

Recreating the university from within:  
Sustainability and transformation in higher education.

by

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## **ABSTRACT**

Universities around the globe have signed international declarations and agreements that recognize the importance of higher education in creating a more sustainable future. These agreements oblige universities to integrate sustainability programs into the teaching, research and community frameworks of higher education. In 1997, the University of British Columbia (UBC) adopted a Sustainable Development Policy that states the campus will adhere to sustainable practices in ALL of its actions and mandates. It also states that all students who attend UBC will be educated about sustainability.

This dissertation reports on an in-depth case study of the University of British Columbia to examine how the educational component of the Sustainable Development Policy is being addressed. I investigated the role of sustainability in current undergraduate programs and the barriers to move sustainability education forward at the university level. Using an integration of activist oriented research (participatory action research and collaborative inquiry) I investigated current practices and identified possible pathways for institutional transformation. The study includes voices from a range of decision-makers, faculty, staff and students who contemplate sustainability education. I utilized a range of techniques to engage the university community in a dialogue about sustainability education by engaging myself in a series of projects including a collaborative writing project, faculty and student workshops and in-depth interviews.

The results are presented as a series of seven articles that have either been published or submitted to journals. I identified a number of barriers to creating sustainability education programs, which included the competitive and disciplinary environment of the institution, unclear priorities and decision-making structures and misdirected criteria for evaluating progress. Recommendations included promoting collaborative models for teaching and research, promoting transdisciplinarity, integrating research, teaching and service, and coordinating planning, decision-making and evaluation. Other recommendations included infusing sustainability into university plans and priorities, focusing on personal and social sustainability and creating space for pedagogical transformation.

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## PREFACE

On the first day of my undergraduate program, I was excited to be going to classes at university and I was eager and ready to learn. At my first registration session at McGill, I was prepared to take philosophy, biology and literature until it was explained to me that these were not options for a first year science student. I was told that I needed to take physics, calculus, chemistry, biology and French - no questions asked. I decided against the routine and took instead introductory philosophy, human evolution (anthropology) and a number of other electives against my advisor's recommendations. By choosing to take arts and science classes at the same time my degree took longer and I was 'behind' as a result of these 'alternative' choices. I learned quickly that enrolling in classes outside my discipline was not a simple undertaking. As a naïve undergraduate, I was unaware that I was learning to play a new game called "surviving your undergraduate degree".

You may think I am overdoing it by implying that university is a 'survival game'. But for this first year science student in a large research-intensive university it meant that there were 700 other students in my classes. These massive classrooms meant that I had very little connection with my professors and the structure of the courses gave me little contact with my fellow students. I was confused about who decided what classes were 'most important' to take and why they were important. I learned early on that some courses were worth attending but for others I was better off to buy the transcribed notes and not attend. In 1989 at McGill, professors used microphones for their large classes and the tapes of their lectures were available in the library for student use. Groups of students would rotate transcription and photocopying duties and we no longer had to attend lectures to access the lecture contents necessary for the multiple choice final exams. On the positive side, I had the opportunity to live in Montreal for 4 years, I met a lot of great people and for the first time in a third year animal behaviour seminar, I got really excited about learning.

After completing the undergraduate degree program in Marine Biology at McGill, I spent a summer learning about animal behaviour in a 6 week field course at Bamfield Marine Station on the West Coast of Vancouver Island. We explored the intertidal zones while eagles soared above and I dreamt of whales while floating on zodiacs in the swelling

Pacific Ocean. The scent of science was dripping in the labs and I had truly fallen in love with learning. After this course (and a year of travel) I moved swiftly into a Master's program at UBC in Zoology, studying hummingbird flight dynamics. I had followed my love of animals into the field of Zoology where I quickly learned what I needed to understand about the cellular structure of plants, fungus, bacteria, protozoa and a whole host of other organisms that were important to know about if I wanted to study animals. I wanted to hold the animals in my arms and help them survive on this planet with the rest of the species including humans. I learned that I had much more to learn before I could start really helping the planet. I had spent years in school finding my way through hallways, courses, lineups and professors to find people who loved animals and loved teaching about animals. After 10 years of living and breathing the biological sciences I found that something was missing from my university education. Species were continuing to go extinct, pollution was increasing, and the overconsumption of resources in my own life, city, province and continent was overwhelming. I had to find another way of living in this world. I had to get out of the lab.

During my time as a Master's student I began to teach first year biology and became intrigued with curriculum; particularly how curriculum was decided upon in universities and how environmental problems and human induced environmental problems were ignored in most first year biology programs. I made decisions when I was doing my undergraduate degree to take philosophy and cross cultural perspectives on health as part of my marine biology degree. I made these decisions unknowingly. Or maybe that is untrue. I knew where I wanted to go but I was not sure what to call it. I know now that I wanted to be interdisciplinary within a disciplinary institution.

When I was studying zoology at the Master's level I was lucky enough to be a part of a hummingbird lab where I learned about research in a visceral way. I learned what it meant to do research, to test a hypothesis and to build on other people's research. One of our goals was to publish our work in highly recognized journals and we were pushed to be the best we could be. In order to pay for my tuition I was lucky enough to have a teaching assistantship in first year biology. I remember the exhilaration after my first class. It was amazing...I had so much to share, so much to learn from the students and they had so much

they wanted to learn from me. My favorite part of teaching that year was explaining to students what I did as a graduate student, what I did to keep myself busy and how I supported my studies by teaching undergraduates. I felt like I was a counsellor at camp again -explaining how the system worked. I loved figuring out the system and trying to get up above it to look back down and figure out how it all worked. I was a systems thinker. Looking back now, I realise that this was what social scientists call meta-inquiry, but I was not aware what it was called or why I was doing it.

I have been wandering about the halls of academia for over a decade and I continue to learn the rules by observing, acting and reflecting in a number of departments and institutes on campus. I purposely involve myself in the politics of departments and research institutes so that I can watch how decisions are made and ultimately learn how the institution works. In this process I look for ways that the institution might transform, I look for places open to change and find places to act on possibilities. I wanted to understand the system (of creating university curriculum) and so I remained a sessional lecturer for 4 years as I attempted to change the system from within. I learned quickly that the curriculum was difficult to change within the program that I was a part of and I had a lot to learn about university politics, curriculum change and decision making. I was told by many of my colleagues that I would need a Ph.D. in order to create a new curriculum and so I began my doctoral degree in the hopes of one day being able to construct curriculum activities and documents from another perspective - one that considers ecology in every aspect of curriculum development. I made a decision to study at the doctoral level in the School of Community and Regional Planning at the University of British Columbia - a school that was committed to creating social change in communities in the direction of sustainability. I spent 2 years at UBC's school of planning until it became obvious that my interests were grounded in curriculum about sustainability.

I wanted to change. I wanted to learn how to change. I wanted to learn how to change other people and the first lesson I had to learn was that in order to change other people I first had to learn how to change myself. I had enough information about the environment to know that society was headed in the wrong direction, that we were overconsuming, overpolluting, overusing and ultimately damaging the planet. This simple

understanding about change led to my realization that by changing myself I may influence others to change in the way *they* want to change. I had to stop thinking that somehow I knew the best way to change and that others should follow me. I learned to listen more and talk less and to make suggestions not assertions. I learned that true listening was not about forming my next argument in my head while the other person spoke but instead to really listen to what they were saying to understand their perspective and point of view. This is not to say that I don't get that tone in my voice on occasion that suggests that 'I know' and that my way is the right way. It is a balancing act. This thesis outlines the story of an institution attempting to change and transform and also the story of my own transformation. My transformation includes my shifting conceptions of research and sustainability during this personal and political journey.

### **Researching the University:**

In the world of 'environmentalism' and the politics of being an 'environmentalist' I would encounter many people who just didn't care no matter how much information or how many glaring statistics they were given. Some people cared about things other than the environment and this frustrated me. I wanted to talk to more people, to change people's minds and maybe education was a way to do that. I was lucky enough to encounter the field of conflict resolution or alternative dispute resolution and took many courses and read many books in this area. I learned quickly that I had a lot of work to do in the area of communication and that maybe my ideas about the environment were important but other people had important concerns as well.

I started thinking less about changing others and concentrated on myself, allowing myself to listen to people who did not have the same views as I did. I started to open myself to new perspectives and people started listening more to what I had to say. I had always understood this kind of communication in a classroom setting – I learned that students were more open to learning when you started by listening to them, to begin to understand where they were coming from, before trying to 'impart' knowledge to them. The more trust that I built with students, the more likely it would be that we would learn from one another. The principle of mutual understanding is one of the core foundations of

conflict resolution – to begin to understand the ‘other’ perspective, the ‘other’ position by drawing out the arguments, listening, being compassionate and focusing more on the ‘other side’ than on your own arguments. This is easier said than done especially in a heated discussion or with someone who is saying offensive things about you and your ideas! I learned that over time these principles eventually became a part of my being. I heard myself asking more questions instead of forming my next argument and in general I began to get along better with people.

I didn’t learn conflict resolution and communication skills in science and in fact I didn’t learn these skills at the university...I had to look outside the university to find courses that involved practical lessons for communication and dealing with emotions. These transformative learning experiences changed how I thought about the institution and my way of being in the world. By no means have I perfected these interactions and every day is a new learning experience. I have moved away from my competitive tendencies that were created in part by my involvement in the academic community (and a host of other reasons). I believe that science and science education played a role in my notions of success, competition and ultimately in how I learned to relate to other people.

So what next? I had to begin my doctoral research and I had just finished two methods courses in educational action research and feminist research and I was definitely undergoing a transformation about how I thought about knowledge. The feminist books and articles were like singing in my ears “Whose Science? Whose Knowledge? , Ecofeminist Critiques of Manstream Planning, Teaching to Transgress, Ecofeminist philosophy, Radical Ecology, Feminist Epistemologies”. These books and articles opened my eyes to another way of being in the world, another way of thinking, writing and learning. I had a lot of difficulty in my transition from science to social science. I felt like a foreigner. In science I learned to write without emotion, to conduct experiments and to practice the fine art of statistics. Somehow I had missed the critiques of science and science education in my undergraduate and Master’s degree. Meanwhile there had been a few decades of feminists (and others) critiquing and questioning the claims of objective science, how science was taught, and how science was communicated to the public. It was not until my second year

of my doctoral program that I found my way into the discourses of feminist theory, sustainability theory and alternative methodologies.

One of the difficulties about coming from science was my understanding of a research project. In science I had experience collecting data in experimental and natural settings and it was always clear when I was 'gathering data' and when I was 'analysing data'. In my new life as a social scientist, I came to see everything as 'data', a phone call from a professor, an email sent out with a negative tone, the glances in the meetings when I talked about my work. I tried to keep journals of everything and reflective journals on all of it as well. In the end I almost drove myself crazy with the data and the reflections and trying to make these interconnected connections clear. I tried to concentrate on interview data and workshops and I had to be careful not to turn everything I touched into research.

In my transition to educational and social research I had taken time to look inward and realised that my journey was important. I was confused and embarrassed about what I had come to believe was 'important'. I thought I had a lot to teach others and what I learned was that I had a whole lot more to learn. Underneath all of this was a burning question...was the university the right place to explore my future? Was the university a place that would be capable of transforming in significant ways? Was there any way that I could create a dissertation that would make a difference?

During my doctoral study I became intrigued with two major areas of research, one methodological and the other conceptual. I was intrigued with participatory action research and other action-oriented methodologies that created research *with* people as opposed to doing research *on* people. At the same time I was exploring the concept of sustainability as a means of bringing people together to talk about our collective future and the future of the planet. The principles underlying sustainability theory are remarkably similar to the principles of participatory action research. These principles include collaboration, participation, open dialogue and possibilities for personal and institutional transformation. By adhering to these principles as a foundation for my research I had to move outside the typical pathways to a dissertation. This led to my working within the institution that I was attending and finding new ways to implement and present my research.

My personal transformation from a teacher to a facilitator is at the heart of my beliefs about what sustainability education might look like. The thread that ties my work together is that the process of sustainability is as important as the content of sustainability. As Marshall McLuhan is famous for suggesting that the 'the medium is the message', I believe that 'the process is the content'. If sustainability as a concept is about the reconciliation of different perspectives - economic, social, ecological, spiritual and political for instance - what kind of pedagogy is necessary for students to understand a wide range of perspectives on these issues? I think sustainability education is much more than reading papers and talking about 'the problem'. We must begin to find new ways to negotiate across disciplines, across cultures and beyond boundaries. I believe that sustainability education is about collaborative and transformative learning, interdisciplinary and transdisciplinary studies and creating spaces in the university to allow these kinds of learning to take place. This is my story and the story of one university as I experienced it.



## **Chapter 1 Introduction**

### **Sustainability education at the University of British Columbia**

You see, in my mind 'better' people would be people who were not so much interested in maximizing their income but in maximizing their contribution to the sustainability capacity of their communities. We want citizens who are not better in a global competitive mode, but better in terms of how they can create a world that invests in its social capital. Today we are creating people who are consumed with the desire to consume physical capital. Think of unsustainability - one of its major root causes is excess energy and material flux through the ecosphere and most of that can be traced to the 'wealthiest' countries, which are the best educated countries. A number of scholars have made the argument that it is the nature of higher education in the west that is at root cause of global unsustainability. We are turning out people whose primary interest in getting educated is NOT to become better human beings, NOT to contribute to the welfare of their fellows, but instead to accumulate stuff. We have sanctified greed, we've made selfishness and self-interest a legitimate way of being. In short we train people mainly to maximize their income- earning potential and therefore their propensity to consume, all of which contributes to the problem. (Excerpt from interview with research participant)

The current ecological status of the planet is unsustainable and there is an undeniable relationship between production by humans and the current state of the world (including increased pollution, increased loss of habitat, loss of biodiversity and diminishing resources - fisheries, forestry, local agriculture, clean air and clean water to name a few). Sustainability requires reducing biophysical pressure on ecosystems at all spatial scales (Rees, 1995, 2003; Wackernagel & Rees, 1996). How are universities addressing (or not addressing) the issue of sustainability and the current path towards global and local unsustainability? There are many books and theories on the role of university in society (i.e. Boyer, 1987; Brown & Schubert, 2000; Readings, 1996, Smith & Langslow, 1999; Stark & Lattuca, 1997) and recently an increasing number of publications on the role of universities in creating a more sustainable future (i.e. Bowers, 1995, 2001; Huckle & Sterling, 1996; Jucker, 2002; Leal Filho, 1999, 2002; Orr, 1992). Universities play an important role in society by creating knowledge through research and technology, disseminating knowledge in classrooms and communities and occasionally planting the seeds of social change. An enormous potential exists for universities to be leaders in questioning the status quo, challenging paradigms and openly practicing new ways of

living, thinking, teaching and learning. Academic freedom allows researchers to speak their minds, practice what they preach and challenge governments, policies, laws and societal norms.

