

# Handbook of Research on Transnational Higher Education

Siran Mukerji  
*IGNOU, India*

Purnendu Tripathi  
*IGNOU, India*

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E-mail: [cust@igi-global.com](mailto:cust@igi-global.com)  
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# Chapter 12

## Supporting Sustainability Education and Leadership: Strategies for Students, Faculty, and the Planet

**Alice Cassidy**

*In View Education and Professional Development, Canada*

**Yona Sipos**

*University of British Columbia, Canada*

**Sarah Nyrose**

*Boucher Institute of Naturopathic Medicine, Canada*

### ABSTRACT

*The authors describe a workshop, called the Sustainability Education Intensive (SEI), and related programs at a major research university in Canada that served to support educators to introduce or enhance aspects of sustainability into their courses, programs, and initiatives. They present their pilot work in the context of sustainability education and leadership, both in terms of degree programs and programs for educators worldwide. The authors present the key components, steps, and associated time-lines of their planning and delivery. They give examples of participant feedback and how the workshop has “stayed alive,” thus representing the sustainability of this form of educational development. They provide templates that can be used or adapted at any post-secondary institution. The authors conclude with a checklist to help practitioners get started in supporting educators and leaders in the important area of sustainability education.*

### INTRODUCTION

In this chapter, we describe a workshop, called the Sustainability Education Intensive (SEI), and related programs at a major research university in Canada that served to raise awareness

and provide skills and resources in developing sustainability-related courses, programs and initiatives at the post-secondary level across all disciplines. The target audience for the workshop and related programs included professors, instructors, graduate students, and other leaders interested in sustainability education. We present our workshop and related program

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in the context of sustainability education and leadership programs and initiatives at other Post-Secondary Institutions (PSIs).

As you read this chapter, you may wish to ask yourself:

- What makes my PSI stand out?
- Could a new or enhanced aspect of sustainability education make the difference?
- What support for faculty, administrators, and student leaders is needed?
- What are the steps to do this, and how do I start?
- With whom do I need to collaborate?

This chapter highlights an important strategy and policy of developing, promoting and facilitating sustainability-oriented educational programs and student services in higher education. We focus on ways to successfully meet the global challenge to involve learners in sustainability-connected curricula while at the same time being a change agent at your PSI.

We provide an overview of the major components of the SEI, as well as the steps we took in its planning, design, promotion and delivery of this workshop. We describe how we got started and what we feel makes our program unique. We present some examples by which the workshop has ‘stayed alive’, thus representing the sustainability of this form of educational development.

A key objective of this chapter is to provide practitioners with tools to implement sustainability education and leadership at any PSI, outlining the value in doing so. While recognizing that the particulars of sustainability education must be adapted for each place of implementation, we see value in accessing the details of how a specific program was developed and implemented. Thus, we provide templates that you can adapt for your own use, as well as checklists and timelines, to

provide you with step-by-step plans for a sustainability education workshop and related programs to support teachers of any discipline or experience level at your PSI.

## **BACKGROUND**

### **Defining Sustainability**

The Brundtland Commission<sup>1</sup> of 1983 defined sustainability<sup>2</sup> as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. This definition uses the triple bottom line of social, economic and ecological. Three decades later, UBC Sustainability<sup>3</sup> (at the University of British Columbia, Canada) has evolved from a similar definition to one where sustainability is seen as “a matter of inter-generational justice” with respect to human use of the natural environment (<http://www.sustain.ubc.ca/research/articles/matter-inter-generational-justice>).

The Earth Charter<sup>4</sup> is an international declaration of fundamental values and principles to guide and help build a just, sustainable and peaceful global society in the 21st Century. Launched in 2000, it views a sustainable global society as one “founded on respect for nature, universal human rights, economic justice, and a culture of peace” (Earth Charter, 2000).

There is often vivid discussion over “the definition of sustainability”, and though it can be helpful to explain what one means, we also acknowledge that there is no one definition that will appeal to everyone. In the SEI, we provided participants with a range of definitions and had them work with the assortment of sustainability interpretations in meaningful ways, thereby exploring and developing sustainability literacy (Cassidy et al., 2012).

## **The Importance of Supporting Sustainability Education and Leadership in Post-Secondary Education**

Over the past thirty years, there has been an enormous increase in awareness, interest and knowledge about sustainability and its importance and value in education. As the UN Decade of Education for Sustainable Development (2005-2014) nears its conclusion, there is arguably a global consensus that post-secondary institutions have a role and responsibility to promote sustainability learning (See Sipos et al., 2008; Reid and Petocz, 2006; UNESCO, 2005; Furman and Gruenewald, 2004). The curricular reality for many university students, however, is largely unchanged (Armstrong, 2011). Why this disconnect?

To actualize sustainability learning, institutions must support professors and others in teaching and leadership roles as educators and in particular, as sustainability facilitators (Brinkhurst et al., 2011). For example, Armstrong (2011) highlights that to implement education for sustainable development, educators must be committed to this new paradigm, as well as be skilled as “facilitator, collaborator, and fellow learner on the journey toward sustainability” (p. 5). This role is significantly different than the traditional one-way lecture mode that still characterizes much post-secondary education.

Sustainability education and leadership in post-secondary education (PSE) is an area that is growing in interest, but less so in concrete examples of how to actualize it. So, what can be done to support sustainability educators?

United Nations Educational, Scientific and Cultural Organization (UNESCO), the lead agency of the United Nations (UN) to promote education for sustainable development (the term they use interchangeably with sustainability education), has as one of its four main objectives,

*Rethinking and revising education from nursery school through university to include a clear focus on the development of the knowledge, skills, perspectives and values related to sustainability is important to current and future societies. This implies a review of existing curricula in terms of their objectives and content to develop transdisciplinary understandings of social, economic and environmental sustainability. It also requires a review of recommended and mandated approaches to teaching, learning and assessment so that lifelong learning skills are fostered. These include skills for creative and critical thinking, oral and written communication, collaboration and cooperation, conflict management, decision-making, problem-solving and planning, and practical citizenship (UNESCO in Sipos et al., 2008).*

Empowering faculty, staff and others to make such changes to teaching, learning, and assessment requires specific training and support in sustainability and leadership (Brinkhurst et al., 2011), as well as developing a “sustainability ethic” (Middlebrooks et al., 2009). Communities of learning and practice have been shown to be effective domains for such engagement (Furco and Moely, 2012).

