



Seven recommendations for creating sustainability education at the university level

A guide for change agents

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Abstract

Purpose – This paper describes a set of recommendations that will aid universities planning to create sustainability education programs. These recommendations are not specific to curriculum or programs but are instead recommendations for academic institutions considering a shift towards “sustainability education” in the broadest sense. The purpose of this research was to consider the possible directions for the future of sustainability education at the university level.

Design/methodology/approach – Through a series of workshops using a “value focused thinking” framework, a small team of researchers engaged a large number of stakeholders in a dialogue about sustainability education at the University of British Columbia (UBC), Vancouver, Canada. Recommendations were compiled from workshop data as well as data from 30 interviews of participants connected with decision-making and sustainability at UBC.

Findings – The recommendations include infusing sustainability into all university decisions, promoting and practicing collaboration and transdisciplinarity and focusing on personal and social sustainability. Other recommendations included an integration of university plans, decision-making structures and evaluative measures and the integration of the research, service and teaching components of the university. There is a need for members of the university community to create space for reflection and pedagogical transformation.

Originality/value – The intention of the paper is to outline the details of a participatory workshop that uses value-focused thinking in order to engage university faculty and administration in a dialogue about sustainability education. Students, faculty and staff working towards sustainability education will be able to adapt the workshop to their own institutions.

Keywords Higher education, Strategic evaluation, Long-term planning, Sustainable development

Paper type Research paper

Introduction

Universities have the potential to be leaders in research and technology, teaching and learning, and community engagement. They are intended to be spaces where ideas are expressed freely, paradigms are challenged, creativity is promoted and new knowledge is produced. Given what academics know about the current ecological condition of the planet, there is an obligation for universities to become leaders in the movement to prevent global ecological collapse. “There is little question that the world is on an unsustainable development path. There is even a consensus among scientists in various fields that excess energy and material consumption is at the heart of the problem” (Rees, 2003, p. 88). How can universities realise their powerful role in dealing with issues of over-consumption, environmental degradation and social injustice?



There is a need to envision what a “sustainable” university might look like, including visions of sustainability education programs and sustainable university communities.

This paper presents a facilitated process by which a group of faculty, staff and students at the University of British Columbia (UBC) considered the future of higher education. The UBC drafted and signed a policy committing the university to sustainability in all of its actions and mandates (UBC, 1997, Sustainable Development Policy 5). UBC has also made international commitments by signing the Talloires and Halifax declarations on sustainability and by joining the organization University Leaders for a Sustainable Future (ULSF, 2004). The paper outlines a concrete set of recommendations for universities committed to becoming leaders of the sustainability movement.

For the past three years, a small, interdisciplinary team of researchers have been actively engaged in creating a proposal for an undergraduate program in sustainability studies at UBC. An early task of the team was to engage with faculty, staff, students and administration (Vice Presidents, Associate Vice Presidents, Deans) about the possibilities for an undergraduate interfaculty program in sustainability studies. The team designed a process that would elicit creative ideas and feedback and would secure buy-in from people who would potentially be involved in the program and others who would make decisions about funding.

Workshop process and results

Given the recent awareness of the higher education sustainability movement, Fien (2002) outlines the importance of considering how sustainability research is conducted. He suggests that alternative research paradigms need to be considered and investigated in educational research about sustainability. Sustainability is a concept, a goal, and a strategy. The concept speaks to the reconciliation of social justice, ecological integrity and the well being of all living systems on the planet. The goal is to create an ecologically and socially just world within the means of nature without compromising future generations. Sustainability also refers to the process or strategy of moving towards a sustainable future.

Dialogues about sustainability are ultimately a discussion of individual and collective values (VanWynsberghe *et al.*, 2002). The value-focused thinking model helps participants consider the values that underscore objectives and uses these values as input for decision-making (Keeney, 1992). For example, if someone identifies community as an objective, value-focused thinking processes asks the question “why is community important to you?” The individual might suggest that underlying this a desire to be connected with other people and being treated with respect. The desire for “community” is related to the underlying value of respect. The value-focused thinking process allows participants to determine what is important to people by eliciting clear connections between values and objectives.