A social movement is occurring at universities worldwide to promote strategies and processes for creating more sustainable campuses. This movement began with a number of international declarations and commitments made by universities around the globe (Wright, 2002). For example the Thessaloniki Declaration (1997) affirmed that "all subject disciplines must address issues related to the environment and sustainable development and that university curricula must be reoriented towards a holistic approach to education" (Wright, 2002, p.111). There are several organizations in North America whose mandate is to implement sustainability in educational institutions and to aid universities in creating plans for a sustainable campus (i.e. University Leaders for a Sustainable Future – ULSF; Second Nature).

Implementation plans and university sustainability policies are also important because they seem to determine the degree to which a university will attempt institutional environmental change and engage in sustainability initiatives. Further research on declarations and institutional policies is necessary in order for the higher education sustainability movement to progress (Wright, 2002, p.115).

This dissertation takes up Wright's plea for research to understand how sustainability policies are implemented within university learning environments and to identify areas that need improvement.

A large literature calls for the transformation of education and specifically higher education to consider ecological and social justice as central to its mission. Orr's (1991) essay "*What is education for?*" is cited frequently in books and articles on the subject as well as numerous books by Bowers including his most recent *Educating for eco-justice and community* (2001). This ever-expanding list of references on the topic of sustainability education has sparked books, conferences, organizations, and in 2002, a new journal covering the subject entitled the *International Journal for Sustainability in Higher Education*. Organizations and mandates exist in the United States for implementing

sustainability in higher education (President's Council on Sustainability, 1994) and Canadian universities are shifting directions to implement sustainability practices (Environment Canada- National Consultation on Environmental Education and Sustainability, 2000). A large literature exists on these declarations and signatories but only a few studies (e.g. Leal Filho, 1999; Shriberg, 2002; Wright, 2002) have examined their implementation. Leal Filho (1999), for instance, outlines a number of critical dimensions and conditions for success of sustainability initiatives and considers the case studies of two universities (Liverpool John Moores (UK) and Santa Clara University (CA, USA)). Shriberg (2002) analyzes eleven assessment tools for measuring sustainability in higher education and raises questions about the utility of universal indicators for measuring sustainability in higher education. Wright (2002) outlines the common themes in university approaches to sustainability including; sustainable physical operations, sustainable academic research, environmental literacy, ethical and moral responsibility, cooperation amongst universities and countries, developing interdisciplinary curriculum, partnerships with government, non-government organizations and industry and public outreach. Yet, as universities attempt to respond to the calls for sustainability or to the 'unstainability' problem few studies provide in-depth understanding of what is involved in the process.

In this dissertation, I explore the role of the university in creating a sustainable future and specifically the current trends promoting transformation within the university; a trend that creates new interdisciplinary courses, new community-university partnerships and programs designed for the study of sustainability issues. Are programs designed around the concept of sustainability the right way to go? Quick solutions carry risks and various precedents suggest a cautious approach. Over 15 years ago, Evernden (1985) critically described what can happen when universities adopt an environmental approach without careful consideration of the consequences.

Universities, hastening to cash in on the new popularity of environmentalism in general and ecology in particular, have begun to turn out graduates in such fields as 'ecological planning' and 'wilderness management'. The new technicians fit admirably into government bureaucracies, which can then claim to be 'taking action' to protect our 'precious natural resources' – all within the guidelines of 'sound economic practice' of course. To some the high profile of resource management and the abundance of environmental impact assessments are proof that

the environmental movement has come of age, that it has shed the shrill emotionalism of its youth and matured into a rational collaborator in the continuing quest for a managed earth (Evernden, 1985, p.8).

Just as the above paragraph describes a movement to create environmental education programs in higher education, we are currently in the midst of a movement to create similar sustainability education programs. Is sustainability education a significant part of the solution to unsustainability? It is important to reflect on and examine these initiatives. This dissertation will examine this new movement by closely investigating the barriers and opportunities for sustainability education at a large Canadian institution of higher education – the University of British Columbia.

I explore how an undergraduate curriculum about sustainability is currently being programmed and planned for undergraduate students at the University of British Columbia, and the extent to which the current structure of these programs is a fundamental part of the 'unsustainability' problem. I do not believe the complete solution will be found in my lifetime. But I do think the 'rules of the game' might be transformed, leading more directly toward a sustainable future. I believe that the current state of higher education is contributing to the global problem of unsustainability, ecological destruction, social injustice, greed, individualism, and deficits of community and spirituality in our world. These problems are not a result of uneducated populations, as Orr (1991, p.99) explains.

The truth is that many things on which your future health and prosperity depend are in dire jeopardy: climate stability, the resilience and productivity of natural systems, the beauty of the natural world, and biological diversity. It is worth noting that this is not the work of ignorant people. It is, rather, largely the result of work by people with BAs, BScs, LLBs, MBAs, and PhDs.

Creating a university that encompasses sustainability education is no small task. Academic institutions are entrenched with structures and values that are often resistant to change. If we can agree that there is a need for change then perhaps we might start with a dialogue about how our academic institutions perpetuate the problems they claim to be solving.

## Defining terms

The dissertation focuses on a discussion of how education might help shift society towards a sustainable future, not on creating a better definition of sustainability. The concept of sustainability is useful because it engages a wide range of people in a dialogue about the future; a future that depends on our actions in the present. The following are the definitions that I use to define sustainability and sustainability education, the two key concepts covered in this dissertation.

**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.

**Sustainability education:** Education that concentrates on the concept of sustainability (see above) in a manner that fits with the values of sustainability. What we teach, what we don't teach and how we teach are all considered when creating sustainability education practices. I believe sustainability education must be interdisciplinary, collaborative, experiential and potentially transformative. Sustainability education is also a process of creating a space for inquiry, dialogue, reflection and action about the concept and goals of sustainability.

## Defining the research

Using a case study approach, I examine the barriers and avenues for implementing sustainability education at the university level. I examined current and proposed sustainability education programs by engaging with the administrators, faculty, staff and students involved in creating these programs. I investigated how sustainability education programs are being conceived, the barriers faced when implementing them and the personal experiences of the faculty, staff and students who are creating them. The case study also includes elements of participatory action research and collaborative inquiry with faculty and staff currently involved in sustainability education initiatives at the University of British Columbia (UBC). The research questions addressed in the case study are the following:

- What are the barriers and limitations to creating sustainability education? More specifically, what are the major institutional structures and dynamics that aid in (or obstruct) the development of sustainability education at UBC in the area of undergraduate education in the arts and sciences?
- What possibilities for overcoming these barriers are conceivable?
- What kinds of alternatives/steps toward sustainability education are being envisioned for UBC?

My goal was to encourage members of the university to reflect on and take action regarding the university's future plans and mandates around the concept of sustainability. I also wanted the research to create social and educational change- whether that change occurred in perspectives at an individual level or larger changes in institutional action, programs and policy.

The dissertation provides an insider's view of making change within a complex organization. Emerging from the outcomes of this case study are recommendations for universities (curriculum, policy and program) that can be adapted to a wide range of higher education institutions committed to the implementation of sustainability education. The thesis draws upon and contributes to theory and practice in a variety of domains including higher education policy implementation, interdisciplinarity, environmental education, sustainability education, transformative and sustainability theory. This research will provide greatly needed insight into the conditions necessary for initiating, administering, funding and evaluating successful sustainability education programs at the university level.

## **Methodology and Methods**

Early on in my doctoral studies I recognized the importance of aligning my interest in sustainability with an appropriate research methodology. The concept of sustainability does not have a fixed set of criteria to work from, so I searched for a research methodology that aligned with my own conception of sustainability. I soon came to realise that feminist research, participatory research and action-oriented research frameworks espoused

principles similar to those of sustainability. These approaches to research (participatory, transformative and collaborative) embody a set of qualities that I am comfortable with as a researcher as they are holistic, critical, reflective, action oriented and focused on social and educational change. The personal and reflective approach to research was greatly influenced by feminist methodology and epistemology (Lather, 1988; Stanley & Wise, 1990). All of the people involved in the research were considered participants in the research process. I kept track of actions and reflections in a personal journal and recognized the connection with my own personal transformation during the research process. "Learning should occur on three levels in any research project: the levels of person, problem and method...many feminist researchers report being profoundly changed by what they learn about themselves" (Reinharz, 1992).

In a truly 'participatory' action research project I would have involved participants in all stages of the research project including the forming of my research questions, analysis of the data and perhaps even the dissemination of the data. Most of the people I was interested in working with (UBC faculty, administrators and decision-makers) were extremely busy people. If I had been a faculty member with this task I would have called a meeting with other faculty, Deans and administrators to discuss sustainability education on campus. But there was little chance of a student being able to find good reason to call such a meeting. Many of the people whom I identified as important to the sustainability movement were overworked and exhausted and had little time for another project – especially one in which they would have to be 'more involved' as opposed to less involved.

### **Data collection**

The data in this dissertation came from a number of sources including in-depth interviews, focus groups, workshops, participant observation, collaborative inquiry, textual analysis, reflective journals and personal experience. Interview questions were approved by UBC's ethical review process. Data analysis included interpretations and critical analysis of interviews and workshops as well as analysis of the large amount of publications and reading materials from UBC. Every day UBC releases information that is intended to promote, advertise and keep university members, alumni and the broader community aware

of what is happening at the university. The UBC website is updated on a weekly basis with stories of people on campus as well as keeping up to date records on UBC policies, annual reports, Board of Governors meeting notes and a host of other informative websites on the directions and plans for the university. By keeping track of 'what was going on' at the university I could find out what initiatives were being supported by the administration and what issues were not being 'covered' by the internal media of UBC (e.g. UBC Reports).

## **The interviews**

My intention was to interview people who were at the heart of sustainability education at UBC. The plan was to find the people who had spent time thinking about the conceptual and strategic notions of sustainability in their day to day life at the university. My interest in sustainability on campus meant that I was familiar with most of the sustainability people on campus as they had self organized and had a number of initiatives underway. Over the previous 4 years, I had been a part of many conversations with the sustainability people on campus, attended events, planned courses and engaged with them on numerous occasions and committees. Due to the large size of UBC, I did not know all of the people involved in sustainability on campus but I was in contact with a core group of faculty working on sustainability issues throughout the entire research process.

I interviewed self-identified 'sustainability' people on campus and discussed their experiences of creating and attempting to create sustainability education programs at the university. During initial interviews, I asked participants to identify others who I should talk to. From this process, the interview population shifted from faculty and staff focused on sustainability towards upper level administrators who were not working directly on sustainability education initiatives. The second round of interviews were with change-agents, decision-makers and administrators and generally people who were considered powerful on the campus. The majority of the administrators interviewed were people who worked in the area of academic programming (as opposed to campus operations or research initiatives). This was an important step in the research process as these participants held powerful positions in the university and had different kinds of lived experiences of the university. I also moved away from interviews with students to focus on faculty and



administrator perspectives. Only 2 of the formal interviews were with students and the other 28 focused on faculty and administrators. All interviews lasted one hour, were semi-structured and included 10 questions that paralleled my research questions. A sample list of the research questions are found in Appendix A. In total, I interviewed 30 participants at UBC, including undergraduate students, staff, faculty members from a range of disciplines, Deans, Associate Vice Presidents and Vice Presidents.

After transcribing and analysing the interviews I allowed participants time to review and edit their transcripts and they could withdraw from participating in the study at any time. The process of checking quotations ensured that all participants were part of the research process and were open to having their voices in reports and publications. At an early stage (including ethical review), I decided not to identify participants by name or position in the university. I assumed that if participants knew their names and positions would not be included they would be more open in bringing forward information about the university and there would be less chance of the comments being connected with any one individual. It is for this reason that I have not identified quotations by position. I transcribed all interviews myself and coded the data by hand into a range of concepts and themes. Many of the themes that emerged from the data were similar to the conversations in the collaborative inquiry project described in Chapter 6. Data from interviews was triangulated with university policy documents, and with documented observations made during my involvement in sustainability dialogues on campus. A critical friend was used to help review sources, reconsider the use of quotations and to highlight alternative perspectives.

Because many participants are experts in the field of sustainability and university education it was necessary that I include their voices in these reports. In the final dissertation there are no student quotations used although these interviews informed the work I chose not to include them in the final documents. As a graduate student I was learning from these experts and I have chosen to share their voices with you. In most cases, the quotations need little explanation. My intention is to present the experiences of faculty, staff and administrators in a manner that provokes others to reconsider and rethink their own understandings and beliefs.

## **Workshops**

In Chapter 8 I describe two sets of workshops that I helped organize and facilitate with two faculty members (Dr. George Spiegelman and Dr. Robert VanWynsberghe). The first workshop held on Saturday, January 11, 2003 had a total of 30 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 University of British Columbia who were identified by our small team of faculty. We encouraged the participants to think of other people who would like to engage in the workshop.

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 emails through a range of departmental lists. In total we had 25 undergraduate students attend the workshop held on Saturday January 25, 2003. The students who attended were keen on sustainability issues and were not intended to be a random sampling of undergraduates. These two workshops were intended to gather participants on campus who were interested in seeing sustainability move forward on the campus. The workshops gave both faculty and staff a chance to meet others with shared values and interests around sustainability and sustainability education. We were pleased with the turnout given that both workshops were held on Saturday mornings. The intention was not to gather a random sample of individuals but instead to generate support for creating sustainability education programs on campus. The intention of the workshops was clearly stated in the email invitation sent to students and faculty.

## **Acting and reflecting**

My inquiry was action oriented as I engaged in a number of sustainability initiatives on campus while conducting the research. I engaged in the sustainability movement early on in my doctoral program by joining a number of sustainability groups/committees. I

intentionally chose these projects so that I could remain connected to the sustainability movement on campus and connected to the people attempting to move sustainability education forward at UBC. Following are descriptions of these projects:

- **SEEDS - PhD student representative advisory committee 2000-2003.**  
SEEDS (Social, Ecological, Economic Development Studies) is a project organized by the Campus Sustainability Office (CSO) - formerly the Greening the Campus program run by Sustainable Development Research Institute (SDRI). SEEDS projects aim to create linkages between staff members, faculty and students on topics related to implementable sustainability issues on the UBC campus. As a member of SEEDS committee, I have helped to advise the program by making suggestions for curriculum, programming, implementation and evaluation.
- **Sustainability Coordinator for the Campus Sustainability Office** - I volunteered as the sustainability co-ordinator for SDRI and SCARP (School of Community and Regional Planning). As a volunteer I aimed to help departments reduce energy consumption, paper consumption, water consumption and promote active transportation. This program initiated worm composting projects and supported dialogue about other programs and sustainability initiatives on campus.
- **Sustainability Circles Participant** - I participated in four Sustainability Circles hosted by the Campus Sustainability Office. The Sustainability Circles is an open space event for faculty and staff at UBC where discussion is encouraged. These events were an excellent way to network with other people interested in campus sustainability and to connect ideas in my research.
- **Curriculum Development** - Conceptualizing sustainability education -Georgia Basin Futures Project - Sustainable Development Research Institute (SDRI). I worked closely with a group of researchers at the GBFP over 4 years to create a framework for community engagement about sustainability. I also created a website for sustainability education with other researchers from the teaching and learning node of this project: [www.basinfutures.net/susted](http://www.basinfutures.net/susted).
- **Curriculum Development** – I helped to write a Teaching and Learning Enhancement Fund (TLEF) grant for 3<sup>rd</sup>/4<sup>th</sup> year transdisciplinary field course in sustainability studies.
- **Instructor August 2003 – The Science and Practice of Sustainability: A transdisciplinary field course.** In August 2003, I was one of 6 co-instructors who designed, advertised and implemented the first ever UBC summer field course on sustainability. We worked with 45 students from faculties across the campus to explore sustainability, community and transdisciplinary learning. We also created a website [www.basinfutures.net/urbancourse](http://www.basinfutures.net/urbancourse) after the course experience and attracted media attention for future courses and research on sustainability in the community. We plan to run the urban sustainability component in June 2004.