In our view, the Sustainability Education Intensive and related programs described in this chapter meets these goals.

## **Examples of Sustainability Education Worldwide**

In this section, we position our programs in the context of what has been done to date. We also provide these examples as a resource for those wishing to start or enhance similar programs at their own PSI.

The Brundtland Commission and the Earth Charter led to a proliferation of programs of study focused on the broad terrain of sustainability,

including environmental education, sustainable development, and sustainability education. We have organized our examples into degree programs and programs for post-secondary educators.

## Degree Programs

More and more educational institutions offer degree granting sustainability programs, with 255 programs offered over 157 different institutions in 13 different countries listed at Sustainability: Science, Policy and Practice, an online resource

to which you can add your own examples ([http://sspp.proquest.com/sspp\\_institutions/display/universityprograms](http://sspp.proquest.com/sspp_institutions/display/universityprograms)).

See Table 1 for a sample of degree programs worldwide that speaks to growing interest in sustainability-related education.

## Programs on Sustainability Education for Post-Secondary Educators

Compared to the number and range of degree programs, we have found only a handful of programs

*Table 1. A snapshot of the variety of degree programs related to sustainability education in a selection of countries worldwide*

Country	PS Institution	Program	Detail
Australia	Bond University	Certificate, Master's	Urban development and sustainability
Australia	Charles Stuart University	Master's, Ph.D.	Ecotourism and sustainable agriculture
Brazil	Federal Rural University of Rio de Janeiro	Master's	Science in Sustainable Development Practice
Canada	Dalhousie University	Bachelor's, Ph.D.	Environment, Sustainability and Society
England	University of Bath	Master's	Responsibility and Business Practice - action research based practice of leadership for sustainability
Germany	Helmholtz Interdisciplinary Graduate School for Environmental Research	Ph.D.	Society and Environment
India	Indira Gandhi National Open University	Post-graduate diploma	Sustainability Science
Japan	United Nations University - ISP	Master's	Sustainability, Development and Peace
Netherlands	Leiden University/Delft Technical University	Master's	Industrial Ecology
South Africa	Rhodes University	Master's	Environmental Education – within the Environmental Education & Sustainability Unit
South Africa	University of Cape Town	Master's	Climate Change & Development
Sweden	Blekinge Institute of Technology	Master's	Sustainable product-service system innovation
Uruguay	South American Institute for Resilience and Sustainability Studies	Inter-institution collaborations	Resilience and Sustainability Studies

that train faculty members and others to introduce or enhance sustainability into the courses and programs they teach. Most of these are found in North America.

In the United States of America, the Ponderosa Project at Northern Arizona University (NAU; <http://www2.nau.edu/~ponder-p/>), first offered in 1994 was designed by Geoff Chase and Paul Rowland. The main goal of this interdisciplinary faculty group effort is to incorporate environmental sustainability issues into university courses with the ultimate goal of providing future citizens the education and skills necessary to achieve sustainable communities and societies.

In 2001, the Piedmont Project was launched by Peggy Bartlett and Arri Eisen at Emory University in Atlanta, Georgia (<http://sustainability.emory.edu/page/1021/Piedmont-Project>). Modeled after the Ponderosa Project, with NAU leaders coming to Emory to facilitate the opening workshop, it was subsequently led by rotating teams of Emory faculty facilitators. Aiming to infuse sustainability and environmental issues across the curriculum, it later expanded to include a program for graduate students.

The Penstemon Project at Santa Clara University (<http://www.scu.edu/sustainability/education/penstemon.cfm>) is designed for faculty outside of the traditional environmentally focused disciplines to find ways to incorporate sustainability into their curriculum, either as class content or in the way their class functions.

Wake Forest University offered a free conference, in collaboration with the Association for the Advancement of Sustainability in Higher Education (AASHE), to explore strategies for adaptation across the sustainability curriculum (<http://sustainability.wfu.edu/conference/conference-overview/>).

Some programs provide support for particular groups or disciplines. For example, the Sustainable Leadership Institute (<http://www.sustainabilityleadershipinstitute.org>) offers workshops for community leaders to work on sustainability concerns and possible solutions.

In Canada, the British Columbia (BC) Working Group and Network on Sustainability Education, which started in 2006, connects organizations, educational institutions, government and others for the purpose of furthering sustainability education across the province (<http://www.walkingthetalk.bc.ca/>). Since evolved into a Regional Centre for Excellence, they provide resources, programs and news of interest and value to a large number of stakeholders. As an example, the ten Sustainability Education Principles for British Columbia, created in 2007, have triggered much discussion and figured prominently in our own SEI, where it was of great interest to colleagues from both within and outside of the province (For the list of ten principles, see: <http://www.walkingthetalk.bc.ca/node/427>).

The British Columbia Institute of Technology developed a version of the Piedmont/Ponderosa workshop, called the Pacific Spirit Project that started in 2009 and runs annually for faculty members within the School of Construction and Environment (<http://www.bcit.ca/construction/sustainability/pacificspirit.shtml>).

Turning to the United Kingdom, the Sustainability Hub at Kingston University (<http://www.kingston.ac.uk/sustainability/aboutus.html>) fosters a culture of sustainable practice throughout the University through engagement campaigns, research projects and curriculum development.

It is our hope that this chapter, with its step-by-step guide to setting up a training workshop, will contribute to an increase in the number of sustainability education training programs available to PS instructors.

## **The Need for Sustainability Education Training**

PSIs have expressed their commitment to sustainability education through signing declarations such as the Talloires Declaration of University Presidents for a Sustainable Future (1990), the Halifax Declaration (International Association of Universities, 1991) and the more recent Earth Charter (2000).



