innovation, teacher leadership and network-building, the EFS project awarded small grants to 60 Vermont teachers and educators, helping them to:

- Develop standards-based, sustainability-related curriculum and case studies that can be models for the EFS network;
- Introduce EFS-related curricula to colleagues, consulting with them in follow-up sessions to encourage more EFS development;
- Develop networks hosting regional meetings of colleagues to share curricula and prospects for EFS development; and
- Build on non-formal educators training in standards-based instruction and assessment to better meet the needs of schools and teachers.

Here are sample outcomes of the small grants program:



The Hon. Madeleine Kunin addressed the 2001 "Making Connections" EFS Conference

Some 200 educators, community partners, policy-makers and students gathered for the first Vermont EFS conference, in March 2001. Featuring 25 teachers presenting units for all subject areas and grade levels, as well as 15 non-formal education groups sharing their programs, this conference was the "most integrative" some had ever attended: *"This day proved how important sustainability is to so many... and how it cuts across any divisions."*

Edmunds Elementary School: Several teachers are working with community partners from Ocean Arks, National Wildlife and Ag in the Classroom on Schoolyard Habitat biodiversity, composting and water garden projects. Others are developing community-based "Legacy Quests" about local sustainability efforts, inspired by Vermont's Valley Quest and Nishinomiya, Japan's Eco-Card programs.

The Last Link: Teachers from South Burlington School District and community educators from around the state are collaborating on a curriculum guide for the Last Link documentary film project. Focused on the cultural survival of an agricultural community, this resource will inspire students to connect with their communities through service-learning, intergenerational dialogue, land use studies, and film-making.

Association of Vermont Recyclers and The Vermont Institute of Natural Science: Both AVR and VINS have used

EFS grants to help align their programs with standards, and to create teacher networks to serve as curriculum advisory boards for their programs.

Teachers' Roundtables: From early elementary literature to secondary-level interdisciplinary opportunities, teachers in the Vermont EFS Network are meeting outside of school time to share ideas and resources for teaching about sustainability.

Curriculum Sharing: Many teachers who received grants worked with other programs developing standards-based, EFS-related curriculum. These programs —partnership efforts linking public agencies, non-profit organizations, and schools — include A Forest for Every Classroom, Food Education Every Day (FEED), and Place-Based Landscape Analysis and Community Education (PLACE). These units, and those developed by Making Connections participants, will be available in the EFS library and on the State's electronic database, Standards into Action.

Continuing Benefits and Resources

The Vermont EFS Guide
The project has compiled field-tested approaches to curriculum and professional development into this forthcoming publication. With a wide range of curriculum examples and case studies, along with resource lists, the Guide can help all Vermont educators blend sustainability into their day-to-day teaching.

The Sustainable Schools Project
Vermont EFS and Shelburne Farms are developing a model for schoolwide use of sustain-

ability to energize and integrate curriculum, school-community partnerships, and campus environmental improvements. Burlington's Champlain Elementary School will pilot the project, with more schools to be added in 2003, thanks to funding by the Jessie B. Cox Foundation.

The Vermont EFS Network
The EFS Project has cultivated a diverse network of Vermont educators who can lead, inspire and support colleagues in learning about sustainability.

Special Thanks to Fred Bay of the Josephine Bay Paul and C. Michael Paul Foundation, whose impassioned support for sustainability has cultivated the partnerships responsible for this Project.

To Contact the Vermont EFS Project: Erica Zimmerman, Coordinator
1611 Harbor Road • Shelburne, VT 05482 • 802-985-8686 ext 31 • ezimmerman@shelburnefarms.org

EFS Network Leaders

On April 3, 2002 at the State House, the Partners of the Vermont Education for Sustainability Project and Senator Jean Ankeney, Chair of the Senate Education Committee, recognized educators who have led the Vermont EFS Network in curriculum and professional development. Education Commissioner Raymond McNulty, Agriculture Commissioner Leon Graves, Public Service Commissioner Christine Salembier, Agency of Natural Resources Secretary Scott Johnstone, and University of Vermont Dean Lawrence Forcier welcomed and honored teachers and students from around the state who presented evidence of their learning about Sustainability and Place.