- **Undergraduate Surveys on Sustainability.** I created, designed and implemented an online survey in 2002 for over 1300 UBC undergraduates on their understandings of sustainability.
- **Proposed Interfaculty Program in Sustainability Studies:** I am part of a team working towards an Interfaculty undergraduate program in sustainability. We designed, implemented and facilitated workshops with students and faculty on the future of sustainability education at UBC. This project is outlined in detail in Chapter 8. The group continues to write proposals and find ways to implement this program at UBC.
- **SENSE Webpage:** I contributed to the conversation and the final edits of a website project called SENSE (Students' Electronic Network for Sustainability Education)— a web page that informs students at UBC which courses are related to sustainability in a wide range of faculties [www.sustain.ubc.ca](http://www.sustain.ubc.ca).

## Overview of the Dissertation

The dissertation is in the form of seven manuscripts that encompass a personal inquiry of the institution that I attend – the University of British Columbia. In addition to being an examination of a large institution, this dissertation is an exploration of self, an exploration of transformation and an exploration of methodologies.

### *Chapter 2: Policy, priorities and action: A case study of UBC's engagement with sustainability. Submitted. Higher Education Policy*

Chapter 2 introduces the international commitments and subsequent university policies signed by the University of British Columbia related to sustainability. I consider how UBC's Sustainable Development Policy was formed, how the policy is being implemented, and the connection of sustainability to academic plans and strategies at UBC. I address the problem of institutions committing to multiple, sometimes contradictory priorities as well as the lack of coordination between the sustainability policy and academic plans. The chapter concludes with a discussion of the role of the university in creating a sustainable future.

***Chapter 3: Lessons from environmental education: Strategies for public consultation in the Georgia Basin Futures Project. Published. Canadian Journal of Environmental Education***

Chapter 3 clarifies what is meant by the term 'sustainability education' by considering how two competing terms, 'environmental education' and 'sustainability education', can be reconciled. The chapter considers the role of sustainability and environmental education in the context of a Major Collaborative Research Initiative (MCRI) that funded my graduate research. The Georgia Basin Futures Project (GBFP) is an interdisciplinary project involving university researchers, community groups and industry partners in a collaborative dialogue about sustainability. The chapter addresses two questions. What conceptions of sustainability, education, and sustainability education are discussed in the literature of educational research and sustainability research? Is environmental education a necessary component of public consultation processes about sustainability? The chapter presents two possible strategies for sustainability education and examines the potential for adopting these strategies within the GBFP.

***Chapter 4: Living in the basement of the ivory tower: A graduate student's perspective of participatory action research in academic institutions. Published. Educational Action Research.***

After clarifying sustainability education, I needed to find a research methodology aligned with the principles of sustainability. Chapter Four outlines the tensions for practicing participatory action research (PAR) as a graduate student and a careful consideration of the principles underlying PAR and action research. I utilized a range of approaches throughout the research: particularly collaborative inquiry, participatory action research and case study research. I chose to explore a number of methods directed towards creating social and educational change. This chapter examines the rapidly expanding field of participatory action research (PAR) as it relates to academic involvement in community research and dialogue. The chapter concentrates on the advantages and disadvantages of the PAR approach as a research practice in academic institutions.

***Chapter 5: Barriers and pathways to creating sustainability education programs: Moving from rhetoric to reality. Submitted. Environmental Education Research***

Using data from a series of in-depth interviews, participant observations and document analysis, I outline four barriers to creating sustainability education on the UBC campus. Barriers that impede the implementation of sustainability education include; the limitations of disciplinarity, the competitive environment of the university, misdirected criteria for evaluating students and faculty, and multiple (and contradictory) priority setting by the administration. The chapter concludes with suggestions on how to create institutional change and sustainability education programs at the university level.

***Chapter 6: Recreating the university from within: Collaborative reflections on the University of British Columbia's engagement with sustainability. Under revision, submitted to: International Journal of Sustainability in Higher Education***

In an effort to 'walk the talk' of collaboration at the university I engaged in a project of collaborative inquiry with a group of faculty, administrators, staff working on sustainability initiatives on campus. Chapter six illustrates the outcomes of this collaborative research project and includes voices of staff, faculty, administration and students at the University of British Columbia. The purpose of the collaborative inquiry was to consider how far UBC has moved in the six years since the signing of the Sustainable Development Policy in the direction of sustainability education, what has been accomplished, what lessons have been learned and what challenges lie ahead. The stories collated in this chapter aim to help other individuals, groups and institutions implement sustainability in higher education and contribute to a process of institutional learning for sustainability.

***Chapter 7: Is higher education ready for transformative learning about sustainability? A graduate student perspective. Submitted. Journal of Transformative Education***

The objective of transformative learning is to revise old assumptions and ways of interpreting experience through critical reflection and self-reflection (Cranton, 1996). This process often involves an outpouring of emotions related to the grieving of the old self and the misunderstanding and frustrations of the new self. I believe that a deep transformation of personal values and related behaviours will need to be coupled with institutional

transformations in the shift towards sustainability. The theory of transformative learning is obviously a useful place to start. This chapter explores the similarities and differences between transformative learning and sustainability education. Are current models of university education capable of facilitating action to promote ecological literacy and social change? Chapter seven outlines three models of group learning (cooperative, collaborative, and transformative) for use in higher education learning environments. This chapter examines the possibility (the potential benefits, drawbacks and implications) of shifting university education from the current model towards a model for transformative learning and sustainability. Ultimately, I raise a number of questions for academics to consider including the possible outcomes and implications for implementing transformative education in university curriculum.

***Chapter 8: Seven recommendations for creating sustainability education at the university: A guide for change agents. Submitted. International Journal of Sustainability in Higher Education***

In Chapter eight, I move away from describing the case study of UBC to creating a set of recommendations for universities moving towards models of sustainability. 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 UBC. Recommendations were compiled from workshop data as well as data from 30 interviews of participants connected with academic programming, planning and sustainability at UBC. This chapter describes a set of recommendations that will aid universities planning to create sustainability education programs. These recommendations are not specific to curriculum or programs for sustainability education but are instead recommendations for academic institutions considering a shift towards 'sustainability education' in the broadest sense.

***Chapter 9: Conclusion - The emerging field of sustainability in higher education.***

In the final chapter I reflect on the research process and the writing of the manuscripts for the dissertation. I also outline the current directions that UBC is moving towards with regards to sustainability education including the implementation of the proposed Interfaculty Program in Sustainability Studies (IFPSS- Appendix B). I have

outlined a number of future directions for sustainability education research and programming including the evaluation and research on community based classroom research.

Currently, there are pockets of classrooms, institutes and programs that exist to support and nourish these kinds of academic opportunities. I have been personally involved in a number of sustainability education projects at UBC and I continue to learn every day about more places where changes are happening. At the same time, there are structures in place that make these opportunities difficult to coordinate. This thesis engages faculty, staff and students in a dialogue surrounding the question "what are the possibilities for undergraduate education about sustainability?"



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## Chapter 2

### Policy, priorities and action: A case study of the University of British Columbia's engagement with sustainability.

A version of this chapter has been submitted for publication in the journal *Higher Education Policy*.

The current ecological state of the planet is unsustainable. "Human demands upon the planet are now of a volume and kind that, unless changed substantially, threaten the future well-being of all living species" (Halifax Declaration, 1991). How we achieve sustainability is a difficult question to answer. The concept of sustainability goes beyond environmental issues to encompass social and economic conditions. Social sustainability must include discussion of lifestyles, social movements, social networks, governance, decision-making and schooling. Discussions of economic sustainability must include debates about growth and development, alternative economic models, ecological economics and dematerialization (Robinson & Tinker, 1997). The need to combine social, economic, ecological, personal and political factors in a decision making structure is at the root of the concept of sustainability. A new vision for higher education is being proposed under the title *sustainability education* and this kind of education may be part of the solution (Leal Filho, 2000; Huckle & Sterling, 1996; Orr, 1998; Wals & Jickling, 2002).

Academic institutions, governments, organizations and individuals use the term sustainability to encompass a wide range of viewpoints and ethical perspectives. The concept of sustainable development has been in the spotlight for over twenty years and yet there continues to be little agreement on how we should go about creating sustainable practices, communities, nations and global conditions. Ultimately, it is possible to have a sustainable community only in the context of a sustainable planet. The most commonly reported (and perhaps the most ambiguous) definition of sustainable development was refined in the document *Our common future: The world commission on environment and development* (Brundtland, 1987). "Sustainable development is development that meets the needs of the present without compromising future generations to meet their own needs." This statement has remained popular because it can be interpreted as supporting both traditional and radical perspectives on growth and development.

The dominant (traditional) view suggests that technological solutions will become available to alter our current practices so that we can continue to live at the level of material wealth achieved by a small proportion of humanity in the last century. It is unlikely that this will be possible and I believe that a transformation of traditional worldviews is necessary to create a world of ecological and social justice. Wals and Jickling (2002) caution educators against rallying with numerous corporate and governmental institutions that are actively promoting 'sustainability'. Instead, they suggest that sustainability can provide an opportunity for academics to enter new paradigmatic worlds of teaching and learning. The concept of sustainability encourages participation, action and dialogue on issues of education, planning, organizations, healthy communities and ecosystems. The concept of sustainability continues to be useful as it engages a wide range of people in a dialogue about a future that is dependent on our actions in the present.

In 1997, the University of British Columbia (UBC) adopted a Sustainable Development Policy stating the campus will adhere to sustainable practices in all of its actions and mandates and all students will be educated about sustainability. As a student attending a university with a sustainability policy I had little day to day awareness of the institution becoming 'more sustainable'. I was intrigued with the idea of creating change at the university I was attending so I set out to investigate the plans for implementing sustainability education at UBC. What factors led to the sustainability policy being signed at UBC? How was the sustainability policy being implemented with respect to educational initiatives? These questions framed a case study exploring faculty, staff and student perspectives on the implementation of the Sustainable Development Policy at the University of British Columbia.

## **The Case Study**

Case studies are intensive examinations of a situation, phenomena or system and in this case the situation was a university campus (University of British Columbia). Numerous texts describe case study research (Bassey, 1999; Stake, 1995; Yin, 1994) and each offers a different approach and orientation to this form of research. The purpose of this case study

is to tell the story of how the UBC Sustainable Development Policy evolved. The case of UBC is similar to those of other large research universities engaging with the concept of sustainability. The study focuses on the development of sustainability education curriculum and programs, and attempts by individuals to implement sustainability into the undergraduate curriculum. The case does not include details of other sustainability projects (related to physical plant operations) on campus of which there are many. Details on these other projects can be found in the annual reports of the UBC Campus Sustainability Office and in Chapter Six.

## **The interviews**

During the case study, I interviewed 30 participants at UBC, including staff, faculty members from a range of disciplines, Deans, Associate Vice Presidents and Vice Presidents. My intention was to interview people who were at the heart of sustainability education at UBC. The plan was to find the people who spent time thinking about the conceptual and strategic notions of sustainability in their day to day life at the university. Over a period of 4 years, I have been a part of many conversations with people involved with sustainability on campus, attended events, planned courses and engaged with them on numerous occasions and committees. Initially I interviewed people on campus who were actively promoting sustainability and discussed their experiences of creating and attempting to create sustainability education programs at the university. During the second round of interviews, I focused on change-agents, decision-makers and administrators. This was an important step in the research process as these participants held powerful positions in the university and had different kinds of perspectives and experiences related to sustainability education. All interviews were semi-structured and lasted approximately one hour. A list of interview questions can be found in Appendix C.

After transcribing and analysing the interviews I allowed participants time to review and edit their transcripts and they could withdraw from participating in the study at any time. The process of checking quotations ensured that all participants were part of the research process and were open to having their voices in reports and publications. At an early stage, I decided not to identify participants by name or position in the university. I

assumed that if participants knew their names and positions would not be included they would be more open in bringing forward information about the university and there would be less chance of the comments being connected with any one individual. No student quotations are used in this chapter. Data from interviews was triangulated with university policy documents, and with documented observations made during my involvement in sustainability dialogues on campus. A critical friend was used to help review sources, reconsider the use of quotations and to highlight alternative perspectives.

## **The UBC Sustainability Policy**

In 1990, UBC signed the Talloires Declaration which is an international commitment to environmental sustainability in higher education. The Talloires Declaration was intended to be an action plan for incorporating sustainability and environmental literacy into teaching, research, operations and outreach at the university level. In 1991, a group of University Presidents and senior officials from universities, governments, the business community and NGO's from five continents met in Halifax to discuss the leadership role of universities on the path to sustainable development. During this meeting, UBC signed the Halifax Declaration and committed to a long list of actions including

To enhance the capacity of the university to teach and practice sustainable development principles, to increase environmental literacy, and to enhance the understanding of environmental ethics among faculty, students and the public at large. (Halifax Declaration, 1991).

As a signatory of these two declarations UBC was given access to action plans and a community of universities that were attempting to implement sustainability policies. The signing of these declarations also led to UBC beginning a process of creating its own sustainability policy.

The Sustainable Development Policy process began during Dr. David Strangway's presidency at UBC. He attended the University Presidents National Round Table on the Environment and the Economy meeting in Halifax and was one of the many university presidents to sign the Halifax Declaration. Around the time of the signings (1990-1991), a committee was formed to discuss the role of sustainable development at UBC. The

Sustainable Development Research Institute (SDRI) acted as the manager and organizer of the consultation process and held meetings with a group of faculty committed to sustainable development. These early meetings included 30 people in attendance at one time. All of them had been working towards sustainability for a long time and there was a general willingness to listen to everyone. One participant described the early drafting of the policy.

We all got excited and drafted all this stuff and then it got shot down, had to be toned back and in the end we were able to push something forward that was not anything like our initial draft...but was a lot better than nothing. So in a way it was a success story at the policy level. What was missing was the implementation...if you read our submissions, we had proposed an ombudsperson or equivalent and some real teeth.

During the final board meeting of Dr. Strangway's presidency in 1997, the University of British Columbia adopted UBC Sustainable Development Policy No.5 which states that the campus should adhere to sustainable practices in all of its actions and mandates. It also suggests that all students who attend UBC should be educated about sustainability.