From our collective experiences as teachers, students and educational developers, we have noted that while there is much interest in and growing evidence of sustainability education in terms of degree programs at the post-secondary level, there is a paucity of training programs for the faculty and instructors who need and want to implement change in their classrooms and learning environments to support the curricular reorientations.

### **The Sustainability Education Intensive (SEI)**

In this section, we describe the main components of our workshop, with a focus on how we got started and the steps we took in its planning, design, promotion and delivery.

We designed and facilitated a multi-day workshop on sustainability education, coined the Sustainability Education Intensive (SEI), at the University of British Columbia-Vancouver (UBC), Canada in 2009 and 2010 as a pilot. The goal of the SEI was to provide tools, resources, and structured time and support for participants to develop a Sustainability Education Plan (SEP) to integrate or enhance sustainability in their course, program or initiative. A total of 36 people participated in the two years of the SEI, representing a diversity of disciplines, and including five people from other PSIs in British Columbia and Ontario, Canada. Participants taught in a range of disciplines as diverse as agriculture, architecture, arts, botany, business, education, engineering, forestry, health, history and languages.

Participants were further supported in the development of their SEPs through studio sessions (and financial support for professional development for our UBC colleagues) in the 6-8 months following the workshop. Within one year of their participation in the SEI, participants were invited to share their results in a celebratory showcase event.

### **The Origins of Our Program Development**

In early 2007, two of the authors (Alice Cassidy and Yona Sipos) took part in the Sustainability Across the Curriculum Leadership Workshop at Emory University in Atlanta, Georgia (see <http://www.aashe.org/>). This 2-day workshop, facilitated by Peggy Bartlett of Emory University and Geoff Chase of Northern Arizona University (NAU), and attended by 35 people, focused on the successes of the Ponderosa and Piedmont Projects (described above) that have helped over 200 faculty members in the United States adapt their courses to include aspects of sustainability.

Upon our return, and with funding from the UBC Sustainability Office, we set about to create and deliver a short course that was relevant and unique to UBC (Cassidy, 2011a; Cassidy, 2012). We used part of the funds to hire an undergraduate student (Sarah Nyrose).

UBC has gained a reputation as a sustainability leader in North America. AASHE recently presented it as a spotlight campus (<http://www.aashe.org/node/53010>) describing: the University Sustainability Initiative as uniting the university's academic and operational efforts to advance sustainability; the SEEDS (Social Ecological Economic Development Studies) academic program, in which students, faculty and staff collaborate on real-life sustainability solutions, heading toward the 500-project mark; being named Canada's first Fair Trade Campus; and the opening of its recent Centre for Interactive Research on Sustainability.

Building on this strong sustainability reputation, our goal was to further develop leadership both within and beyond our own institution.

Our intended outcomes of this work were to:

1. See an increase in number of courses, programs and initiatives that include aspects of sustainability - including environmental,



social and economic – in their curricula. Responses from two years of workshop participants indicate that this happened;

2. Be change agents, raising awareness at our institution and elsewhere about the value of sustainability education and leadership workshops and related programming. The successes of workshop designers and participants indicate we met this goal.

### **What Made the UBC SEI Unique?**

We designed our program to mirror a unique aspect of the University of British Columbia – that people in a variety of roles are active leaders in sustainability education. To our knowledge, the SEI is unique and the first of its kind for a variety of reasons:

- It was designed and facilitated by people in three different roles at post-secondary institutions: a faculty member, a graduate student, and an undergraduate student.
- We involved additional representatives in these roles, as well as staff members, post-doctoral fellows, and community members in the initial planning and input throughout the program as members of an Advisory Board.
- People in all of these roles were invited to apply; faculty, staff, graduate and undergraduate students from a wide variety of academic disciplines all applied and participated.
- The SEP that each participant worked on, during and following the SEI, was geared to create change in his or her own post-secondary educational project, be it a credit course, a credit or non-credit program, or another kind of initiative in a formal or non-formal setting.

### **Undergraduate Students**

UBC is noted for its undergraduate student leaders. For example, the student-initiated Sustainability Pledge (<http://sustain.ubc.ca/get-involved/students/pledge>) increases awareness of sustainability and inspires action towards more sustainable living. Sustainability Ambassadors (<http://peerprograms.ubc.ca/the-crew/sustainability-ambassadors/>), a peer program, organize, promote and deliver sustainability education programming for students. UBC students were active in the youth and student-led goBEYOND Campus Climate Network (<http://www.go-beyond.ca/about-us>), engaging students, faculty, staff and community partners at PSIs.

We involved undergraduate Sarah Nyrose in the initial design and delivery of the first year's SEI. After Sarah graduated, we hired Angela Willock, an alumnus from the 2009 SEI, to help us facilitate the 2010 program. Other undergraduates helped during the two years of the SEI including: as representatives in our Advisory Group; filming a promotional video; taking digital photographs; and co-leading a guest presentation related to a business course with a sustainability focus.

### **Other Key Stakeholders**

We sought input and help from colleagues in a variety of roles and from units across and outside the University. We involved these people for initial input at networking events, through an Advisory Group, and as guest presenters to the SEI and related programs.

### **Design and Delivery of the SEI**

We first started thinking about the potential to lead a training workshop in January, 2007. Key planning work began in early Fall, 2008, with many steps involved in the creation of the SEI that we launched

in late May, 2009. Here we present the key steps involved in each stage of planning, design, delivery, and follow-up, summarized in Table 2.

## Planning

We started planning soon after returning from the Sustainability Across the Curriculum Leadership Workshop in Atlanta. We had conversations with

people from the Sustainability Office as well as colleagues in many Faculties and service units. During a sustainability education networking lunch, which was an event of our community of practice, in October 2008, we shared input and suggestions on our first draft of the SEI. As we wished to have involvement at all levels and to include every Faculty, Associate Deans and Directors were invited to attend or send representatives.