The first workshop held on Saturday, 11 January 2003 had a total of 24 participants including faculty, staff and administrators. The workshop was advertised to people who had shown interest in sustainability education and the creation of an interfaculty program in sustainability studies. Invitations were sent to over 50 individuals at the UBC who were identified by the team. The second workshop involved gathering a group of undergraduate students who would be interested in discussing the future of higher education with relation to sustainability. The workshops were advertised using

posters on campus and by sending e-mails through a range of departmental lists. In total we had 25 undergraduate students attend the workshop held on Saturday, 25 January 2003. The students who attended were keen on sustainability issues and were not intended to be a random sampling of undergraduates. The goals of the workshop were to create alternatives for sustainability education at UBC, to create momentum for the implementation of alternatives and to gain buy-in for the idea of an interfaculty program in sustainability studies. These two workshops, along with in-depth interviews (outlined later in the paper), helped to create a framework of recommendations for sustainability education. The following outlines the six steps used in the workshops:

- (1) *Story of present day situation.* The story of sustainability education at the university (up to present day) and the objectives of the workshop were outlined.
- (2) *Brainstorm and create a list of values.* What matters? What are your individual values that relate to sustainability education, ecological and social justice education and global citizenship education?
- (3) *Brainstorm and create a list of alternatives.* How might these values play-out in practice in higher education? What are the current practices and possible future practices of this kind of education (i.e. things you have dreamed of doing, things you have heard of other institutions doing)?
- (4) *Brainstorm and create a list of continuums* on which to place the alternatives. What are the relationships among these practices? Participants vote on the two most distinct continuums for the sector. Draw diagram to represent two continuums and four quadrants.
- (5) *Brainstorm and create four future scenarios* that fit within the quadrants of the diagram. Ask hard questions about where the alternatives would fit on the continuums.
- (6) *Next steps and new stories.* Participants describe in detail four future scenarios using specific examples from the list of alternatives and values.

The workshop began with introductions and an explanation of the process. To set the tone for the workshop one of the facilitators read a short story about the present situation of sustainability education at UBC. The intention of the story was to remind people about UBC's commitment to sustainability, reduce potential conflict and to get people thinking creatively. The second important step of the workshop involved creating a list of values. Workshop participants were then asked to consider the question – what are your individual values that relate to sustainability education, ecological and social justice education and global citizenship education? Participants worked in small groups and facilitators collated responses on chart paper. Examples of the values listed included; freedom, relationships, love, compassion, creativity, imagination, being a part of nature, and responsibility (both individual and collective).

The third step was to create a list of practices that people were familiar with or had only dreamed about considering at the university. There were no constraints to this list of alternatives and the groups were prompted with questions: how might the values (from step two) play-out in practice in higher education? What are the current practices and possible future practices of this kind of education? All ideas were written on the chart paper, including practices happening elsewhere in the world, and ideas that were

in the development stage. Examples of alternative practices included; student cohorts, block teaching, changing admission criteria, community/local learning on campus (not just off), using the campus as a living/learning lab, rewarding reflective learning, moving beyond our cultural worldviews, and finding ways to create smaller classes. The fourth step involved arranging the first two lists of ideas (values and alternatives) in a series of continuums. The group was asked to brainstorm continuums that described the tensions or polarities in the lists of values and practices. Ideally, the final two continuums would represent opposites and be distinct so that they would create four quadrants or scenarios. Table I outlines a number of the examples of the continuums.

The final stage of the workshop involved placing the two continuums (as x - and y -axes) onto a diagram to create four quadrants. Participants were then asked to work in groups in order to place alternatives onto the quadrants. As explained in VanWynsberghe *et al.* (2002), this is a difficult step and it helps to start with the most extreme properties of each the quadrant. In the last 20 minutes of the three-hour workshop, participants were asked to describe in detail each of the four quadrants and describe possible future scenarios for each. The intention was to consider how UBC should move toward a program in sustainability studies. The four quadrants displayed a range of options and opportunities as well as allowed creative ideas to emerge during the final visioning of scenarios. The goal was not to create one vision for the future but instead to creating a range of scenarios that would allow participants to recognize that they shared values related to sustainability and university education.