UBC seeks to become a centre for teaching and learning about the skills and actions needed to manage ourselves in a sustainable way (UBC Policy No.5).

One of the main points listed under purpose for the sustainability policy is the following:

To assume a leadership role through practicing sustainable development and instilling sustainable development values in its graduates and employees, through research, teaching, and operations (UBC Policy No.5).

Given that 128 UBC policies are currently in effect as passed by the Board of Governors, it would seem reasonable that not everyone was aware of this particular policy. However, I imagined that six years after the signing of this policy faculty and administrators would be aware of the sustainability initiatives on campus and that they might understand about the concept of sustainability as a direct result of these initiatives. People were quick to talk about recycling and green buildings but few were aware of the section of the policy that outlined the need to educate people about sustainability and instill values of sustainability in everyone that worked and went to school at UBC. A common response when I asked

people about the part of the policy connected to education was *"we have a policy that we should teach people about sustainability?"*

There are currently a number of people on campus working with departments and units to shift the institution towards more sustainable models of operating, teaching and research. One of the common misunderstandings is that sustainability is primarily about campus buildings and maintenance, and that the effort ends there. According to the policy, and to most conceptions of sustainability, the concept moves beyond buildings and the built environment to incorporate sustainability in the research, teaching and service functions of the university. The policy explicitly states that the goal is not only connected to operations.

UBC works to enhance its capacity to teach, research and practice sustainable development principles, and to increase ecological/social/economic literacy and practices among faculty, staff, students, and the public at large (UBC Policy No.5).

During one interview, I asked why the university had not moved forward on the issue of sustainability education. The participant responded "I actually don't think that there is a problem. I think we are getting it." Another common response was that the university is doing the best it can and many students who are interested in the subject will take a class from a professor who is also interested in sustainability. Why did the university create a policy without a plan for implementation? One participant suggested that no one ever took the implementation or wording too seriously, but the university could point to the policy when it needed to claim that the university is committed to sustainability.

You need to have leadership. You need to have policies, but you need to also have people who are making this a critical part of what they do and perceiving it as a critical part of what they do. Not -'Oh we have the policy', so it is taken care of... and then the policy floats way up there, and you can point to it when you have to.

Most of the participants assured me that they were "aware" of the policy, and depending on the individual, the policy was either at the forefront of their mind or somewhere mixed in with the myriad of plans, policies and priorities of the university. I got the feeling that for most participants the larger vision of the university was lost to the everyday problems of running the university. Only a few people that I talked with had sustainability on their



minds on a daily basis. The following participant discussed the difficulty of keeping the university running and trying to plan for a sustainable future.

We try and get out of the day to day and start thinking about what should UBC be in 2010 and that kind of thinking... But let me tell you it is really hard to go there... I think we get easily bogged down in the very important issues of the day that are immediate. How many people are thinking about strategic planning right now? We are thinking about getting the university through the next couple of months - the strike, tuition, budget, you know all these things that are going on.

Was the lack of implementation a result of the policy being created by the previous administration and Board of Governors? What were the new administration's plans and priorities with regard to sustainability? This line of questioning led to more interviews with administrators, Deans and others not directly connected to sustainability at the university. Unfortunately I had difficulty getting a clear answer to any of these questions so I went in search of the people who were attempting to implement the policy on a daily basis.

## **Implementing Policy**

In 1998, UBC created the Campus Sustainability Office to aid in the implementation of the Sustainable Development Policy. The Campus Sustainability Office primarily focuses on planning, design and operations, and has a role in staff, faculty and student education about sustainability. The office reports to the Sustainability Advisory Committee, which reports to the upper level administrators (Associate Vice Presidents and Vice Presidents). Initiatives from the Campus Sustainability Office aim to involve staff, students and faculty in programs related to sustainability. A full listing of these programs is found in Chapter Six. The office has completed a number of projects in campus operations as well as organizing and implementing outreach and education programs (including an extension of Greening the Campus Program entitled SEEDS- Social, Ecological and Environmental Development Studies).

Throughout the interviews, I found that there was a tremendous amount of respect and admiration for the Campus Sustainability Office (CSO) and their programs. However,

some of the people interviewed who were not in the "sustainability loop" did not mention the CSO, which led me to believe that awareness of their programs may not be widespread. Despite the efforts of the CSO, many of the participants were concerned that their actions on campus were not going far enough.

There is the sustainability office on campus, which is a noble effort. I engage in their sustainability circles and I admire what they are doing - trying to create a culture of sustainability at UBC. But this activity has more to do with the physical plant and the operations of the campus than it has to do with curriculum development or an examination of our personal lifestyles or any of those kinds of issues. So it is very useful but it is not contributing to the development of the university as an institution that fosters, in the wider community, sustainable practices and philosophies. The university could do that but it doesn't. Well now, let's be clear here too. Many of my colleagues would object to that statement - they say, 'well that's exactly what we are doing.' But I believe what they are doing is propagating ideas which are symptomatic of the problem, not really solutions to it.

As mentioned earlier, the Sustainability Advisory Committee (SAC) was a part of the sustainability policy to oversee the Campus Sustainability Office and report to the administration about the implementation of sustainability on campus. Originally this committee was quite large, and it was later downsized into 2 groups: the SAC (composed of two faculty members, two staff and two students) and the "Friends of Sustainability" group which is a long list of faculty, staff and a few students on campus who are engaged in sustainability work on campus. During one interview; I asked "is the role of the SAC to implement the sustainability policy?"

Not to implement the policy. No. It is really to bring together the -I hate this word- stakeholders, but I suppose it fits in this case - the different stakeholders - the students, the faculty, the staff. To try to move things forward where we can, to act as an advisory board to (the sustainability office). To do things like the sustainability circles - so that we promote people getting together and make people more aware and more committed and bridge gaps between the current campus and the different groups, between the different disciplines, and between the different buildings on campus. But we are very much more facilitative of things that can move things forward. We have no mandate from anybody to pass bylaws for the university, legislate anything, or rap anybody over the knuckles for not doing something.

It became quite obvious that the SAC is an advisory board with no funding or direct power to implement policy - all they can do is make suggestions to the administration who could

then adjust funding and priorities. Who actually has the power to create change (with regard to sustainability) on campus? Originally it was intended that one person would report to the President but instead it was eventually negotiated that the Director of the Campus Sustainability Office would report to the Vice President Administration and Finance. Where was the power to implement sustainable practices on a daily basis? Who enforced the policy? What were the incentives for moving towards sustainability on campus? What were the disincentives or the penalties for not moving in the direction of sustainability? Another participant talked about the need to create a policy with more powerful enforcement:

There have been things lost in the sense of teeth and enforcement capability for sustainability but everything is 6 of one and a half dozen of the other...you could look at it both ways...if someone tried to ram that down there would have been a rebellion and it would have all got turned down.

One of the major criticisms of the policy is that it does not have the “teeth” for proper enforcement. The sustainability office works on operational issues of sustainability, creating spaces for faculty to meet and talk about sustainability issues and training sustainability coordinators to work within their own departments, however there was no one working to create sustainability education programs for undergraduates. These projects were all intended to create pockets of change-agents on campus as opposed to mandating change from the upper administrative levels.

### **Planning the University Priorities: Trek 2000, Academic and Unit Plans**

One might assume that the setting of priorities and policies by the administration would allow for the whole university to integrate sustainability into all of its actions and mandates. However, sustainability priorities are not the only important initiatives on campus. When I inquired about how curriculum is created and evaluated across the campus I was told that the administration “had no direct or even indirect influence over who teaches, or what gets taught, or what courses are offered” and that decisions about curriculum happened at the department or Faculty level. In each department, a curriculum committee determines the curriculum of that department. Administrators direct funding to

the departments via Faculties but do not instruct professors about what to teach in their classrooms. All major program changes within a department or Faculty require formal consultation with all other affected Faculties on campus.

The university administration and board of governors, our President and our senior executive actually don't have a mandate to control the disciplines and to influence the development of knowledge. They have a responsibility to defend academic freedom but not the curriculum and the research...

It appeared that there is a communication gap between the administration (i.e. Deans, Associate Deans, Associate Vice Presidents, Vice Presidents, President) and the faculty (professors, associate professors, and assistant professors). It is unclear which group had the power to transform the institution as this participant described.

Sometimes there is a disconnect between the 'central university management' and the teaching professors that is sometimes hard to bridge in programmatic terms. It has to be followed up with very careful plans and with incentives because professors are very well rooted -as you well know- not only in their own habits and their own autonomy - but they tend to be skeptical of these cross cutting things and they are very easily resistant. If in any university the teaching professors, the faculties wish to pay lip service to something they can very easily do so. So these things come and go. You have to work really hard to generate a basis of support to put into place the proper resources to transform the university over time. You can't do it with a speech and then sort of say we will see what happens. This is why these things come and go as they do

It appears that the university has the policy and the rhetoric about sustainability education but no implementation plan. If the sustainability policy explicitly states that all students will learn about sustainability, but no curricular changes would be initiated by the administration, how could the sustainability policy be integrated into the curriculum? It appeared that no one was responsible for curriculum agendas that cut across all academic programs the university. The following participant questioned whether sustainability should be prioritized in the curriculum at all.

This may be an unfair way to raise this but we also have a set of policies around justice and fairness and so I think this has been a criticism around academic sustainability programming. To say why should we give priority to sustainability - why shouldn't we give priority to justice and fairness as an academic program that

we might want to push forward -because after all we have policies... the equity office is sort of a manifestation around fairness and equity yet we don't have a justice program or an equity program in the way that some people have suggested a sustainability program.

Most conceptions of sustainability include justice and equity and in fact these issues are usually central to sustainability education (Bowers, 2001; Huckle and Sterling, 1996; Orr, 1996). Perhaps too many documents, policies and plans are circulating at the university and as a result few of them are taken seriously. The concepts of justice, equity, citizenship and sustainability were competing for funding and attention as opposed to operating as mutually inclusive ideas.

In 1997, UBC appointed a new President (Dr. Martha Piper) who began a process of academic planning to create a new vision for the university entitled TREK 2000. I asked one participant about the relationship between the sustainability policy and the TREK 2000 documents. This was the response;

The sustainability policy became a platform for moving ahead with the sustainability pledge and some other things. But it is true you did not see the President in her first few years saying what are we doing about sustainability, because sustainability as a word and as a strategy does not feature prominently in that document.

The consultation process for the next version of the TREK plan had begun while I was writing this article. I was informed that many of the goals had been reached, others had not been met and the process of keeping track of the goal-setting was well underway. TREK 2000 outlined the larger goals and vision of the institution and the implementation of the plan was taken care of by more specific departmental and unit plans. Many faculty were engaged at some level in the planning process and yet fewer seemed to be engaged in the evaluation of TREK initiatives.

I think the academic plan was intended to get different departments to focus on what their priorities should be...In one sense the academic plan was like cod liver oil; it was something people didn't like but was good for them. I would never have said that as a faculty member. I think a key part of what we were trying to do with the academic plan was to get units to be a bit more reflective on what they were

doing, think a little bit harder about what they would like to be doing in 2005 and 2010 and give a statement of what their priorities might be. To some extent these things had been clearly happening prior to an academic plan coming along. A second thing that the academic plan did was signal a set of priorities that I think the whole central administration has tried to follow through on - more of an emphasis on learning, try to encourage problem and project based learning, more interdisciplinarity, more interactive learning, more international strategies etc. and at one level we can't do that...all we can do is encourage and facilitate that.

It is not uncommon for plans to lack a proper implementation scheme. In the case of TREK 2000, faculty were invited to contribute to the plan but there was a lot of grumbling about the process. One comment that I continued to hear about TREK was that it was so broad that it included almost every research project and teaching program at UBC. Was the plan too broad to actually make a difference? Or did TREK push the university in new directions? The only place where the word sustainability occurs in the original TREK 2000 document relates to the infrastructure of campus - a common conception of sustainability. "Upgrade and maintain our buildings, landscape and infrastructure so that UBC is seen as a model of a sustainable community and campus: safe, clean, livable, and environmentally friendly"(TREK 2000). One participant pointed out the 'idea of sustainability' is implicit in TREK 2000, while another participant recalled that sustainability was not actually a direct part of the original TREK document at all: "Please forgive me if I am wrong here - but I don't actually recall sustainability being a major issue in the academic plan process."

The more I researched sustainability on campus, the more I realised how few people had sustainability on their minds. I had surrounded myself with people who were intimately connected to issues of sustainability and who were working hard to create change in their workplaces and curricula, but many initiatives were underway that had nothing to do with sustainability. I would never have pursued an investigation of sustainability education within an institution that had not committed to the international declarations and policies similar to the ones UBC had signed. I was left feeling confused about UBC's genuine position with regards to sustainability.

## Sustainability Education Programs

At the time of writing this article, there are no undergraduate programs for students at UBC labeled as sustainability education, nor are there any mandatory courses about sustainability (or justice or equity for that matter). In the early 1990's, a committee was struck to investigate "environmental education" across the UBC campus. In the final report, the committee suggested a new University College of Sustainability to coordinate the diverse courses and programs dealing with sustainability and environment at UBC and a mandatory course entitled 'Sustainability 100' for all students (Environmental Programs Review Committee, 1997). The committee recommended that the new College have three functions: to develop and administer an interdisciplinary course on sustainability for first year UBC students, to coordinate course offerings related to environment and sustainability across campus, and to offer interdisciplinary programs of study for students who wanted to focus in greater depth on questions of sustainability.

The proposal was criticized for a number of reasons including the presumption of a mandatory course for all Faculties. Some faculty members wondered why there was no mandatory course on cultural diversity, while others wondered why sustainability would be a single course and not something infused through all academic programs. Others were concerned about including all perspectives in the dialogue. Five years later, the team (with some original members) has re-imagined the proposal for an Interfaculty Program in Sustainability Studies (IFPSS). Many meetings and conversations have occurred with the administration and yet very little movement has occurred in terms of implementation. One participant discussed why this might be the case.

I think everybody around the table at any discussion I have ever been at believes that sustainability is an important issue. We do a lot about it at UBC already..we have the Sustainable Development Research Institute and I could trot out all kinds of things that we already do. The idea that we are going to make an additional investment in this kind of area...I think many people to this day think yes this is something that we can do...but show us a plan...what exactly is this going to look like. I think their people have been a little reticent to kind of write that down and do that - maybe I better be careful here - there was at one point a plan.

Another participant discussed the problem of implementing a sustainability studies program;

We don't have a comprehensive undergraduate program that straddles all of the faculties...you can't point to any course in the university that is a university course...all of our courses...some people would say it is because of our Universities Act, others would say it is because of our history or however you want to think about it...the goal or responsibility to be real technical about it is under the Faculties - so ok how do you offer a university course that might straddle all these Faculties...the easy answer is of course you get all of the Deans to agree that this is a high priority and move forward. Well at one level that's great, that works...until you tell all of the Deans this is either going to cost you .001% of your budget or you are not going to get .001% of your budget because of this input into the sustainability envelope...at some point someone is going to look and say 'hey wait a minute there is a sustainability budget of \$4million dollars that could be distributed through all of our Faculties' but it sort of sits off here as sort of a separate thing.