*Table 2. Key steps and timeline for planning the SEI*

Timing	Process	Detail
	<b>Planning:</b>	
October	Networking lunch event	Receive input and suggestions on first draft of first year's SEI
November	Budget planning	Determine all set and optional costs and plan accordingly
December	Form Advisory Group	With representation of all roles at the University plus a community representative
January	Advisory Group meeting	Fine-tune advertising and promotion plan, workshop learning goals and objectives
January-March	Advertising and Promotion:	Create Website, print and distribute small functional bookmark advertising. Promote via list-serves and networks specific to each of our target audiences
	<b>Application and selection process:</b>	
April	Application form Promote SEI to heads of units to nominate applicants	Via a form downloaded from Website Via emails, phone calls, word of mouth
April	Advisory Group meeting	Fine-tune lesson plan, activities, guests, resources
May	Selection process	Inform successful applicants and let them know where to meet
May	Final preparation	Collect/create material; confirm food and room and equipment bookings; confirm invited guests; confirm recycling and composting facilities
May-June	Workshop delivery:	Collect formative and summative feedback; fine-tune next day if necessary; confirm lesson plan and activities
June	Follow-up activities	Thank guest speakers; ensure bills are paid and update budget; thank nominators and all others involved
August-November	Support studio	Help SEI participants to meet their SEP goals
End of November	Collect summaries, provide funding	Collect summaries of SEP outcomes from participants and prepare them for Showcase Event. Reimburse UBC participants upon receipt of their bills and justification
	<b>Celebrating the completion of the workshop:</b>	
November-December	Final planning for Showcase event	Promote event online and word of mouth. Confirm guests, room and food. Take registration for event. Work with participants for final planning
January	Showcase event	University Vice-President, Academic and Provost as special guest; stations around a large room for each SEI participant to show their work; networking, lunch

## ***Supporting Sustainability Education and Leadership***

In total, colleagues from 23 units took part, including faculty, staff and students and members of the UBC Senate and the newly formed President's Advisory Committee on Sustainability. The energy and diversity at this event led to very helpful input and new creative ideas.

In late 2008, we formed an Advisory Group, comprised of faculty, staff, post-doctoral fellows, undergraduate and graduate students, and community members to help us finalize SEI process and materials. Meetings of this group in January and April 2009 resulted in fine-tuning of our advertising and promotion, learning goals and objectives, application process, workshop lesson plan, and associated activities and resources.

### **Advertising and Promotion**

Our primary goal for advertising was to reach a diverse audience of post-secondary educators that varied in discipline and in roles related to teaching, facilitation and/or leadership. Faculty, post-doctoral fellows, staff, and graduate and undergraduate students were all encouraged to apply, provided they had an interest in creating a Sustainability Education Plan (SEP) for their course, program or initiative. As funding for the SEI was from our own institution, most spaces were reserved for UBC participants (for whom the workshop was free of charge), though we saved a few spaces for people from other PSIs, charging a nominal fee to cover expenses.

Small functional bookmarks providing succinct information about the SEI (including a Website address for more detail) were widely distributed. We promoted the workshop via list-serves and networks specific to each of our target audiences.

### **Application and Selection Process**

The SEI application form (see Appendix 1), which was also the Pre-Inquiry for research purposes, was downloaded from our Website and submitted electronically to reduce paper waste. We asked

applicants to tell us a bit about themselves and their involvement in teaching, facilitation and/or leadership activities, as well as their idea about how to affect change in their course, program, or initiative.

Additionally, we invited heads of units to nominate people to take the SEI, with nominated applicants receiving special attention as we selected people for the limited spaces. The purpose of the nomination system was to help spread the word and build momentum about the program. For reasons of funding as well as ideal pedagogy, we could accept only a limited number of participants each year. We gave preference to participants who were nominated, also using the information that prospective participants provided in their applications. Satisfactory completion of the application also ensured that participants had done appropriate preparation, showing commitment that they could take part fully in the intensive 2.5 day workshop, including building on their idea through a Sustainability Education Plan (SEP) to work on throughout the 2.5 days (see Appendix 2).

We were extremely pleased with the rate of response, both in terms of numbers of applications and nominations. Each year, more people than we could accept into the program expressed interest in taking the SEI.

### **Workshop Goals and Objectives**

We designed the workshop in accordance with the TREK 2010 planning document to further assist members of the UBC teaching community “to prepare students to become exceptional global citizens [and] promote the values of a civil and sustainable society” (<http://www.vision.ubc.ca/index.html>).

### **Learning Goals**

- Foster sustainability leaders within and beyond our own institution.

- Strengthen the interdisciplinary network of sustainability educators and leaders at UBC and contribute to the development of a university-wide sustainability learning community.
- Develop relationships that enable the integration of sustainability across the curriculum.
- Provide participants with the resources and support to implement a project of their choice that is designed to affect change in their course/program.
- Create opportunities, incentives and support for integrating sustainability into courses and programs at UBC.

## Learning Objectives

By the end of the short-course, you will be able to:

- Describe several sustainability education initiatives at UBC.
- Choose from the initiatives at UBC that are directly relevant to your course/program and identify how they may be incorporated.
- Identify a sustainability education project of your choosing that is designed to affect change in their course/program.
- Create an action plan of implementation to meet your goals for your project.

After the course, you will be able to:

- Apply sustainability into the discipline you teach and how you can further contribute to sustainability education at UBC.

Using these learning objectives and goals as the foundation for the development of the SEI lesson plan, we designed a workshop that modeled sustainability in all dimensions. The careful consideration of venues, activities, materials, modeling of teaching and facilitation techniques and choices for refreshments were all crucial aspects in the overall planning.

## Modeling Sustainable Practice

A key concern throughout planning and delivery was to reduce waste. We did this by advertising and promoting the workshop mainly through our Website and other online sites; by communicating with applicants via email; providing as many resources as possible before and during the SEI via our blog and other electronic means. Some materials, such as worksheets that participants filled out during the SEI and copyrighted documents that we did not have permission to post online, were printed on paper with a high level of post-consumer recycled content. We provided participants with a paper folder made from 100% recycled content made by Earth in Mind from Oxford.