Interviews

Over a period of three months following the workshops, 30 key people were interviewed including undergraduate students, staff, faculty members from a range of disciplines, Deans, Associate Vice Presidents and Vice Presidents – many of whom had attended the workshops. The interviews elicited a number of specific recommendations for how the university might be transformed. During initial interviews, respondents were asked to identify others potential participants. From this process, the interview population shifted from faculty and staff focused on sustainability towards administration and faculty who were not working directly on sustainability education initiatives (and had not attended the workshops). The second round of interviews focused on change-agents and decision-makers. All interviews lasted approximately one hour, were semi-structured and included ten questions.

After the interviews were transcribed and analysed, participants were allowed time to review their remarks and quotations in the context of the manuscripts. They could

Theory
Emotion
Student centred
Asking questions
Disciplinary
Reform
Adaptation
Collective

Applied
Reason
Faculty centred
Providing answers
Interdisciplinary
Revolution
Transformation
Individual

Table I.
Sample continuums from
brainstorm session about
future of sustainability
education at the UBC

view the complete transcripts or withdraw their comments at any time during the study. At an early stage in the research, it was decided not to identify the participants by name or position in the university. The final question during most interviews was “If you had a magic wand and could change anything about UBC – what would you change?” This open-ended question generated hopeful answers, suggesting participants had a strong beliefs in the merits of higher education.

Results

After analysis of the interview transcripts and workshop results there was a long list of recommendations and suggestions for moving UBC towards a program of sustainability education. The following recommendations are divided into seven categories that will aid universities in a transformation towards a long-term vision of sustainability. Table II outlines the seven categories of recommendations that create the framework for this paper. These recommendations suggest ways to transform university structures to promote and support the practice of “sustainability education”, and not the recommendations to create a “sustainable university”. A sustainable university would obviously have more recommendations about campus operations, building codes, and development practices that are not the focus of this paper.

Infuse sustainability in all decisions

The first recommendation is that sustainability must become a fundamental priority for the UBC. The Sustainable Development Policy outlines the need for sustainable development of campus buildings and operations and education related to sustainability. Unfortunately, the Sustainable Development Policy is one of many policies and priorities of the institution. The policy was completed in 1997 and already many changes have occurred that suggest it is out of date. There is no clear strategy for the implementation of many of the guidelines in the policy including “instilling sustainable development values” in all of its graduates and employees. There is a need to update the policy to coordinate it with the recently updated academic plan. This integration would encourage the infusion of sustainability into the academic planning process, and would entail a campus-wide dialogue to operationalize sustainability.

To implement this overarching goal, the UBC needs to incorporate sustainability into the university mission statement and consequently into the goals and processes of the university. A new mission statement would shift the university away from the current framework “to be the best university”. The problem is not with “being excellent” but instead with not being clear about what the university means by “excellence”. Planning documents and policies must clearly outline these principles if they are to direct the mission of the university. The following participant described the need for sustainability to be incorporated into the vision of the university.

I would like to see the president, the board, the deans, senior administrators, and everyone with so called position power take the lead and say we really need a new vision. That vision is – to be the one or maybe the first or the only university to truly embrace sustainability – let’s see what that would look like. Then begin the process of involving in-house experts in organization change and sustainability – simply point to that vision and ask them, “How do we move to this vision?” It must be infused into everything; it could become the primary lens through which everything is viewed and analyzed – a basis for decisions.

Goals and objectives	Implementation ideas and examples
Infuse sustainability in all decisions	Update sustainability development policy Infuse sustainability into all levels of decision-making Sustainability becomes the vision of the institution and the overarching goal instead of excellence and “being the best” Campus becomes a living/learning lab
Promote and practice collaboration	Support faculty to discuss values, include time for reflection at all levels. Create incentives for collaboration Promote collaborative inquiry Dialogue on current grading system-consider options New broader based admissions standards Support team taught courses Promote collaborative group work, peer grading
Promote and practice transdisciplinarity	Increase program flexibility for undergraduate students Redesign disciplinary programs Promote reflection and discussion of epistemology and disciplinary/cultural worldviews
Focus on personal and social sustainability	Increased job security for sessional lecturers More community involvement in teaching Reconfigure timetables, i.e. block scheduling Reduce work loads Promote openness in workplace
Integration of planning, decision-making and evaluation	Integration of evaluation with policies, priorities and plans Set priorities with evaluative structures attached Change faculty incentives and reward structure Promote transparency in decision-making Create criteria and indicators with the community for evaluating goals of the institution
Integration of research, service and teaching	Promote and integrate scholarship of teaching Evaluate PhD programs and curriculums Continuing education for instructors, professors Community/ local learning on campus (not just off) Improve university/community relationships Rethink outside relationships with community, government and industry
Create space for pedagogical transformation	Promote, enhance and reward Community service learning Participatory group learning/transformational learning Critical thinking/reflective learning Student-centred learning/problem-based learning Experiential learning Remove barriers and create space for transforming pedagogy Improve student-instructor interaction and learning