One of the problems with the proposed undergraduate sustainability program is that it does not fit neatly within an Arts degree or a Science degree. Sustainability is not about one issue in one Faculty - it intersects almost all disciplinary and faculty boundaries. Students are streamed into Faculties before they arrive at UBC and often have difficulty taking courses in Faculties other than their own. The challenge of creating interdisciplinarity in undergraduate programs emerged as a major barrier to sustainability education at UBC (see Chapter Five).

Another common concern that faculty raised over sustainability education was that the university should not teach values. This comment alone could be the subject of a dissertation as it raises deep and meaningful questions about the purpose of education, the vocation of teaching, and how education systems interact with cultural and social systems. One of the research participants discussed the problems of integrating sustainability into the core curriculum at UBC.

One way to get students exposed to sustainability was to look at the only course that is mandatory for all students which is English 101 so I approached the person who coordinated English 101[ at the time] about whether or not that they [would] teach it but they[might] assign it (sustainability ) as a topic in an essay. The response was that the university is not in the business of teaching any values- that



it[sustainability] is like religion, we don't teach religion, we don't teach any one position - we discuss all positions and therefore we should not be teaching sustainability to every student.

I suppose if one person taught their version of sustainability that this would be a fair argument or if one teacher took on the responsibility to create curriculum for an entire university - but I don't believe that this is what the proposals were suggesting. The content of sustainability education would not come from one department or discipline on campus but instead would emerge from a multi-disciplinary conversation among departments.

### **What is the role of the university in relation to sustainability?**

After talking to many people over the past four years about sustainability, I came to understand that many people who are active in the sustainability movement believe that the unsustainability problem is urgent. The following participant recognized the inherent connection between what we do to the environment and what we are doing to ourselves as humans. There is a great need to recognize that humans and social systems are a part of larger ecosystems, not apart from them.

So much of my work is oriented towards developing students critical capacities to look at the whole issue of sustainability not as an environmental problem. As long as we have a concept of 'environment' and there are problems 'in it' then we tend to think of the problems as external to ourselves, the human system... Our whole western mindset starts from the premise that we are somehow unique and separate from the environment. The Cartesian dualism that underpins our culture creates an ethic or a tendency for us to believe that we can mess with the environment without messing with ourselves. I mean if we are separate from it- then messing with it doesn't affect us. The alternative view is that we don't gain our knowledge of the environment by being separate from it and looking at it as an objective reality but rather we learn because we are embedded in, and part of something called the ecosphere. We really gain our best knowledge of the system by recognizing that this is reality. Therefore, too, anything we do to damage the ecosphere damages ourselves.

Is it the role of the university to teach students about environmental and social issues and their interconnections? The traditional roles of the university are teaching, research and service and yet members of the university community rarely spend time discussing what

these words mean to different people in different disciplines. A dialogue about sustainability must include discussions of ecological and social justice AND a discussion of what is meant by research, teaching, learning, and service.

Universities engage in teaching or as we now call it learning - part of the same thing I won't get into the semantics - research, public service which can be interpreted in a variety of ways...and which is clearly - to me public service must be in some way linked to teaching, learning and to the research. Those have been the traditional big 3 activities. If you look at collective vision statements- the collective bargaining agreements - the university either defines professor roles in those ways or the university's goals as an institution. Increasingly though there is a lot of debate on whether the commercialization aspect of research is a separate role of the university itself. Some people accept that, some people don't but certainly there is an emerging view towards that end. So that is a major change. The other thing that is always omnipresent in this debate about these functions is what is the priority between them?

Universities have a number of roles in society and each university has distinct geography, politics, history and language. This complexity raised difficult issues during discussions of the role of the university in relation to sustainability. One participant described the complexity of conceptions of 'the university'.

When you say 'the university'... I think the university is a complex myriad of different forces and so when I think about the university I think about its diversity and I think there are things that are incredibly positive about it and over time it has made a historical contribution - it needs to adjust to a changing environment...

Most people would agree that universities have a central role in supporting research, however there is no general agreement about what that research should look like. What exactly do the members of the academic institution mean by 'research'? How is research defined and how is it recognized or even celebrated? Research done in the pursuit of new knowledge can be categorized as 'basic research' while other kinds of research may be applied and focused on technological innovations. How does the University of British Columbia consider the consequences and implications of the research it does? These kinds of questions are central to sustainability education- especially when society begins to consider the teaching role of the university. Academics might agree that the role of university is to educate students - but to what end? What is a university education for? Is

the role of a university to educate students to get a good job, to enlighten them or to allow them to grow personally? And what about the third role of the university - service? If service means community service, then what community - the academic community, the local community, the global community or all of the above? There are no simple answers to any of these questions.

Many participants in this study who are advocates of sustainability education felt strongly that the university is in an ideal position to be a leader in modelling sustainability. However many participants were unsure whether or not the university could take on this important role. The following participant was very concerned with the University becoming a "social or environmental agency on its own".

You can't take a university housing project and try out some as yet unproven approach to sustainability and recycling because it can be costly and the university is not in a position to pay such added costs and take such added risks without financial assistance from somewhere. If you put it to students...students say 'oh yeah the university does have to be sustainable' and then we say 'OK your tuition is going up 10% because these are very expensive experiments'. If you want to live in a sustainable dormitory you might have to pay 10-20% more. That is the reality. And that is what sustainability costs. If you want to live in a house that is more energy efficient and does other sustainable things such as recycling sewage and stormwater it might also cost 10%+ more. Are people committed to paying those higher costs?... So how we actually pay for these sustainability efforts in the short run is something that has to be discussed, it is not simply a matter of saying that UBC (or someone else other than UBC student and residents) should pay for such sustainability efforts. When such laudable environmental innovation raises costs, it is simply too easy for people to say 'we should spend it' without first checking with the people who are going to pay, instead of asking 'did you really want to make that expenditure or did you really want to have that money for a science lab' because if you had it- the research you were working on might just cure liver cancer.

The university does not have unlimited funds or capacities to support a large number of mandates. As a result, priorities can become a part of university rhetoric instead of on the ground action and implementation. I found inconsistencies in the plans and priorities and a lack of coordination in curriculum planning. I also learned that good academic visions do not necessarily result in effective implementation. Many UBC documents outline the need for shifts in pedagogy, promoting ecological literacy and integrating sustainability education, and few sustainability education programs currently exist. The proposed

undergraduate program in sustainability studies has been on the drawing table for almost 7 years and has yet to receive any funding for implementation.

### **Turning around the tanker: Pathways to change**

The final discussion during most interviews was a discussion of organizational change as it related to sustainability and university culture. The discussion of sustainability often led people to ponder how change happens, in general, and whether the shift towards sustainability happens at the level of the institution or the individual. It also raises questions about whether change happens faster within a group of individuals or within greater social systems. The following participant discussed why the university needs to change;

Why do we want to change? I think for a host of reasons. One the world outside is changing...and we need to be cognizant of those changes and we need to change with the times...to the extent the world is becoming more global...for us to talk about international is an important imperative. It kind of makes sense. It keeps us current with where our funding bodies and where our alumni and where the support for the university is going. I happen to think that the university itself is a creative institution that sparks all kinds of new ideas and new initiatives and those often are directly picked out from people outside the institution... So why do we have to change? We have to change because we have to keep up with those things that we as an institution are actively doing.

Another participant who had spent a lot of time thinking about change suggested that instead of changing individuals one by one, members of the university should work on things they can more easily change such as policies, rules etc.

I am not a big fan of the colonialism of the monolithic approach that suggests that everybody has to change into a fundamental framework or we don't get anywhere...I don't actually agree with that...I would rather change building codes than change people's minds about what house to buy...because changing people's minds means you have to go person by person by person through the population...change the building codes and you could change instantly 10,000 buildings. So I am less inclined to focus on the need for paradigm change at the individual level and more inclined to say lets make institutional changes.

In talking about institutional change at the university, another participant argued that making rules is not the way to go. People at the university need to work together to make change and get it happening from the ground up.

I think we are a large bureaucracy and we do what any bureaucracy does best which is make a lot of rules. And then we get to the point...we find people who want to make change. And sometimes, this means making it a priority to get people involved so that there is a certain kind of institutional momentum. More and more people will see this as a priority and change begins to happen.

Another common concern was whether change should be imposed or left to happen naturally – i.e. wait for the small pockets of sustainability leaders to trickle through the university in hopes of creating change in the rest of the members of the university.

Individuals are trying to be helpful. Certain Deans are attempting to create some community spirit, at least within their own area, and I suppose the President is trying to do something by being enthusiastic. But it doesn't trickle down in a way that really affects the people. They see it instead as an organization which at every level is just in their face, trying to impose more on them.

Ideally I can imagine change happening from both directions –from the implementation of the policy (by directing funding and resources) and from the bottom up (by people becoming interested and changing their everyday practices at the university). This topic of 'bottom up' and 'top down' change dominated many of the conversations about organizational change towards sustainability.

## **Future Directions**

In order for a real shift to happen at the University of British Columbia with regards to sustainability education, change must happen in many places simultaneously. Sustainability policies (and strategies for implementing them) must be reviewed by the policymakers and decision-makers in administrative roles (Board of Governors, President and Vice Presidents, Deans). Faculty members must consider how sustainability can be integrated into their curriculum and programs and the staff need to consider sustainability

in terms of campus operations and daily functions. Students need to address sustainability issues in classrooms and raise sustainability issues in all aspects of campus life. The current sustainability policy and strategies at UBC do not create enough movement on the campus to shift the university towards a model for sustainability education. The university has too many competing priorities for funding and implementation. Discussions about sustainability need to be integrated into the academic planning process so that faculty, staff and students can begin to consider how sustainability can be integrated into all programs on campus.

When I considered all of the conversations and meetings I had been to about sustainability on campus I kept thinking about one simple question. Can a university to learn to walk its own talk? Can university professors, departments and programs learn to walk the talk of sustainability? How can a large university instill values of sustainability in all of its graduates? Why did the university include words in their policies about sustainability education, literacy and values but not include them in their planning documents? It is important that we all consider the ethical, social, political and ecological implications of the research, teaching and service ongoing at the university. Sustainability as a concept aims to consider the long-term implications of our actions, beliefs and behaviours and the impact they may have on future generations, on our communities and on the planet. The conversation about sustainability continues on the campus and I am optimistic that change is on the way.

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### **Chapter 3**

## **Lessons from environmental education: Developing strategies for public consultation within the Georgia Basin Futures Project**

A version of this chapter has been published - Moore, J. (2002). Lessons from Environmental Education: Developing Strategies for Public Consultation within the Georgia Basin Futures Project. *Canadian Journal of Environmental Education*, 7(2), 179-192.

### **Introduction**

The Georgia Basin Futures Project (GBFP) is an interdisciplinary project attempting to increase public and expert knowledge about issues of sustainability within the region of the Georgia Basin, British Columbia. The public consultation component of this project will engage various groups throughout the region with a computer model called QUEST and facilitate workshops and focus groups on the subject of sustainability. The intention of the project is to engage the public and local and regional decision makers in a collaborative dialogue about sustainability that develops potential future scenarios for the Georgia Basin. The purpose of this paper is to consider whether environmental education is inescapably part of this type of consultation. Through the presentation of a wide array of strategies within the education literature concerning sustainability, ecological issues and social change, this paper raises critical questions for university researchers and educators to address before planning or implementing public consultation processes on the topic of sustainability.

The first section of the paper examines the project proposal for clear statements concerning the goals and objectives of the public dialogue. This exploration leads to reflective questioning concerning the role of environmental education in community engagement about sustainability issues. The second section of the paper presents a range of approaches to environmental education that demonstrate the breadth of the environmental and sustainability education movements. The final section of the paper presents two possible strategies for sustainability education and examines the potential for adopting these strategies within the project. The paper concludes with a section on the most recent directions taken by the GBFP community engagement team.

## **Background**

As a graduate research assistant of the GBFP, I have spent the last two years thinking about how my personal interests in environmental education fit within the objectives of the project. Within the discipline of environmental education, a variety of strategies are available for consideration that potentially fit within the goals and objectives of the GBFP. The reason I began thinking about this topic is directly related to an incident that transpired during a team meeting of the GBFP. During an early brainstorming session of the GBFP, researchers were asked to put two colours of sticky notes on a large piece of paper in front of the group. The green coloured notes were to represent the goals for the project and the pink coloured notes represented the directions that we did not want the project to go. One of the pink stickers is still vivid in my mind. It read “this is not an environmental education campaign”. I later inquired about the reasoning behind this statement. It was explained to me by one of the project leaders that the project was not designed to preach to the public about sustainability in the region. It was at that moment that I realised that my understanding of environmental education was different than many of the researchers involved in the project. After this meeting, I stopped calling my work environmental education while I investigated the literature in an attempt to articulate a wider range of environmental education strategies. I strongly suggest that environmental education (properly conceived) must be an integral part of the GBFP's consultation process, but this does *not* mean that the project should advocate ONE particular strategy about sustainability.

## **The mission of the GBFP**

The GBFP is a group of professors and graduate students from a variety of academic institutions that are partnered with a wide variety of establishments including governmental and non-governmental, public and private organizations (for a full list of partners see [www.basinfutures.net](http://www.basinfutures.net)). While most of the original researchers involved in the project are advocates of a sustainable future, very few are familiar with the literature of environmental education. The GBFP represents UBC as researchers and educators but we

are also a group of concerned citizens interested in social change. These dual roles place the members of the GBFP in a difficult position. It is of strategic importance that the members of the GBFP understand how their beliefs and values are unquestionably related to the goals and objectives of the project.

As members of a project funded by a range of partners and organizations we undoubtedly share a set of values that are unlikely to be in line with the other communities present in the Georgia Basin. Given a project of this size, it is likely that a wide spectrum of values and moral principles are held by the researchers involved. I am interested in the collective visioning that underlies the writing of the project proposal, for example the assumptions that lie within the project's mission statement.

This project will explore how to reconcile limits to global carrying capacity with human well being in the Georgia Basin over the next forty years. Our objectives are to increase the level of public and expert understanding of how complex ecological, social and economic systems interact and to discover ways of achieving a sustainable future. (GBFP mission statement 1999).

The mission statement is obviously extremely broad and raises many questions that can not be answered in this short paper. Who is the public that we are referring to? Can we agree on a definition for human well being? What does it mean to increase understanding? Is it possible to assess levels of expert and public understanding before and after consultation? This type of broad mission statement is indicative of the size of the project - because the researchers have difficulty finding common ground, we choose to make statements that are unlikely to be critically questioned by the public or other researchers.