Teachers

Anne Bahlenhorst WOODSTOCK ELEMENTARY	Karen Grace SOUTH BURLINGTON HS	Alicia Rominger WILLIAMSTOWN MIDDLE/HIGH
Jean Berthiaume HARWOOD UNION HS	Andrew Hirsch CORNWALL ELEMENTARY	Mary Ross EDMUNDS ELEMENTARY
Steven Bless MONKTON ELEMENTARY	Nancy Jones OXBOW HS	Kathy Rossman ROCKPOINT SCHOOL
Stacy Carter S. BURL.CENTRAL ELEMENTARY	Tim Kahn SOUTH BURLINGTON HS	Tom Sabo MONTPELIER HS
Janice Case EDMUNDS ELEMENTARY	Bess Klassen-Landis WOODSTOCK ELEMENTARY	Rosemary Sadler EDMUNDS ELEMENTARY
Suzanne Clark EDMUNDS ELEMENTARY	Gordon Ladd WOODSTOCK UNION HS	Brent Sclafani CHAMPLAIN ELEMENTARY
Colleen Cowell CHAMPLAIN ELEMENTARY	Mary-Ellen Lovinsky HARDWICK ELEMENTARY	Cindy Siegler WOODSTOCK ELEMENTARY
Anne Felber CHAMPLAIN ELEMENTARY	Barbara Messner FH TUTTLE MIDDLE	Meghan Smith <i>(formerly ROCHESTER HS)</i>
Dennis Ferrari BURLINGTON HS	Wendy Moore CROSSETT BROOK MIDDLE	Ann Sorrell SOUTH BURLINGTON HS
Mary Fiedler CAMBRIDGE ELEMENTARY	Lori Morse CROSSETT BROOK MIDDLE	John Souter WOODSTOCK ELEMENTARY
Jenny Evans-First <i>(formerly SOUTH BURLINGTON)</i>	Jay Mumford WOODSTOCK ELEMENTARY	Tausha Sylver <i>(formerly BRATTLEBORO MIDDLE)</i>
Pat FitzGerald CHAMPLAIN ELEMENTARY	Colleen Pecor S. BURL. CENTRAL ELEMENTARY	Dee Thomas TUNBRIDGE ELEMENTARY
Meg Flaherty EDMUNDS ELEMENTARY	Meghan Phillips HO WHEELER ELEMENTARY	Dan Tolle MOUNT MANSFIELD UNION HS
Lorraine Gelinas WILLIAMSTOWN MIDDLE/HS	Katie Raymond WILLIAMSTOWN MIDDLE/HIGH	John Vibber MOUNT ABRAHAM UNION HS
		Mary Whalen TWINFIELD UNION HS

Schools

CHAMPLAIN ELEMENTARY Nancy Zahniser, <i>Principal</i>	WILLIAMSTOWN MIDDLE-HIGH SCHOOL Kathleen Morris-Kortz, <i>Principal</i>
EDMUNDS ELEMENTARY • Guy Egri, <i>Principal</i>	WOODSTOCK ELEMENTARY/ WINDSOR CENTRAL SUPERVISORY UNION Steven Michlovitz, <i>Curriculum Coordinator</i>
SOUTH BURLINGTON SCHOOL DISTRICT Darlene Worth, <i>Curriculum Coordinator</i>	

Non-Formal Education Organizations
and their teacher-partners

Association of Vermont Recyclers
Cabot Ag in the Classroom
Envirothon
FEED: Food Education Every Day
*Food Works • Northeast Organic Farming
Association of Vermont (NOFA) • Shelburne
Farms*
Forest For Every Classroom
*Conservation Study Institute • Green Mountain
National Forest • Marsh-Billings-Rockefeller
National Historic Park • Northeast Natural
Resource Center of the National Wildlife
Federation • Shelburne Farms*
Keeping Track
PLACE: Place-based Landscape Analysis and
Community Education
*Shelburne Farms • University of Vermont Natural
Areas Center*
Vermont Energy Education Program (VEEP)
Vermont Institute of Natural Science (VINS)

Vermont EFS Project Partners

VT Department of Agriculture
VT Department of Education
VT Agency of Natural Resources
VT Department of Public Service
Agriculture in the Classroom Partners
StateWide Environmental Education Programs
(SWEEP)
University of Vermont
Vermont Institute of Science, Math and
Technology
Shelburne Farms' Sustainable Schools Project

Curriculum Consultants

Graham Clarke
Amy Demarest
Glenn Fay
Bruce Parks
Mark Skelding

Funders

Jessie B. Cox Foundation
Josephine Bay Paul and C. Michael Paul Foundation
North American Association of Environmental Education
U.S. Environmental Protection Agency

Making Connections Community Partners

Antioch New England Institute
Burlington Electric Department
Center for a Sustainable Future
Chittenden Solid Waste District
Food Works
Institute for Sustainable Communities
Intervale Foundation
Legacy Project
Linking Learning to Life
Ocean Arks International
Shelburne Farms
Vermont Design Institute
Vermont Energy Education Program
Greater Woodstock Educational Resource Consortium
*Billings Farm and Museum • Calvin Coolidge
State Historic Site • Marsh-Billings-Rockefeller
National Historic Park • Vermont Institute of
Natural Science (VINS) • Windsor Central
Supervisory Union • Woodstock Historical Society*

Current Steering Committee Members

Kate Baldwin, *University of Vermont*
Megan Camp, *Shelburne Farms*
Kara Cimon, *Ag in the Classroom*
Tom Franks, *Department of Public Service*
Lindsey Ketchel, *Intervale Foundation*
Joseph Kiefer, *Food Works*
Amy Picotte, *Dept of Environmental Conservation*
Jill Peck, *Dept of Education*

Former Steering Committee Members

James Bressor
Tim Flynn
Bill Romond
Aimee Stephenson
Kristen Thurber