Recycling and composting facilities were available and promoted throughout the SEI, and lunches and snacks were vegetarian, using many local foods, and ordered from a student-based caterer. Participants brought their own mugs for hot drinks and water, and we used washable dishes and cutlery for all meals. Workshop participants commented that they noticed and appreciated the attention paid to responsible resource use.

## Blog

We created the SEI Blog (<http://blogs.ubc.ca/tag-sustainability/>) to provide participants a central hub for locating resources, exploring information about the SEI and associated programs and events offered by ourselves and others. Workshop participants gained access to the resources, including some pre-readings and material for use during the workshop, through the online Refworks program, a reference manager that hosts a variety of resources, such as journal articles, books, podcasts, and Websites.

## Place-Based Learning

The first half-day of the workshop took place at the Centre for Sustainable Food Systems at UBC Farm, allowing participants to engage in a setting that is

at the heart of sustainability at our institution. Later in the SEI, a field trip around campus emphasized observation of the natural world, as well as inter-connections to the built environment and humans' roles in both of these. Participants expressed appreciation for being at the Farm and specifically, the opportunity to be outdoors, to learn about this important campus and community resource, and to engage in place-based experiential learning.

### **Participant Feedback**

*Spending time outdoors – at the farm and on a field trip was an opportunity to connect with (and spend time in the) natural world.*

### **Active, Participatory, and Practical Learning**

Participants were involved in individual, pair, small group and whole group activities that included collaborative learning, self-reflection, brainstorming and creativity. Participants were encouraged and supported throughout the 2.5 days to engage with the group, reflect and develop their personal Sustainability Education Plan (SEP), building from the goals they set out in their applications. Participant feedback:

*Interactive and experiential. Different perspectives stimulated critical reflection.*

*The methods of learning and teaching were modeled – the importance of interactive learning, including cross-disciplinary and community engaged.*

*I loved the diversity of activities in the SEI as they helped me access my tacit knowledge as well as create new knowledge/think differently about things related to sustainability.*

### **Video and Photos**

Participants were informed of these forms of documentation during the workshop for our reports and future promotions. Digital photos were taken throughout the SEI. Sean Devlin of the student-led goBEYOND project (<http://www.go-beyond.ca/about-us>) created a video involving both the UBC and the BCIT workshops.

### **Participant Feedback**

We collected formative feedback from participants at the ends of Days 1 and 2 (see Appendix 3 for sample questions and prompts), presenting summaries on subsequent days and noting where we adjusted the workshop in response. We collected summative feedback at the end of Day 3 (see Appendix 4 for the form), and also approximately one year after workshop participation (see Appendix 5 for the form). The application form presented earlier was the Pre-Inquiry. These data, collected using an ethics protocol for human subjects approved by the Behavioural Research Ethics Board at UBC application H09-00824, are the basis for papers in preparation.

An example of adjusting the workshop in response to formative feedback was allowing more time for participants to talk with one another informally, especially at lunch and during short breaks. We omitted some activities in order to spend more time and in-depth exploration of others.

An example of a change to the 2010 workshop based on feedback from 2009 participants was to re-organize an activity whereby participants explained their SEPs to one or two others, then clarified and presented to the whole group. Participant feedback from 2010:

*Actually putting the SEP into a poster presentation that had to be clean and stand on its own was rather challenging. It made me focus on what was key to moving forward.*

## **Celebrating the Completion of the Workshop**

Participants received an electronic Certificate of Completion at the end of the workshop. The Certificate was intended to be both a congratulatory document, as well as a reminder to participants about their involvement and the commitments they had made through their SEPs.

We emailed colleagues who nominated participants, as well as all guest speakers, members of the Advisory Group and others who helped support the SEI, to thank them for their time and dedication to sustainability education and leadership.

## **Ongoing Professional Development**

The ongoing professional development took the form of financial support (\$500) for UBC colleagues and support studios for everyone. UBC participants used their professional development funds towards attending a training event or conference, purchasing teaching materials or hiring a student, in order to meet the goals of their SEP.

Two support studios held approximately two and five months following each SEI provided further support and networking opportunities for the participants, as they continued work on their SEP. These studios, up to two hours long, were optional to attend and included brief updates from each participant, as well as time for group discussion and paired or individual work. Participants who could not attend in person were invited to take part through the use of technology. The contributions, requests for assistance and discussion ranged from sharing a detailed mind map of all the planning and actions on a SEP to date, to ‘thinking out loud’ about how best to design an exercise, to setting up meetings for the fall to explore next steps with an

initiative. The last studio was timed to take place just before participants needed to complete and send in their final SEP summary and, for UBC participants, their receipts and explanation of how they used the funds in order to be reimbursed (Appendix 2).

## **Showcase Event**

We hosted the SEI Project Showcase Event seven months after each SEI to highlight participants’ SEPs. During this 3-hour event, we had each participant set up a station, where they could display posters, photomontages, and electronic presentations and resources. Those who could not take part in person were invited to send us updates based on the summary they had sent us earlier.

The Showcase really became a celebratory event, with invitations going out to all who sponsored participants, guest speakers, members of the Advisory Group, colleagues, and interested members of the UBC community, including prospective applicants for a future SEI. The Showcase event following the 2009 SEI included opening remarks by the Vice-President Academic and Provost, David Farrar.

## **Related Programs**

### **Sustainability across the Curriculum Community of Practice**

We made full use of a network that was in place before the SEI. The Sustainability Across the Curriculum Community of Practice (CoP) was first developed in 2006 to offer events and resources and to keep in touch with over 150 members through electronic newsletters. One of 16 CoPs in place at UBC, it had clearly demonstrated success (Cassidy, 2011b).

The kinds of activities and events offered through this CoP include a regular electronic newsletter of resources and upcoming events, tied to the Website and blog. We extended invitations



to members to suggest topics and help facilitate sessions. For example, during our institution's Celebrate Research Week, three CoP members, Naoko Ellis, Chemical and Biological Engineering; Santokh Singh, Botany; and Laurie Ricou, English presented mini-lessons of their actual classes, then tied it into their research and scholarly practices.