At the heart of the GBFP lies a computer model called QUEST that will be accessible to students, teachers, governmental agencies and many community and corporate groups throughout the region. "Through the interactive model, interested citizens and groups will explore the tradeoffs and consequences associated with their preferences for the future. Their attitudes will be informed by this intensive learning process on how ecological, social and economic systems may interact over time" (GBFP 1999, p.5). One

of the explicit goals of the QUEST dialogue is to elicit core values from the players of the game. QUEST "will be used to generate and analyze a series of alternative scenarios by which sustainable conditions might be achieved over the next four decades. These scenarios will be developed by combining the expert knowledge of the research team with regard to how ecological, social, and economic systems interact, and the values and preferences of interested citizens with regard to population, transportation, social health and wide range of other decision areas." (GBFP 1999, p. 14). It is important that the project be aware that the process by which these values and preferences are solicited will have a large impact on the conclusions drawn. If the project is attempting to increase understanding within the aforementioned publics about sustainability then I would suggest that environmental education (and perhaps sustainability education) is a key component of this project.

Despite the obvious links to environmental education, it is clearly stated in the original proposal that the public consultation component of the project is *not* public education. "The title of this component deliberately refers to public consultation rather than to public education, to reflect its interactive nature. The project will not just be delivering information to user groups and stakeholders, but incorporating their views in the research" (GBFP proposal 1999, p.13 ). This statement clearly suggests that early versions of the project proposal equated education with a one-way transfer of information, a definition that few educators would agree with. The proposal also clearly states that consultation is thought to be more 'interactive' than education, hence the name of the component.

Semantics are an important component in any public endeavour. The connotations surrounding the meaning of the terms 'education' and 'consultation' change depending on the specific audience. After many members of the public consultation component stated their concern with the choice of the name 'public consultation' others options were investigated. Eventually, the term public consultation was changed to public engagement and finally to community engagement to reflect developing ideas about the overall objectives of this component. The progression of name changes for this component, from the initial proposal to the present state, clearly demonstrates a shift in thinking about how

this consultation will occur. The name changes suggest an awareness of the possible implications that our work and processes might have on the region. We must be able to contemplate the potential impacts, positive and negative, that could occur as the result of this large-scale engagement process. Despite the project's initial rejection of the term 'education' from this component there are distinct educational messages in any type of engagement process. People will learn from the material supporting QUEST as well as through the process in which we engage people with QUEST. "In the conduct of teaching, we must also acknowledge that the process of learning is often as important as the content, and that institutions teach by what they do as well as what they say" (Orr, 1996, p. 9). As members of an academic institution, we must be aware of the broader vision that we are presenting to the public through our consultation processes.

### **Academia, environmental education and the dominant paradigm**

A dilemma that is often addressed in the literature on environmental education contrasts the purpose of schooling with the goals of environmental education. Environmental education is often thought to be able to "transform values that underlie human decision making from those that promote environmental degradation to those that support a sustainable planet which all organisms can live with dignity"(Hart 1990, p 360). Whether or not environmental education is attempting to transform values is one perspective on the subject. Hart's (1990) statement is directly contrasted with the purpose of school that is to maintain social order by "reproducing the norms and values that dominate"(p. 360) our current decision making processes. Herein lies the dilemma, how does a large project of researchers decide which norms to reproduce and which to challenge or question? Can a project of this magnitude partner with corporations at the same time as challenging the very systems which are allowing corporations to dominate? What type of responsibility do we have as academics taking our message (or our computer models in the case of the GBFP) to the public? Hart (1990) suggests that we need to reconsider our perspectives on how knowledge is constructed and respected.

If Canada is to adopt an authentic approach to environmental education a different view of knowledge would be necessary- a constructivist view in which knowledge

is individually and socially constructed through active participation in the process of decision making in light of the historical and cultural context. Environmental education would be informed by deliberative enquiry into the rationales of alternative courses of action. In this view educational practice becomes praxis – a process of critical reflection upon personal improvement involving a dialectical relationship between thought and action. (Hart 1990, p.362).

Academics currently have the ability to challenge the status-quo and to create spaces within our current political system for open deliberation on these issues. Creating this space is a difficult proposition as the institutions and bureaucracies that universities are a part of are resistant to change and are more likely to promote narrowly focused approaches to environmental education. Val Plumwood (1996) addresses this issue and suggests that we need to make a conscious move away from the dominant paradigm that currently exists.

Since the dominant paradigm of scientific neutrality and value-freedom renders philosophical and social critique unwelcome or illegitimate (Harding, 1991), the placement of environmental education predominantly within this dominant paradigm serves to mute the important corrective challenge critical environmental thought poses to present forms of social organisation and to the dominant version of our relationship with nature. These structures disempower environmental education and prevent it from addressing the main problems we have to face. (Plumwood 1996, p.77).

The problem with addressing the dominant paradigm within this type of academic collaboration is that it conflicts directly with the ideologies existing in the corporate partners and academic institutions that support and maintain the project that we are a part of. As researchers we need to be prepared to challenge the institutional and socio-economic structures that currently exist in our society without having to fear that we will lose our funding sources.

### **What is education for?**

If one of the many objectives of the project includes education, it is important to take a step backwards and attempt to answer the question - what is education for? The purpose and goals of education will never be agreed upon completely. A few of the many interpretations include education as a means to increase intelligence, to create citizens that

will function better in society, to increase knowledge, or a passage of self discovery. David Orr, who advocates for ecological literacy, considers ecological issues and ecological literacy as central to the purpose of all education. Orr (1992) suggests that all education is environmental education, because students are a part of (or apart from) the natural systems in which they live. Alternative perspectives on the purpose of education are fundamental to the choice of strategy for community engagement as they are central to the issues of knowledge creation and understanding. Education can be constructed as an open process of critical thinking or with a specific goal in mind.

Another perspective on the ultimate goal of education is presented by Hungerford and Volk (1990) as shaping human behaviour... "a broad picture of behaviour encompassing not only knowledge, attitudes and skills, but also active participation in society" (p.9). This perspective on education is fundamentally opposed to many other definitions because it specifically focuses on changing people's behaviour. These two perspectives; education as a means to understanding the environment (social, economic, political and ecological) and education as a means to change behaviour, are two of hundreds of interpretations of the purpose of education. Hungerford and Volk (1990) contend that good environmental citizens can be created through proper education.

The recent field of social marketing for sustainable behaviour is predicated on this type of thinking. Recent publications such as *Fostering Sustainable Behaviour* (McKenzie-Mohr & Smith, 1999) and *Tools of Change: Proven methods for promoting environmental citizenship* (Kassirer & McKenzie-Mohr, 1998) offer step by step instructions on how to change people's behaviour in order to create environmental citizens. While behaviour change for increased recycling and community involvement seems harmless, others caution that education should not be equated with behaviour modification.

I believe that the role of environmental education should be to help people assess, evaluate and critically consider the possible options available for all citizens in the community as opposed to attempting to create good environmental citizens. The actions and methods necessary for calculated behaviour change should be carefully considered by

anyone interested in using them. "While educational achievement should enable individuals to act intelligently, people will not act intelligently if they have been trained, brainwashed, conditioned, indoctrinated, cajoled, coerced, or bribed to behave in a certain way" (Jickling, 1991, p. 173). The GBFP has had difficulty in addressing the objectives of the consultation process. Are we attempting to create environmental citizens, change peoples behaviour or engage citizens in creating and implementing policy initiatives towards sustainability? The most common answer within the project is to suggest that we will "engage" the public in a dialogue. Promoting 'engagement' is safe territory as it does not speak to specific behaviours or goals. It is my understanding that the project feels that we are at the top of the wave of a massive dialogue on sustainability and we are unsure of how to proceed. We will remain cautious for the time being.

### **What is environmental education?**

When I imagine environmental education I don't think of changing peoples' behaviours directly, nor do I think about information campaigns. I envision environmental education as a process for mutual learning, critical examination and contemplation of a wide variety of environmental issues. This is not to say that changes in behaviour will not occur - but that these changes are not the objective of the dialogue. However, my understanding of the goals and objectives of environmental education are obviously only one of many possible interpretations. The word environment is commonly used to describe the surroundings that humans and other organisms live in. Environments are seen as external entities surrounding the human domain, a perspective that upholds the dominant view that ecological systems are externalities separated from human society. "For in a very real sense there can only *be* environment in a society that holds certain assumptions, and there can only be an environmental crisis in a society that believes in environment" (Evernden, 1985, p. 125). Thinking about environmental education as education with the intent to learn about or alter the external environment is a misleading representation of the possibilities. Environmental education may also be defined more broadly as "an open ended process that helps people make sense of an increasingly complex world"(Stapp, Wals, & Stankorb, 1996, p. 5).



In the public domain (outside of the classroom), environmental education is often equated with public health campaigns, recycling advertisements and government slogans to 'do your part' for the environment. Most information campaigns transfer messages from experts to the public in a manner that rarely promotes deliberation, community involvement or critical thinking by anyone. If this perception of public education currently pervades our community, then the alternatives to this type of education must be realised. We need to be clear that information is not knowledge, knowledge is not understanding and understanding is not wise action and that few educators distinguish these. By allowing public education to include a wider array of strategies and approaches we can envision environmental education as a dialogue about the interconnectedness of the social, economic and ecological systems in which we live.

### **Education about and for sustainability: Where does the GBFP fit in?**

In the book *Education for sustainability*, Huckle and Sterling (1996) address the differences between education *about* sustainability and education *for* sustainability. These distinctions are adapted from Sterling (1996) in Table 3.1. Education *about* sustainability focuses on awareness and behaviour change in citizens. In this strategy, education is thought of as a tool for policy implementation and it is suggested that power and control are maintained at the center of the current systems. On the other hand, education *for* sustainability is presented as participative and transformative whereby policy decisions are created through a process of mutual learning. Learning and democratization are the focus of education *for* sustainability. It is also important to note that Sterling (1996) clearly states that these strategies are not exclusive and should be considered to be located at two ends of a continuum.

**Table 3.1: Two possible strategies for sustainability education- adapted from text (Sterling 1996 p. 200).**

<b>Strategy 1: Education about sustainability</b>	<b>Strategy 2: Education for sustainability</b>
<ul style="list-style-type: none"> <li>• Instructive</li> </ul>	<ul style="list-style-type: none"> <li>• Constructive</li> </ul>
<ul style="list-style-type: none"> <li>• Education, training and public education are seen as important for implementing public policy.</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental policy is shaped, negotiated, owned and enacted locally through a medium of learning</li> </ul>
<ul style="list-style-type: none"> <li>• Education is a tool for policy</li> </ul>	<ul style="list-style-type: none"> <li>• No distinction between learning for change and making policy decisions</li> </ul>
<ul style="list-style-type: none"> <li>• Public are recipients of a message, knowledge or information</li> </ul>	<ul style="list-style-type: none"> <li>• Emphasis on participation, ownership, empowerment, generation of meaning</li> </ul>
<ul style="list-style-type: none"> <li>• Goal is to generate awareness and induce behavioural change and then adopt policy</li> </ul>	<ul style="list-style-type: none"> <li>• Participants perceptions, values and concerns are the starting point for change</li> </ul>
<ul style="list-style-type: none"> <li>• Power and control is maintained at the center.</li> </ul>	<ul style="list-style-type: none"> <li>• Role of the center is facilitation. Process is flexible and integrative</li> </ul>
<ul style="list-style-type: none"> <li>• Change in values and perceptions is fast, but is often shallow and impermanent</li> </ul>	<ul style="list-style-type: none"> <li>• Change is slow and more difficult, but deeper and more permanent</li> </ul>

After assessing these strategies it is clear that the strategy of education *for* sustainability is more democratic and inclusive than the education *about* sustainability. The process underlying education *for* sustainability is flexible, integrative and transformative and appears at first glance to be the ideal model for consultation.

My perceptions about education *for* sustainability changed when I encountered the critiques that argued against the rhetoric of "educating *for* sustainability". Jickling's (1994) paper "Why I don't want my children to be educated for sustainable development" focuses on the issue of the ambiguity of sustainable development and the problems with educating for a particular endpoint. How can we educate for sustainable development when academics cannot decide collectively what sustainability is? Because sustainability can be argued from either an eco-centric or an anthropocentric perspective, it is unclear which position is being advocated amongst educators working in the boundaries of sustainability education. Instead of addressing these issues many educators working in the field have

shifted from using the term 'sustainable development' to using the term 'sustainability' instead. The term 'sustainability' may be interpreted in even more ways than the term 'sustainable development' but somehow is less contested. "The often invoked term 'sustainability' tends to obscure the seriousness of the situation; clearly no culture which sets in motion massive processes of biospheric degradation which it has normalised, and which it cannot respond to or correct can hope to survive for very long" (Plumwood, 1996, p. 76).

A greater concern stated in Jickling's (1994) paper is that students are being educated *for* a particular goal or endpoint. Is it the role of the educator to educate with a particular endpoint in mind? This question is of fundamental importance for the GBFP to address. Should public education aim to advance a particular perspective, e.g. towards sustainable development? When we think about education for sustainable development we undoubtedly have a goal in mind. To suggest that children should be educated to believe that sustainability constitutes a collection of correct environmental viewpoints is directly opposed to the spirit of education (Jickling, 1994). Many authors raise similar critiques of the movement of education for sustainability and a growing literature is available on this topic (e.g. Sauvé, 1999; Jickling, 2000). With an increase in the number of interdisciplinary projects about sustainability and public involvement, environmental educators need to promote discussions of these critical questions in order to be clear about their objectives. Within the GBFP there are a number of educators and researchers currently creating (and contemplating) 'sustainability education' materials and curriculum to support QUEST and the tools of the GBFP.

The positive aspect of research and education on the topic of sustainability is that it is bringing together researchers and community in new ways. The GBFP has brought together planners, regional governmental agencies, educators, economists, atmospheric scientists, medical doctors, foresters and policy analysts (to name a few) to work towards an increased understanding and engagement on social and ecological issues affecting our region. We are learning slowly to communicate with one another with a common goal of creating a dialogue with the public. This process is difficult but it has led to many new

interdisciplinary forums and relationships.

### **Environmental advocacy and environmental education: Is the GBFP advocating sustainability?**

As educators we need to be aware that our biases and assumptions about how the world *should* work and how people *should* behave will creep into our curriculum and discussions at any given moment. The project comprises of a wide range of viewpoints on HOW a sustainable future will be created - those who believe in behaviour change, those who believe policy regulation is the answer and others who believe in participatory democracy. It is interesting to note that the conversation within the project directly parallels the intentions of the community engagement component- to engage the public of the Georgia Basin in this exact dialogue. Hopefully we will learn more about ourselves as we *listen* to those outside academic walls discuss their views on the future.