Table II.
Future directions and
recommendations for
change at UBC

Many of the participants in the workshops and interviews suggested that social and ecological sustainability should be incorporated into teaching and operations in every department at the university as a means to informing the broader mission of the university. Participants suggested that this would allow for a wider discussion of how the actions and values of sustainability could be integrated into our daily lives. Many of the participants expressed a cautionary perspective, for example, in suggesting that the institution should adopt a precautionary approach for new ideas – an approach that is a common sustainability principle in decision-making.

Promote and practice collaboration

Competition, in the university setting, is often encouraged as it creates opportunities for innovation and excitement as well as allowing the institution to honour scholars at the top of their field. Unfortunately, this overwhelming climate of competition found its way into discussions about everything from entrance requirements, classroom dynamics and the stress of attaining tenure and promotion for junior academics. The following participant suggested that UBC should consider broader based admissions standards that move beyond the criteria of grade point averages and test scores.

Probably if I could use the magic wand I would want this place to be state of the art relative to thinking about issues of access and new admission criteria, evaluation upon graduation of programs. I would love to see a university which opens us to things that will provoke exciting learning experiences in the high schools in particular. They have become incredibly oriented to getting grades and getting into university and university criteria tend to be really narrow and move away from problem-based, interesting sorts of curriculum experiences.

Participants also discussed how the competitive environment created rivalries between departments and faculties as well as stifled the ability to create collaborative workplaces and classrooms. Others felt that these kinds of rivalries could be reduced through collaborative efforts (across disciplines) which allowed people to share a common purpose. This is not to suggest that collaborative environments are not competitive or vice versa – but instead that universities might consider methods for creating more collaborative working and learning environments. The following participant discussed the potential learning that could result from creating interdisciplinary, collaborative spaces on campus.

For example I work on women's rights – what does that have to do with the environment? Well it turns out that has a lot to do with the environment and that whole conceptual framework. But without someone telling me that or showing me that I am just going to work for women's rights . . . all of a sudden you have an institution competing for time, money, resources and all the rest of it . . . we need to find where we come together. I think that is our real task – finding places where we come together instead of places where we pull apart – because we do that naturally.

Collaborative projects within and between departments at the university (which do exist and flourish in some places) create more time for reflection on important university priorities that cross disciplinary boundaries. Other participants suggested that by creating “learning communities” the institution might be able to foster more collaboration on campus. An organizational shift of this kind would be a major change in the way faculties and departments are currently organized. Another participant

noted that collaboration is about creating an “and” approach to problems and disagreements, as opposed to an “either/or” approach.

All of us have opinions, often strongly held – that’s part of the fabric of the university. We also are well trained to critique and criticize others’ opinions. That can and often does lead to confusion and paralysis. I don’t think the Earth has time for us to compete with each other in spirited conversations or erudite discourses. Even when we can agree on where we want to go, we all have different opinions on how to go about accomplishing a goal. So, I think we need to find ways to collaborate – to remind ourselves to adopt an “and” approach – not an “either – or” position. We need to have a bigger vision to give all of us something to reach for.

Other ways to promote and practice collaboration in classrooms include opening up a dialogue on the current grading system including pass/fail and other options such as learning portfolios. The grades of undergraduate students are one of the major criteria for rankings in admissions to graduate school and decisions on scholarships and awards. Alternatives for admission include essays, interviews and community involvement and experience. There are many alternatives to the typical kinds of assignments and grading in an undergraduate program. Alternatives for evaluation include self-evaluation, peer-evaluation and creating learning portfolios assessed by criteria based on learning and improvement (Fenwick and Parsons, 2000).