### **Conference Sessions and Invited Sessions**

Members of the SEI design team led invited sessions and peer-reviewed sessions at conferences. Examples include Douglas College Professional Development Day, the annual conference of the Society for Teaching and Learning in Higher Education, the Gaining Ground Resilient Cities conference, and the UBC Learning Conference.

### **Sustaining the Success of the SEI**

In addition to sending participants a survey one year after workshop completion (Appendix 5), we also contacted them to ask how they "made use" of the skills, knowledge and attitudes developed or honed during the SEI. We wanted to know if they had published, presented or further developed any of their SEI-related work. As we noted in an email letter to them,

*It could be a local workshop, or conference anywhere, or something you wrote for a peer or non-peer reviewed journal, magazine or other. If so, will you give us the reference(s) and/or details? I will of course summarize it all and get it back to you.*

The resulting responses show many and varied examples, showing that the SEI "stayed alive", thus illustrating the sustainability and transformational

aspects and successes of this form of educational development. The complete set of results is the focus of another paper in preparation. We present a snapshot of examples here:

### **Changes in Curriculum**

As a result of the SEI, sustainability has been introduced or enhanced in about 40 courses, programs and initiatives. One faculty participant adapted activities from the SEI were for use in a corporate social responsibility course, while another proposed the development of a virtual design space in an engineering course. One graduate student adapted her work with students at the Native Education College, while another integrated work from their SEP into a first year land and food systems course. A forestry field school for 3<sup>rd</sup> year students now includes a program developed in a SEP, a theoretical model describing how teachers could teach high school biology through an environmental.

### **Continuing Education**

Some alumni continued their studies: an undergraduate continued her explorations in a directed studies course; a faculty member completed an international distance credit course on sustainable engineering.

### **Scholarly Contributions by SEI Alumni**

SEI alumni have presented on their sustainability education work at conferences across Canada as well as in Kenya, Africa.

Peer-reviewed journal publications by SEI alumni based on their sustainability education work include work on a culturally relevant assessment model (Verwoord, 2011), community service-learning in the integrated medical and



dental school program (Dharamsi et al., 2010) and bringing community-based research initiatives into a communication course for second-year engineering students (Berndt, 2010).

## Program Design and Delivery

Shafik Dharamsi and Matthew Whiteman, alumni of the 2009 and 2010 SEIs respectively, further developed their SEPs as a program funded for two years by UBC's Teaching and Learning Enhancement Fund (TLEF; <http://tlef.ubc.ca/>) called the Ethics of International Engagement and Service-Learning Project (EIESL) Online Toolkit (<http://blogs.ubc.ca/ethicsofisl/>).

Two alumni of the 2009 SEI, Angela Willock and Maggie Baynham, further developed their SEP as a province-wide Sustainability Education across the Province (SEAP), offered in 2010 and 2011. Co-developed and hosted by a different British Columbia post-secondary institution each year in collaboration with goBeyond (<http://www.gobeyond.ca/>), SEAP was geared mainly for faculty members and charged participants to take part.

## CONCLUSION AND FUTURE RESEARCH DIRECTIONS

We have described a workshop and related programming we developed and delivered as a pilot over two years at a large research university to provide practitioners with tools to implement sustainability education and leadership. We place our programming in the context of other initiatives to date, explaining the value of support for sustainability education and leadership through the lens of the published work in the area.

We provide templates that can be used or adapted at any institution. The key steps we followed, with associated timelines, can help others wishing to implement a program of sustainability education and leadership to get started, keep on track, and be successful agents of change.

We explored some details and the value of educational development for sustainability educators. Hocking et al. (2006), speak to the importance of “bringing together experienced sustainability facilitators, to build a shared view of what facilitation for sustainability looks like, and to consider how the frameworks, processes and skills for facilitation can be fostered in others” (p. 1). We agree completely and feel that there is much potential for future work in this area. The literature describing efficacy of support for sustainability educators is small. We encourage those working in this area of educational development to share their successes through conference sessions, publications, and workshops. It is our hope that these initiatives can lead to an increase in the number of training opportunities offered at PSIs worldwide.

Administrators and senior officials at PSIs want to make positive change in their institutions and are proud to share when they have (e.g. Talloires Declaration). They want to hear of successes elsewhere, and want to know of clear ideas on how they might adapt or implement these at their PSI. If you are a faculty member, graduate student, undergraduate student, post-doctoral fellow or staff member, know that your voice is important and make sure it is heard. Share your views on the challenges and potential solutions to increase the amount and quality of sustainability-related education at your PSI, and support for the educators who design and deliver such programs.

Timpson et al. (2006) dedicate their book, *147 Practical Tips for Teaching Sustainability: Connecting the Environment, Economy, and Society*, to the planet because it sustains and inspires us, as well as to the teachers and learners who carry on the tradition of sustainability education. It is clear that many people care about this planet we live on. Know that students at your PSI care deeply and want to learn more so they can help make positive change. Their teachers need and want support on how best to do this. And, it is not an understatement to say that the planet depends on these initiatives.

We conclude with a list of practical ideas, based on our experience. We suggest the following tips on how you can get started to implement one or more programs to support sustainability educators for at your own institution:

### **Checklist for Success**

- Identify a couple or few people at your institution with whom you can collaborate. Start by articulating your shared understanding and vision of supporting sustainability education on your campus.
- Brainstorm to create a list of individuals, departments and other units, and networks with some connection to sustainability-related education. Ensure that you have included people in all roles and at various levels, including senior administrators.
- Talk with these people, ideally face to face, individually and in small groups. Go to them. Send emails, make phone calls, advertise on your Website that you would like to talk with as many people as are interested in the topic. (This tip and the preceding one helped us identify “champions” in a variety of roles, units and disciplines on our large campus.)
- Listen to people, in informal networking sessions, in structured meetings, via email or blog forums, through whatever timing, means or media works best for them.
- Spread the word through advertisement and promotion both electronically, in sustainably responsible hard copy, and via word of mouth; you want everyone who has an interest to know they are welcome.
- Seek input and ask for help on all stages of your plans. Collaboration helps build momentum and community. Everyone involved is made to feel part of what is being created.
- Research related programs that you can use as models and ways you can capture the experiences of your process and outcomes to share it in scholarly ways. Investigate how ethics approval works at your institution. Successful application to your institution’s ethics review board to undertake your study is not only the right thing to do, but can help you design surveys for maximum efficacy.
- Design well; build on what is unique about your PSI; invite the champions you have identified to come in as guests; revise and revise again. The planning, action, and reflection is all part of an iterative approach.
- Check in during your programs to see if expectations and needs of your participants are being met. Ask for formative feedback and be prepared to make change right away to address any concerns.
- Celebrate! You have accomplished a lot. Be proud of it. Find ways to celebrate amongst facilitators, organizers, participants and all who were involved to make it the success it was.
- Reflect, after your program is over, on what facilitators and participants felt went well and what can be improved. Keep notes. Keep all feedback. Every workshop or meeting can always be improved, a little or a lot. Be ready to do that.
- Share your experiences through reports, publications and presentations at your own institution, nationally and internationally. Making your work public is a form of scholarship of teaching and learning that is not only important for you as a member of an academic institution, but to the continued development and success of your program, as well as to the growth of comparable programs elsewhere.

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at the Centre for Teaching and Academic Growth (TAG) at the University of British Columbia, Vancouver, BC, Canada as Associate Director (Alice Cassidy), Graduate Academic Assistant (Yona Sipos) and Undergraduate Assistant (Sarah Nyrose).

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## KEY TERMS AND DEFINITIONS

**Sustainability Education Intensive:** The name of the 2.5-day workshop we designed and led over two years at the University of British Columbia. Shortened to SEI, this workshop supported people who teach, facilitate, or lead courses, programs or initiatives to introduce or enhance aspects of sustainability into their curriculum.

**Support Educators:** The workshop and related programs we describe in this chapter are to help people who teach, facilitate or lead courses, programs or initiatives become better at what they do and meet their expressed goals.

**Sustainability Education and Leadership:** A teaching and learning process, content or format specifically related to sustainability. Teachers and administrative leaders apply it to their own areas of expertise and roles.

**Educational Development:** The practice of helping those who teach be better at what they do, through resources, workshops, one-on-one assistance, and other means.

**Post-Secondary Institution:** Any institution of learning that is attended after K-12 or primary and secondary education.



## **ENDNOTES**

1. Brundtland Commission was formally known as the World Commission on Environment and Development.
2. Sustainability often used interchangeably with the term sustainable development, coined in the paper “Our Common Future” and released by the Brundtland Commission.
3. UBC Sustainability Office is now called UBC Sustainability <http://www.sustain.ubc.ca/>.
4. Originally conceived of in 1987 as part of the United Nations World Commission on Environment and Development however, launched in 2000, it views a sustainable global society as one “founded on respect for nature, universal human rights, economic justice, and a culture of peace” (Earth Charter, 2000).
5. The University of British Columbia: the Sustainability Office (SO) and the Centre for Teaching and Academic Growth (TAG) are the two units which have each since been renamed and/or restructured; see <http://www.sustain.ubc.ca/> and <http://ctl.ubc.ca/>.
6. A note about Appendices: Please use or adapt any of these sets of questions/prompts for use in your own program. We ask for attribution, using the title of this chapter and its authors

## APPENDIX 1. PRE-INQUIRY (APPLICATION FORM)

### Sustainability Education Intensive (SEI)<sup>6</sup>: Dates of workshop

Note: before applying, please make sure you have read the SEI Overview, including commitments if accepted, carefully. By applying, it is understood that you agree with and will follow them.

- **Application Form:** Please fill out all sections; rename the file your family name\_SEI.doc (e.g. Cassidy\_SEI.doc) and email it to <email contact> by deadline. A bit about you:
- Name:
- Institution:
- Title/role:
- Department/unit:
- Phone:
- Email address:
- Full mailing address:
- How long have you been in this role?

How long have you been involved in related roles? Please indicate the type(s) of teaching and/or leadership activities with which you are you involved. Check all that apply:

- Undergraduate course Please specify course code and name (e.g. BIOL 345, Human Ecology):
- Graduate course Please specify:
- Non-credit course, program or initiative Please specify:
- Other Please specify:

Number of participants in your course, program or initiative per year or cohort:

- <20
- 20-50
- 51-100
- 101-250
- >250

Are you being nominated by a dean, head or equivalent?

- Yes (give their name)
- No

A key aspect of the 2.5 day Intensive is to create a Sustainability Education Plan (SEP) of your choosing that is designed to affect change in your course, program or initiative. How do you envision doing this? Participants from (*host institution*): you must connect your SEP to (*host institution*) activities.

Check all that apply:



## **Supporting Sustainability Education and Leadership**

- As a fundamental theme, integrated across all components of the course, program or initiative
- Into specific activities / materials / assignments
- Other; please specify: Tell us a bit more about your intended plan (in 50-100 words).

(For (*host institution*) participants only:) Tell us how you would make use of \$500 in professional development funding to help make your intended plan a reality (in 25-50 words). Please answer each of the following questions (with bullets or a couple sentences):

1. Do you incorporate sustainability into your own course, program or initiative? If so, how?
2. What opportunities exist in your course, program or initiative for incorporating or enhancing sustainability?
3. What is one teaching/facilitating technique (*e.g.* active engagement, community service-learning) that you are interested to learn more about for your intended plan?
4. What do you see as the biggest challenge to incorporating sustainability into your course, program or initiative?
5. I would also like to ask or say: Please submit your application by (deadline date and time). You will be notified of your acceptance into the Sustainability Education Intensive by (date).

## **APPENDIX 2. SUSTAINABILITY EDUCATION PLAN**

Participants were given this document at the start of the SEI with time at various points over the 2.5 days to work on it individually, in pairs and in small groups. Note that this document is presented “as is” for handing out at the workshop so you can see the spacing and font we used.

Near the end of the last day, participants used information on this document to present a “mini-poster” to share their work and ideas to date. See related materials at the end of the SEP.