The community engagement team of the GBFP has now created documents to outline the objectives and goals of the consultation process ([www.basinfutures.net](http://www.basinfutures.net)). The community engagement node of the project believes that modifying individual behaviour in a prescribed direction should not be considered the goal of our sustainability dialogue. The intention of community engagement is to engage people in a dialogue - to discuss tradeoffs, choices, risk and decision making processes in the region. Our objective is to describe sustainability as a conceptual tool that is open to debate. After people play QUEST there will be a set of action tools that can be used to help people make steps towards change. The debate around which tools we will choose to include in our toolkit is becoming a hotly debated area in the project. Action tools might range from letter-writing, to organizing protests, to retrofitting your home and composter tips. Certain 'sustainable' behaviours are rarely debated while others are quite open to heated discussion. Do we *know* that a mass switch to biking, retrofitting and composting would create a more sustainable world? *Should* academics promote protest organization and radical groups on their websites? These are some of the discussions that continue to emerge in the project and will likely continue long after the project is completed.

As academics we need to address whether or not the goals of our projects are to continue the discussion of sustainability or whether it is attempting to move public opinion towards accepting academic perspectives. Unfortunately we live in a world with tremendous constraints on our time. Decisions need to be made, funding has to be allocated and projects must meet deadlines with community and corporate partners. Decisions get made without consensus because people cannot attend meetings in their increasingly hectic academic lifestyles. Professors have more and more responsibility placed on them as budgets in departments are reduced and graduate students are constantly being reminded about deadlines in their programs. The rhetoric of 'publish or perish' has an impact on the ability for people to spend time discussing the philosophical underpinnings of the project. In my experience, it is often suggested that "the project needs to get more work done" instead of spending time deliberating about these larger issues. It is important that we consider these constraints as more academics are becoming involved with community in large scale collaborative projects.

### **Next steps for the GBFP Community Engagement Team**

I imagine that each of the academic researchers working on the Georgia Basin Futures Project has a particular view of what environmental education is and what it can and cannot be. It is clear after 2.5 years in a 5 year endeavor that our project will unlikely come to an agreement on what education is ultimately for. I would advise future projects of this size that it would be helpful to articulate perceptions about education and more specifically environmental education before academics attempt to take themselves into public dialogues about the future and sustainability. This is not to suggest that one answer will emerge from the dialogue - only that the dialogue will lead to a greater understanding for all of those involved.

The community engagement node wants to convey the idea that people do not need to conform to a particular model of sustainability and can choose from a variety of tools and methods. People can engage in a variety of ways with our tools (e.g. QUEST, action tools) and GBFP is encouraging people to get involved in creating the future of our region.

Community engagement on this project aims to provide a process for communities and individuals to do three things. First, to create enabling structure where constituents can see the long-term effects of their choices and compare these to other communities whose features and interests intersect with theirs. Second, to provide a place where people can self-select their role in dealing with the questions or dilemmas that led to their initial interest in sustainability. Third to employ the support for individual and community decision-making. "If we are successful, the GBFP will be embedded in processes that support research and create social change"(Community Engagement Workplan, 2001).

## **Conclusion**

The GBFP has struggled in creating open forums within the project for the larger questions raised in this paper. We work within an institution that values individual scholarship, promotion by publication and increasingly demands more and more of our time. There appears to be less time to debate these important issues and less time to take a stand within society and allow the public to respond. Stevenson (1987, p. 74) reminds us that environmental education has the potential to "transform the values that underlie our current decision making...[however] this contrasts with the traditional purpose of schools...of conserving the existing social order by reproducing the norms and values that currently dominate environmental decision-making". The dialogue needed will take a long time and will not be an easy subject to discuss. Jickling (2000) summarizes the need to discuss our core values when embarking on any discussion of sustainability. "We need to speak more confidently about assumptions, lifestyles, worldviews, and conceptions of human place and purpose in ecosystems...And, we must find space to discuss cultural identities, respect, society-nature relationships, tensions between intrinsic and instrumental values and other ideas that lie beyond sustainability" (p. 475). I hope that the GBFP will be able to create such a space both within and beyond academic walls.

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## Chapter 4

### **Living in the basement of the ivory tower: A graduate student's perspective of participatory action research within academic institutions.**

A version of this chapter has been published. Moore, J. (2004) Living in the basement of the ivory tower: A graduate student's perspective of participatory action research in universities. *Educational Action Research*, 12(1), 145-162.

Academic energy around participatory research emerged to foster an alternative paradigm for social science research that would transform researchers and research participants into co-researchers. The growing interest in participatory methods is a response to the conventional systems of academic research that perpetuate the division of power between the researcher and the researched. Participatory action research recognizes the inherent subjectivity in all social science research and includes reflexivity as an integral part of the research cycle (Hall, 1990; Stanley & Wise, 1990). This paper examines the rapidly expanding field of participatory action research (PAR) as it relates to academic involvement in community research and dialogue. The literature on PAR is closely related to feminist perspectives on research and many defining principles are informed by feminist epistemologies (Harding, 1991; Lather, 1988; Reinharz, 1992; Smith, 1990,1999). This paper concentrates on the advantages and disadvantages of the PAR approach as a research practice in academic institutions. I will focus on the relationship of teaching PAR and practicing PAR with respect to the democratization of classrooms and the university. In conclusion, this paper raises a number of questions for academics to consider including the possible outcomes and implications for implementing PAR within graduate school curriculum.

As a doctoral student attending a large university in western Canada I am deeply interested in the role of academics and universities in society and with the impact universities have on what we know and how we know. I have a background in biological sciences and have shifted from science to social science for an interdisciplinary doctoral dissertation in education and sustainability studies. Due to the interdisciplinary nature of PAR, an increasingly large number of terms, definitions and interpretations exist to describe this approach. I have chosen to examine three strands of research that fit within

the PAR framework -action research, participatory research and collaborative inquiry. The first section of this paper will describe the fundamental principles associated with doing research in a PAR framework with specific reference to action research, participatory research and collaborative inquiry. The final sections of this paper address the obligations and expectations associated with PAR in academic institutions from the accounts of graduate students (Bernard, 1999; Maguire, 1993) and professors (Cancian, 1993; Hubbard, 1996; Stoecker & Bonacich, 1992).

## **Defining Participatory Action Research**

Academic research projects that involve participants in the research process (participatory), are committed to social change (action) and have elements of social learning (education) are often described and defined as participatory action research (PAR). I have chosen to use "PAR" as an umbrella term to discuss the challenges and rewards of embracing alternative research approaches within the academic institution. The combination of action, education and research are the underlying principles found in most PAR projects (Hall, 1981). However, difficulties arise with such an expansive definition - how we choose to define action, education and research is intimately related to our own experiences, disciplines and knowledge. Given that the roots and histories behind the principles for PAR were created by a number of disciplines there is an obvious tension in the literature regarding the nature of 'true' participatory research.

PAR has its roots in the disciplines of education, community development, social policy and organizational development and has recently moved into the interdisciplinary fields of planning, health promotion and environmental/sustainability studies. Definitions of PAR occur in every text and article on the subject and these works often propose additional principles to support the validity of their particular methodologies. A Canadian Royal Commission undertaken by Green et al (1995, p.4) defines PAR as "inquiry, with the collaboration of those affected by the issue being studied, for purposes of education and taking action or effecting change". The authors conclude that action, education and research are three areas that must be included for projects to be properly characterized as

PAR. Another definition by Stringer (1996) describes community-based action research as providing

a process or a context through which people can collectively clarify their problems and formulate new ways of envisioning their situations. In doing so, each participant's taken-for-granted cultural viewpoint is challenged and modified so that new systems of meaning emerge that can be incorporated in the texts—rules, regulations, practices, procedures and policies—that govern our professional and community experience.(p. 158).

Stringer and many others (i.e. Hall, 1992; Stoecker & Bonacich, 1992) believe that true participatory action research must be grounded in the community that the research involves. Table 4.1 outlines a range of characteristics that define PAR as compared to traditional social science research. Definitions of PAR often embody values and ideologies that create a vision of a methodology that goes far beyond a method of obtaining information and data from research subjects to include social change and participant empowerment.

Historically, traditional social science research attempted to be objective - to avoid any subjectivity in the research process. The objectives of traditional social science research are to control for bias, to predict and to measure. The conclusions of the research are intended to create truth, new knowledge and ideally a number of academic publications. The natural science paradigm is one that many social scientists traditionally work within. The paradigm is dominated by the use of quantitative measurement, experimental design, statistical analysis and the idealized notion of the 'unbiased researcher' (Patton, 1997). Alternative research (which includes participatory action research) addresses epistemological questions and is focused on description, interpretation and understanding (Reason & Rowan, 1981). Both alternative and traditional social science research methodologies are important and necessary in the pursuit of knowledge within academia. In my experience with methods courses it appears that graduate students are encouraged to have a firm grasp of traditional social science before commencing with alternative research methodologies. This results in the naming of the other - the alternative - and creates a dichotomy instead of a parallel approach. Unfortunately many students never get far enough in their studies to explore the alternatives that exist along the fringes of the institution.

**Table 4.1: A comparison of characteristics of traditional social science research and participatory action research.**

	TRADITIONAL SOCIAL SCIENCE RESEARCH	PARTICIPATORY ACTION RESEARCH
Epistemology	Researchers create new knowledge after researching subjects and analysis of data.	Shared, collaborative approaches to knowledge production. Research for the purpose of change-changing perceptions, understandings and creating action.
Principles Emphasized	Objectivity, reproducible results, hypothesis testing, validity, and generalizability.	Participatory, life enhancing, equitable, empowerment and action oriented (Stringer, 1996). Conscientization (Freire, 1970) and transformation (Hall, 1992).
Tensions & Dichotomies	Subjectivity and rigor. Science and Social Science.	Rigor and social action Generalizability. Academic status.
Methods	A range of methods are used including surveys, interviews, focus groups, ethnography, case studies, etc.	A wider array of methods are used including surveys, interviews, focus groups, ethnography, case studies, film, autobiography, documentary, drama, story telling, photo-novels, oral history, community meetings.
Relationships & Naming	Distance between researcher and researched. Named subjects or research participants.	Active involvement of participants in design and dissemination of results. Named participants, community, collaborators or co-researchers.
Level of Participation	Subjects participate in research project but rarely in writing, analysis or formulation of research questions.	Participants create research questions, design the study, analyze and interpret, implement and disseminate new knowledge.
Power & Relationships	Power-oriented- seeking truth, objectivity, universal laws and knowledge (Joyappa & Martin, 1996).	Empower-oriented - conscious attempts to balance power (Joyappa & Martin, 1996).
Control	Researcher has control of research process, research questions and research findings.	Community (includes participants and researcher) has control of research process, research questions and research findings.
Decision Making	Individual or team of researchers make decisions about direction of research.	Group activity- usually a large group - collaborative approach to problem solving and research directions.
Goals	create new knowledge seek truth via the objective researcher	democratization of knowledge creation social change (Stoecker & Bonacich, 1992) action and implementation.

The epistemological assumptions of traditional social science research are that certain individuals are more likely to "know" than others. In comparison, alternative research methodologies suggest a need to embrace alternative ways of knowing and to include all participants in the shared construction of knowledge. In *Human Inquiry*, Rowan and Reason (1981) described three pillars of research; old paradigm research (objective), naïve inquiry (subjective) and new paradigm research (objectively subjective). The alternative paradigm does not reject all principles within the traditional research paradigm but insists there are many principles that need rethinking. For example, Reason and Rowan (1981) argue that in traditional research people are often reduced to a set of variables to be generalized across situations and other populations. They argue that people cannot be isolated from their social contexts and it is therefore necessary to study people within their community (or group) in order to have a better understanding of the research problem. As tensions between accuracy and reality surfaced in the academy, a large group of researchers (as found in text by Reason & Rowan, 1981) argued against the quantification of research - discrediting the assumption that if it was measured it must be true.

PAR is considered an "alternative" to traditional social science methods but it is not intended to replace all aspects of social science research (Carr & Kemmis, 1986; Dick, 1997; Hall, 1992). PAR is not appropriate for all types of inquiry and researchers need to carefully consider choosing this methodology. Researchers that work intensively with groups or within organizations have found that many of the principles of PAR fit comfortably with their values and beliefs. The next section of this paper outlines a series of guidelines for PAR and in a later section considers these principles as they apply to graduate student projects and classrooms.

### **What is the problem for which PAR is the solution?**

During a recent conversation a colleague posed the following question "what is the problem for which PAR is the solution?" The problem (put simply) is the dominant paradigm that continues to be reproduced through positivist research traditions, hierarchy and the taken-for-granted systems and structures at work within academic institutions. The problem lies within the traditional relationship between researcher and researched that has

permeated academic institutions for decades. Subjects of research are often viewed as information repositories, databanks to be interviewed or people to be 'empowered'. Alternatively, PAR considers participants in the production of knowledge (instead of subjects) and creates the possibility of empowerment for the researcher (as opposed to the belief that subjects are in need of being empowered). If we alter our perspective (and language) to include our subjects as participants in the research process we may learn more about the people we are questioning than just the answers on the survey. In traditional social science research, the researcher has total control over the subjects which may result in unfair and inequitable relationships between these people. This unbalanced power dynamic has been a part of social research for so long that few disciplines even report on the relationship between researcher and researched in academic journals and texts. This is not to suggest that academic researchers do not have good intentions for their research.

Let me take a step backwards before I get myself into trouble. There are academics within many disciplines that spend a great deal of time reflecting on their positions as researchers and discussing this predicament in the literature and in their classrooms. However, it is my experience that the level of self-awareness and critical reflection is not apparent in the behaviour of professors in all disciplines of social science and in my experience almost invisible within the natural sciences. It is important to acknowledge that many of the natural sciences do not deal with human subjects and would not be expected to reflect on this power relationship. Unfortunately, most academic research is written in a language that cannot be understood by individuals outside of the discipline. Consequently, research results are rarely created for those involved in the research process and are inaccessible to the general public. PAR attempts to turn research into a step-wise process of critical reflection in order to alter the relationship between the researcher and the researched. Through active participation in the research process, participants become co-researchers in an evolving research cycle. By actively participating in the research, people will have a better understanding of the research process and be more involved in the outcomes of the research. The assumption is that by increasing the number of people involved in the design and analysis of the research, the more likely that the results will lead to action and implementation. This is an assumption that requires evaluation in the field.

## Principles of PAR

Most authors describing the methods of PAR illustrate the underlying principles and assumptions associated with the methodology. Table 4.2 outlines a list of principles taken from three sources for action research, participatory research and participatory action research. For example, Stringer (1996) states four principles that all community based action research should adhere to. This type of research should be **democratic** (enabling participation for all), **equitable** (acknowledging equality of people), **liberating** (providing freedom from oppression), and **life enhancing** (enabling the expression of people's full potential) (Stringer, 1996). These principles are rarely espoused when we consider traditional methodologies from social science. This is not to say that all research should encompass these principles, only that PAR is intended to encompass these ideals. Other principles that PAR embraces include critical reflection and reflexivity as a means to address the subjectivity present in all research projects. Reflexivity is defined by Hall (1990) as a deliberate attempt to:

- monitor and reflect on one's doing of the research
- be self conscious about how one's doing of the research as well as what one brings to the research (previous experience, knowledge, values, beliefs and *a priori* concepts) shapes the way the data are interpreted and treated.