Promote and practice transdisciplinarity

The third area of recommendations came from extensive conversations around the structure of disciplinarity at the university. Many people argued that disciplines are stifling creativity and innovative solutions to problems. The disciplinary structure also limits how students can move throughout the university in their undergraduate programs. One participant explained how they would create more prominent problem-based institutes and give faculty members credit for moving easily between disciplines. The current structure of the university does not encourage faculty to teach outside of their departments, nor does it actively promote interdisciplinarity. There is a need for incentives to attract faculty members and departments to be involved in interdisciplinary research and teaching. Department and faculty boundaries are merely artificial barriers as one faculty member explained:

We have a lot of artificial barriers so if you were an economist and teaching in political science you might not get credit for that teaching – your department might not get credit. We try to eliminate the administrative barriers and build around positive incentives...a very big one around this interdisciplinary stuff is around promotion and tenure...Because what happens is you are a new faculty member and you come in and you get yourself involved in research and teaching but your department might not really understand what you are doing and might not appreciate the research that you do. So how do you make that attractive?

Other participants suggested that the institution should embrace interdisciplinarity by promoting discussions of epistemology and cultural and disciplinary worldviews. Epistemologies are theories about knowledge construction that answer questions about who can be a knower, what kinds of things can be known and what tests beliefs must pass before they are considered knowledge (Harding, 1987). These significant discussions need to be supported and promoted by the university community. Participants’ comments emphasized the need to shift universities away from the

current structure of departments towards new ways of interacting with people from other disciplines, in other buildings and areas of research.

Universities as a whole are becoming increasingly conservative institutions. We should be about exciting ways of developing new knowledge. Any institution has to be continually evolving. UBC in particular has some particular problems – partly because it is all parcelled up into our own little buildings.

These recommendations are the beginning of a conversation of how institutional change might allow for more interdisciplinary and transdisciplinary spaces to be created. During the student workshops, one of the most interesting suggestions was to create the option for first year students to enter university without choosing a home faculty. This would allow students to use the first year to explore the wide range of activities, research and communities available on campus – and to fully understand the expanse of programs that UBC has to offer. To make this possible, undergraduate programs would need to be redesigned to allow for more flexibility in crossing disciplinary boundaries.

Focus on personal and social sustainability

As universities learn to survive on smaller budgets they find ways to compete for incoming students, research funding, and prestige. Participants presented a number of recommendations that could lead to a university environment becoming a more socially sustainable workplace including; reduced work loads, reconfiguring timetables, more community involvement in teaching, and increased job security for sessionals. There is a need for more dialogue on the role of sessional lecturers (non-faculty with teaching responsibilities) in the university system. As sessional lecturers are an integral part of the functioning of undergraduate teaching programs there is a need to consider the important role they perform at the university (Mullens, 2001). Sessional lecturers offer an opportunity for the university to bring in experts from the community to integrate their expertise into the classroom. Currently, many sessionals are working full time at the university on a contract basis with little job security or financial reward.

Other important factors in promoting personal sustainability included creating time for personal wellness, building a community that people enjoy learning and researching in, reducing workloads, increasing time allocated for reflection and greater involvement in the UBC community. There were numerous suggestions for how to reconfigure timetables for students and faculty, including block scheduling of classes. Block scheduling is another way to have students concentrate their time on one course in an intensive manner. Block scheduling is designed to promote in-depth inquiry and increased interaction in the classroom by using longer blocks of time, resulting in fewer but longer periods for each subject.

Integration of planning, decision-making and evaluation

A question that constantly arose in the analysis of sustainability in university education was “how does UBC know if its programs and policies are making a difference?” One of the performance indicators used to assess the status of the university is the employment rate of the graduates after completion of their degree as well as asking if they were “satisfied” with their education. According to the UBC Annual Report (2002) only 31 percent of students were very satisfied with their

educational experience and 65 percent were satisfied with the experience. Nowhere did the surveys ask if the students increase their understanding about sustainability and sustainable development – as stated in the Sustainable Development Policy for UBC. For that matter only a small percentage of graduates were even asked to complete exit surveys.