- This Sustainability Education Plan (SEP) belongs to:
- Working title (as descriptive as possible):
- Note if it is for a Course / program / initiative (circle one):
  - Focusing on:
- Mission or vision statement:

and/or

- Main goals, intended outcomes or learning objectives:
- People/units with whom I will be working:
- Ways I will know my project has contributed to the move to sustainability (indicators of success):
- Ways I will document my journey:

The following materials were given to participants along with the SEP to use during the SEI:

- Open-ended space for participants to jot down notes during the SEI such as Ideas, inspiration, opportunities, challenges
- Tables with empty cells to make notes on “Areas to explore more” and “Other things to think about” based on the SEI guests, resources, teaching techniques and strategies, and other parts of the SEI
- A timeline chart with dates that SEI participants had to submit receipts for reimbursement, when they had to send a final report and when a celebration event 6 months into the future was being held and a place to note “The first steps I will take on my SEP when the SEI is over.”

The following material, required by all participants 5 months after the SEI was over, was sent as an email:

- **Final SEP Summary:** Required by all SEI participants, and by your institution participants in order to be reimbursed for your professional development funds.

Please complete all parts of this summary (approximately 2 pages long) and email it to contact email by due date at the latest.

- Name
- Role
- Department or unit
- Mailing address
- Email address
- Phone number
- Final project title:
- Course/program/initiative (identify which it is)
  - Focusing on:
- Mission or vision statement or main goals, intended outcomes or learning objectives (identify which is most relevant and complete to show what you set out to do):
- People/units with whom I worked:
- Ways that I feel my project has contributed to the move to sustainability (indicator of success):
- Other highlights of the SEP (including, if appropriate, unexpected outcomes)
  - A question or follow-up to this SEP that others may want to consider:
  - (If you have them) Web sites you may have created as part of your SEP, Web resources or references you used (so we can add them to our blog resources for others to use):
  - (For your institution participants only): How I spent the professional development funds and how that helped move the project forward:

## **APPENDIX 3. EXAMPLES OF FORMATIVE FEEDBACK**

### **Example 1**

The following words and phrases were arranged on a half-piece of paper around an oval. Here is the instruction to participants: Circle one or more words or phrases that appeal to you, and jot down a few related notes:

- Reason to return
- Peel of wisdom
- Unanswered question
- Most memorable moment
- Something new I learned
- Things we should know
- My opinion
- Something I'll use
- My recommendation
- Something else

### **Example 2**

On a half sheet of paper, we posed the following sentences for participants to complete, spacing it out so that they had room to write their responses:

1. The best parts of today for me was...because...
2. If I could change one thing from today it would be...
3. My wish for tomorrow is...
4. I also wanted to say/observe/suggest...

The day following each of these, we started the workshop by reviewing responses and asking if there were any further comments. We tried to do this in dynamic ways, for example, to the responses in Example 1, each word or phrase plus its responses was printed on a large cut-out of a footprint and taped to the floor. Participants walked the “path of feedback” to see what others said. For the responses to Example 2 questions, one year we summarized each set on flipchart paper and showed them one by one, and in another year, we pooled all the responses to each question into a word cloud and displayed it electronically.

## **APPENDIX 4. SUMMATIVE FEEDBACK (DAY 3 OF WORKSHOP)**

Thank you for your participation in the Sustainability Education Intensive (SEI). Reflecting on the ‘short-course’ that you have just taken, please answer the following questions. Please return the questionnaire within two weeks. You may choose whether to submit this post-program inquiry anonymously or not (if not, please include your name on this sheet).

- What did we do that helped you learn?
- Please check off as many as you would like:
  - Learning about sustainability education across campus.
  - Becoming part of a face-to-face network of educators at UBC interested in sustainability education.
  - Having structured space and time to work on enhancing your course, program or initiative.
  - Learning more about teaching for sustainability.
  - Learning about various pedagogies that contribute to sustainability education.
  - Accessing resources related to sustainability education.
  - Other (please specify).
- Why was this aspect / were these aspects valuable?
- What aspect(s) of the program was least helpful or most challenging to your learning? Why?
- How did you learn as a sustainability educator?
- Looking back, what aspects of your participation in the program stand out as most valuable to your learning as a person interested and engaged in sustainability education?
- Do you think you have changed as a sustainability educator through your participation in this program? If so, how?
- Do you think you have changed as an educator through your participation in this program? If so, how?
- Supporting implementation of your action plans.
- Following the short-course, the SEI offers two optional group support sessions to further advance your Sustainability Education Plan. Do you think you will attend one or both of these sessions? Why or why not?
- What additional skill development and support do you need in order to successfully implement the Sustainability Education Plan you made in the program?
- Evaluating the SEI for the future.
- What would you suggest that we change in the program (e.g., program content, group process, facilitation, etc) for future groups?
- Other comments and concerns.
- If there is anything else you would like us to know, please write on the back of this one or attach an additional sheet.

Thank you for your time and input!

## **APPENDIX 5. POST-INQUIRY (ONE YEAR LATER SURVEY)**

Note: This was the same as the Day 3 (post-inquiry) survey with the following exceptions:

Questions not included:

- Following the short-course, the SEI offers two optional group support sessions to further advance your Sustainability Education Plan. Do you think you will attend one or both of these sessions? Why or why not?
- What additional skill development and support do you need in order to successfully implement the Sustainability Education Plan you made in the program?

New questions added in their place:

- Through your participation in the SEI, have you experienced shifts or changes in your knowledge, attitudes or skills related to sustainability?
- What changes have you experienced in your knowledge, attitudes or skills related to sustainability? Please be as specific as possible.
- Was adequate support provided to you through the SEI (including the Intensive and follow-up) to implement your Sustainability Education Project?
- If yes, please comment on the specific aspects of support that contributed to your success. If no, please indicate what would have been more useful for you.
- Please suggest improvements to the SEI (or SEI-like program) for the future (e.g., application process, program content, group process, activities, facilitation, follow-up support studios, etc.).
- What do you recommend stays the same for future SEI-like programs?
- Would you recommend the SEI to your colleagues? Why or why not?
- Any additional comments?