Planning and evaluation strategies need to be coordinated with academic plans, policies and implementation strategies. The criteria by which plans are evaluated need to be integrated with program plans and priorities in order for the university community to have a transparent means of evaluating progress. Ideally the university community would participate in the creation of relevant evaluation criteria and performance indicators that connect with the goals of the institution. These indicators would be connected with other sustainability indicators and the university community (students, staff and faculty) would ideally be involved in the process of monitoring university progress.

There was a strong voice from many participants about the need for the academic institution to become a powerful leader in society. As this participant explains, there is a need for UBC to show leadership in fulfilling the broader mission of the university.

I would like to see greater community awareness at UBC as a community about the good and wonderful things that go on here. Leadership in the sense of showing that the institution recognizes cultural, environmental and community-oriented aspects that are so important to life in general as opposed to simply the economic. Greater breadth of purposes as an institution, not just lip service, but, somehow or other, an institution that lives by it and is prepared to take steps and defend broad and sustaining values as front and centre.

Another participant demanded that UBC should get its priorities straight. This same participant wanted more incentives for improving teaching and the undergraduate experience.

Very personally, I would like to see much more emphasis on learning. I think we are top flight research university and I think our undergraduates get a good education but I think we could give them a much better education if we were able to not necessarily have more money but a different focus on how we used our resources and the recognition that we gave to various people, the ways in which you were promoted – the incentives that people respond to . . . I don't think money is the only incentive but . . . we simply have a system at the moment where research overwhelms any other incentive system in the university and so you meet new young scholars and they are most concerned with getting research grants and publications and responding to their colleagues in the research community. They are very concerned with students but that is not their first priority.

Creating appropriate criteria for evaluation is a problem that goes beyond university-wide evaluations and rankings. Although some changes have been made with regards to the reward structure, many faculty members were deeply concerned with the lack of incentives for innovative teaching and community service. Despite a long history of discussions about the need for change, many people believed that the system of “publish or perish” continued to be the dominant strategy for advancement in the academy.

There is a lack of coordination between university objectives and the criteria for evaluating these objectives. Participatory evaluation is designed to help people, help themselves and improve their programs using a form of self-evaluation and reflection. Evaluation becomes a part of the normal planning and management of the program,

which is a means of institutionalizing and internalizing evaluation (Fetterman, 1994). Participatory evaluation is facilitated by the members of the community who undertake the evaluation as a formal, reflective process for their own development and empowerment (Patton, 1990). This suggestion fits closely with the next category for recommendations – the need to integrate research, service and teaching so that undergraduate students get a well rounded and foundational educational experience.

Integration of research, service and teaching

The current structure at UBC assumes that most faculty members will engage in three activities as part of their working career – research, teaching and service. In the decision-making process for tenure and promotion, service is rarely considered as a major factor and teaching records are considered second to the dominant criterion of peer-reviewed research publications. A number of respondents felt there was an overemphasis on research excellence and a lack of emphasis on excellence in undergraduate teaching. One participant imagined that teaching would eventually have a preeminent role at the university.

What would I change at UBC? I can tell you immediately. This is what I want to change and I have tried to change every place I have ever been. What I would try to do is to reestablish teaching as a university role preeminent with research – and some people would debate that it is now and I think it is not – and that is my personal prejudice or viewpoint. And secondly and very concretely I would get the class sizes down no matter what I had to do. I would find the resources, I would reallocate the resources, change anything I could if I could push all the buttons and that would be it – that would be my legacy – it would be very straight forward.

Another suggestion was to change the hiring policies of the university so that UBC would have teaching professors, research professors and outreach professors. This was suggested as an alternative to the “ideal professor” that excelled in all three areas. It would not exclude researchers from teaching and vice versa but teaching and service would be recognized as equally important to research. A possible strategy to integrate research, teaching and service is to recognize and promote the scholarship of teaching (Boyer, 1990). One way to ensure teaching becomes a priority is to promote and reward continuing education for instructors. Although these programs may be available on campus there is a need to create incentives for instructors to engage and participate in these programs, and to support implementation in their classrooms.

Another way to ensure that future professors are actively engaged in teaching and service is to ensure that PhD programs are preparing graduates for careers in academia. It is essential for departments and faculties to evaluate and nurture their PhD programs and to look carefully at the learning communities within these programs. Currently, the structure of many PhD program emphasize research skills above all else. Although several faculties offer courses for PhD students in university teaching, UBC has no university-wide mandate to teach PhD students how to become teachers. This leads to the assumption that a good professor is a good researcher and that good teaching follows naturally from excellence in research.

Despite the strong emphasis at UBC to improve university-community relationships, many participants suggested a need to incorporate community into the classrooms, and everyday practices of the university. There is a movement towards community service learning on campus and real opportunities exist for learning both on and off campus. Community service learning is gaining momentum in Canadian

universities where students work with local community groups and integrate these experiences with theory and reflection in the classroom (Eyler and Dwight, 1999). Other participants suggested that UBC needed to rethink its outside relationships with government and industry and create new kinds of partnerships and future endeavours. If UBC considered sustainability as a mission of the university, this would clearly transform the role of community partnerships.

Create space for pedagogical transformation

The final recommendation comes from a long list of suggestions during the workshops and interviews about how UBC can transform undergraduate teaching. There is a need for universities to create “spaces” on campus where transformative and transdisciplinary learning is supported and encouraged. This transformative space is not only a physical space, but also dedicated time for reflection, dialogue and action. Universities need to mandate time and space for reflective and collaborative inquiry. These spaces could allow for the transformation of individuals, classrooms and learning communities. Others suggested transforming pedagogy to facilitate more interactions between students and between students and instructors. Student cohorts (student groups undertaking similar programs), peer tutoring and collaborative group work all promote increased interactions between students. A shift in delivery could encourage more student-centred learning (Donald, 1997), reflective learning (Brockbank and McGill, 1998), problem-based learning (Evensen and Hmelo, 2000) and collaborative group work (Bruffee, 1993). All of these pedagogies share the underlying goal of injecting inquiry, experience and reflection into the undergraduate classroom.

A number of alternative pedagogies are already being practiced on the UBC campus and at many colleges and universities around the world. There is a need to promote, enhance and reward these alternatives which include; community service learning and participatory group learning (also called transformative learning). There needs to be an emphasis on critical thinking and the use of reflection in the classroom (also a core component of community service learning). Although many of these activities are happening in small pockets at UBC there is a need for these pedagogies to be more broadly practiced, promoted and integrated with research and evaluation. The people engaged in these activities need to be rewarded for their efforts in the same manner that top researchers are awarded for research publications.

Future directions

The facilitated workshop outlined in this paper is an ideal process for promoting dialogue in the area of sustainability and sustainability education programs at an institutional level. Unfortunately, creating a list of recommendations is a much simpler task than finding ways to implement them. After participants had brainstormed a long list of wonderful alternatives, they were quick to change tone and discuss the realities of lean budgets, increasing student numbers and reduced government support. Despite international and local commitments to sustainability, a small percentage of people are engaged in sustainability education or sustainability research at the UBC campus.

Sustainability should not be left for one discipline or one institute to consider and implement. Sustainability suggests a movement towards transdisciplinary and transformative ways of knowing and being at the university. Further research is

needed to determine how universities can create educational programs that have the ability to transform perspectives and ways of being in the world. Long-term educational studies and evaluation programs would need to track students after the course and programs are completed. The institution is going through change and advocates are pushing for funding in a number of competing areas – long distance learning, web-based technology, sustainability issues, global and international concerns to name a few. Because the university “supports” ALL of these initiatives there is a lack of coordination between groups and not all projects receive funding. It is difficult to predict how the landscape of UBC will change as a result of this project or how it will change in the future. Many recent initiatives by sustainability groups and conversations with administrators suggest that sustainability education may be featured more prominently on the UBC campus in the near future.

More research is needed that focuses on transformation, alternative pedagogy and new kinds of organizational and evaluative structures at the university. Important research questions for the future focus on the implementation of sustainability education in the classroom. What does it mean to have a process (or a classroom) that encompasses sustainability? Research is also needed that will investigate whether alternative methodologies and pedagogy in the classroom reproduce the status quo or create leaders and change agents working towards a more sustainable future. Future research should focus on the short and long-term impacts of community service learning and integrated community-university partnerships related to sustainability initiatives. The overall goal would be to make university research more accessible and to provide a setting for academic and community researchers to integrate and implement sustainability in their communities.

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