For better or for worse, reflexivity and critical inquiry can lead to unanticipated and disruptive findings (Hall, 1990). Participatory action research has the potential to cause disturbances that can manifest as direct, political action or as disturbances in our own understandings and assumptions. Miller (1994, p.75) outlines a few of the potential drawbacks of PAR methodology and explains that PAR "is not experienced as uplifting and rewarding by all participants. Researchers adopting this approach need to recognize that outcomes may be unexpected and sometimes painful for some or all participants." Her study was an experimental mini-economy with the intention of examining how economic structures influence personal relationships and decision making within a group of people. She was shocked and unsettled when people were extremely upset with the outcomes of the project. Another example of disturbance is the potential for transformative experiences as a

result of participatory action research. Researchers that emphasize self-reflexivity of their own assumptions, values and biases will be challenged within participatory projects as much as the other participants. The repercussions of reflexive practice in any setting can lead to transformative experiences that require a great deal of support. I recall my professor of action research stating that she could only participate in action research projects every 2-3 years due to the increased demands on her emotional and intellectual energy. The Group for Collaborative Inquiry & thINQ (1994, p. 62) shared similar responses to collaboration in describing that "one marker of collaborative inquiry is the extent to which the process disrupts the personal lives of the researchers." Emotional and personal anecdotes are found throughout the literature on participatory and collaborative research. These anecdotes allow others to reflect on the engrossing nature of the practice before embarking on their own PAR projects.

Researchers engaged in PAR are constantly reflecting, acting and changing the direction of the research process in an effort to keep the research democratic, equitable, liberating and life enhancing. Authors of PAR projects suggest that this cycle of research allows for a more holistic understanding of the research problem, an increased likelihood of all voices being heard and a greater degree of trust between the researcher and the community involved in the research (Dick, 1997; Hall, 1992; Stringer, 1996). Most authors in the PAR literature suggest that we need to be more aware of how the assumptions associated with the PAR methodology should become part of the critical reflection incorporated into the research process. It is simply not enough to engage in participatory action research and assume that these principles will be applied.

Winter's (1996) principles for action research appear more cautious than Stringer's (1996) key principles. Winter suggests that we need to include both a reflexive and dialectic critique in our work. As researchers, we need to be attuned to our own biases and attempt to relate these biases to the context of our standpoints. In creating multiple frameworks we can develop a variety of accounts as compared to a single, authoritative interpretation of our research findings. Winter (1996) suggests that multiple interpretations of data will help to address the authority and inequitable power relationships that are a direct result of singular interpretations of research data. By collaboratively interpreting



data, we may be more aware of how our own personal biases and assumptions influence the analysis.

One of the most thorough accounts of the fundamental principles of PAR is found in McTaggart (1991, p. 181) who warns not to "become bedazzled with the bright light of a pristine set of principles". He suggests that a large number of research practices are being lumped under the guise of PAR that do not adhere to these principles (see Table 4.2). McTaggart's (1991) paper describes how the terms participatory action research, participatory research and action research are often misused and accompany a large array of approaches to research. Most would agree that PAR involves a group of people and that the research process is cyclic in nature. Problems arise for academics attempting to agree on definitions for true participation, action and most importantly what constitutes research. Alternative research paradigms challenge academics to reconsider the constructions and concepts that have become habits of practice in our work. The principles of participatory research are similar to those of feminist research methods. Both feminist and participatory action researchers agree that research can empower the oppressed and lead to social change (Maguire, 1993; Reinharz, 1992).

**Table 4.2: A Sample of guidelines and principles found in PAR literature.**

Reference	Guidelines and/or 'Principles' for PAR
Stringer, 1996	<p><b>Relationships</b> are:            Equal, harmonious, accepting, cooperative, sensitive</p> <p><b>Participation</b> that is:            Involving, active, supportive, successful, personal</p> <p><b>Communication</b> that is:            Attentive, accepting, comprehensible, truthful, sincere, appropriate, advisory</p> <p><b>Inclusion</b> that accounts for:            All individuals, all groups, all issues, cooperation, mutual benefit.</p>
McTaggart, 1991	<p>PAR projects emphasize the following:</p> <ul style="list-style-type: none"> <li>• identification of individual and collective project</li> <li>• changing and studying discourse, practice and social organization: the distribution of power</li> <li>• changing the culture of working groups, institutions and society</li> <li>• action and reflection</li> <li>• unifying the intellectual and practical project</li> <li>• knowledge production</li> <li>• engaging the politics of research action</li> <li>• methodological resources- phenomenology, ethnography, case study.</li> <li>• creating the theory of work</li> </ul>
Winter, 1996	<p>Principles and procedures for the conduct of action research projects:</p> <ul style="list-style-type: none"> <li>• reflexive critique</li> <li>• dialectic critique</li> <li>• collaboration</li> <li>• risking disturbance</li> <li>• creating plural structures</li> <li>• theory and practice internalised</li> </ul>

## **Academic Involvement in PAR**

After reviewing and considering a large body of literature on the subject of participatory action research, there are a number of questions that arise for academics to consider. The following questions represent an alternative perspective for researchers that fundamentally challenge the way we teach and do research in the academy. The four questions include 1) What is the relationship between participatory action research and academic success? 2) Can power imbalances between researchers and participants be reduced through PAR? 3) How can the role of emotion and self be incorporated into academic research? 4) Is it possible for true collaboration and participation to occur within competitive academic settings? These four questions challenge academics to consider how equality, shared knowledge construction and participation can be practiced within our institutions. I believe that if we are to shift current research practices to further include (and accept) alternative paradigms for research we need to consider how our classrooms, meetings and hallways would change. The following four sections of the paper will address each of these problematics in relation to practicing participatory action research in the university.

### **1. What is the relationship between participatory action research and academic success?**

Cancian (1993) interviewed nine successful sociology professors involved in PAR, and found a number of tensions arose between the role of activist and the role of the academic. "Sharing power over the research with community members makes it very difficult to produce frequent academic publications that meet academic standards, and incorporating social action into the research slows down and complicates research projects" (Cancian, 1993, p. 96). She found that many of the interviewed professors tried to keep community service and research as separate entities in their lives in order to pursue both activism and academic success. Cancian (1993, p. 103) describes this as the two career strategy (academic and activist) and one childless female respondent suggested "that if she had children, she would not have the time to be an activist as well as a successful professor".

If "doing PAR is antithetical to climbing the ladder of professional success"(Stoecker & Bonacich, 1992, p. 8), then why are professors teaching students (some who may want to become professors) about the benefits of this alternative methodology? Researchers who are familiar with the methodologies are adamant that "It is NOT business as usual and as such it is DANGEROUS" (Stoecker & Bonacich, 1992, p. 8). As academics become more involved in collaborative and participatory research, especially PAR within the university, there may be an opportunity to challenge the systems that we take for granted on a daily basis. How can we shift other disciplines to consider alternative research methodologies when our institutions remain steeped in hierarchical structures and success based on individual achievement?

## **2. Can power imbalances between researchers and participants be reduced through PAR?**

Hubbard (1996) and her colleagues (Divinski et al, 1994) have addressed the possibilities of restructuring academia (to accept alternative research paradigms) and came to the belief that their demands would never be seriously addressed or implemented. Hubbard's (1996) group suggest that it would be "foolish to expect academics to strongly support radical approaches just as it would be wrong to encourage graduate students and junior faculty to ignore conventional standards" (Hubbard, 1996, p. 85). Should academic institutions embrace alternative research paradigms that attempt to involve communities in every aspect of the research? Hall (1993) elaborates on the commodification of knowledge within the academy.

Knowledge within the academy serves a variety of purposes. It is a commodity by which academics do far more than exchange ideas; it is the very means of exchange for the academic political economy. Tenure, promotion, peer recognition, research grants and smaller codes of privilege are accorded through the adding up of articles, books, and papers in 'refereed' journals and conferences.(p.xix)

In a recent paper, "Are academics irrelevant?" Stoecker (1998), addressed how far participatory research in academia is planning to go. He suggests that if academics can

train research subjects to conduct research, pose research problems and create social change then academics will be working themselves out of a job. If academics and community organizations are competing for the same research grants we may see another shift towards more traditional forms of research. "As even public universities become increasingly dependent on private money, our salaries and our research grants are more and more tied to maintaining, rather than challenging, the existing power relations" (Stoecker & Bonacich, 1992, p. 5).

The danger of institutionalizing PAR is that it will become more rigid in method and it will shift away from the open, participatory and collaborative processes that it adheres to. Heaney (1993, p.43) suggests that academics should be aware of the power of the institution when practicing PAR; "it is not difficult to imagine the day when third world governments and community organizations will hire only professional participatory researchers trained and certified by graduate institutions." Participatory research evolved out of the need to change the power relation between research and researched and to bring research into the hands of community members. It is important that this practice remains open about its biases and assumptions and continues to strive for a practice of reflection and self-critique. I am concerned that PAR created by academics will become part of the problem instead of part of the solution.

### **3. How can the role of emotion and self be incorporated into academic research?**

In their recent book, *Action research as a living practice*, Carson and Sumara (1997) suggested that further investigation is needed to understand the distinction that traditional research makes between the roles of the researcher, the person and their practice. Is it possible to separate our selves from our research practice? How do the events of our research into social systems shape the way we think about and influence our work? If we agree that our emotions, intuition and beliefs influence our research agenda, how can we include these ideas and thoughts into our research process? Questions about the intimate relationship between self, practice and research reflect a large spectrum of the action research literature and important questions that academics in all fields might begin to

include in their research findings. Miller (1994, p. 75) suggested that we need more description and analysis of participatory action researchers' emotional and intellectual reflections in order that other researchers can recognize that "outcomes may be unexpected and sometimes painful for some or all participants".

I agree with the many authors who suggest that PAR can lead to personal transformation (Carson & Sumara, 1997; Cranton, 1994). "Participatory research is not only about trying to transform social structures 'out there' and 'the people', it is about being open to transforming ourselves and our relationships with others" (Maguire, 1993, p. 175). Transformation can be a difficult pathway filled with anxiety, self-critique and heightened awareness, and without proper institutional structures in place for supporting transformation we need to be careful about how quickly we espouse alternative research paradigms. It is possible that teachers who have not experienced PAR could teach it in their classrooms but it raises questions about the expectations and realities of attempting PAR in an academic setting. I believe it is important that students do not rush out to do PAR projects in the last two weeks before the end of term and consider time constraints before beginning connections with communities. PAR is a delicate balance of group dynamics that requires a high degree of self-awareness, reflexivity and a large amount of time and energy. Professors (and students) need to consider if they are willing to continue the research and commitment outside of the school term.

#### **4. Is it possible for true collaboration and participation to occur within a traditionally competitive academic setting?**

An underlying principle of PAR is the commitment to collaboration (Brooks & Watkins, 1994; Winter, 1996). Collaboration needs to take place both among the participants of the research and among the academic researchers. Many participatory researchers define all participants as co-researchers in an attempt to divert the hierarchies and power differential between the researcher and researched. Ideal models of collaboration suggest that the research could not be completed without full participation of all participants in the research process.

Participation can be problematic; especially when the group that comes together varies in power, status, influence and language ability. McTaggart (1991) suggests that the term participation has been corrupted by its use in academia and this abuse has ultimately led to involvement as opposed to ideal forms of participation. McTaggart (1991) distinguishes between participation (to share and take part) and involvement (to include) to suggest that true participation takes more effort and commitment than participant involvement in a research project. True participation in research activities is distinguished as a process whereby people are involved in setting the agenda of the inquiry, formulating the questions for the inquiry, developing the methods and collecting and analysing the data. He suggests (1991) that involvement can lead to co-optation and exploitation of people in the realization of the plans of others.

This is common in community programs which are portrayed as participatory action research but which in reality are little more than the oppressive and unreflective implementation of some institutional policy. People are often involved in research, but rarely are they participants with real ownership of the theory and practice (McTaggart, 1991, p. 171).

In a model of true participation, participants have more control over the outcomes and process of the research.

This emerging paradigm of research enables researchers to be engaged in collaborative knowledge production but it does not fit within traditional academic models for writing, publishing or promotion. Collaborative inquiry challenges academic institutions to create a system that accepts (and even rewards) these alternative processes for research. As a graduate student I am attracted to the often promoted collaborative projects within academia, however my success within the institution is more often related to my individual endeavors (grades, publications, presentations, etc.). Collaborative inquiry is a fascinating methodology that challenges many academics to reconsider our assumptions about knowledge creation and what we consider to be valid research.

Academics need to be aware that the theories of participatory research are intricately connected to the practice of our work and without reflection and critique, these

intricacies will rarely be practiced in the institution. Moving into the realm of participatory research is not a small leap for social scientists schooled in the paradigms of rational, scientific methods.

The decision to attempt participatory research grows out of a deep belief in the ability of people, ourselves included, to grow, change, challenge injustice and oppression, and take increasing control of our lives and communities through collective action, however small. Yet we live within the very structures and relationships we seek to transform (Maguire, 1993, p. 176).

Academics work within institutions that are steeped in traditions and hierarchy. There are tensions between the traditional role of an academic researcher and a person who is truly committed to community based participatory research.

### **Living in the basement of the ivory tower - Challenges and consequences for graduate students**

My initial understandings of methodology in the social sciences were in feminist and action research classes. Throughout these courses there was an emphasis on self-reflection, process and the ethics of research. In particular, feminist research methods allowed me to question deeply my role as a researcher and the influence that research could have on participants. My background in biological sciences made me a harsh critic of the 'soft' sciences. The longer I spend in the realm of social science the more appreciative I become of the complexity of research issues within the academic institution.

The principles and definitions of PAR contradict many of the overarching power structures present in the academic institution. Bernard (1999) suggests that academics choosing participatory action research as a methodology should be prepared to challenge traditional research hierarchies. In my own experience as a graduate student, this would translate into challenging the academic institution that will also be evaluating my work.

I want to practice participatory action research for the principles it espouses and yet I fear that I will create paradigmatic battles in my doctoral research with this type of direction in my research. I am also aware that I do not have the time (and perhaps not the



patience) for engaging in a truly participatory study. I am required to write a research proposal with research questions, research problems and a direction for the research - none of which involves the participants of the study. If I were to wait until this stage were completed I would risk not completing my doctoral program within a reasonable timeframe. Teaching students about participatory action research within an academic setting presents an array of challenges to the students, professors and the participants involved in the study. Obvious tensions arise in the undertaking and writing of a participatory research thesis. "Since our writing emerges from a different set of relationships (collaborative and action-oriented, rather than authoritative and observation-oriented), the format of our writing should be different." (Winter, 1996, p. 25). Dick (1997) outlines the complexity of choosing an action research project for a thesis or dissertation.

The danger is that your supervisors or committee, and your examiners, may assess rigour using criteria appropriate within their own paradigm. They may value quantification, precise research questions, substantial early literature review, and the like. It is therefore important that you understand the ways in which action research achieves rigour so that you can justify convincingly what you have done. (p.3).

A number of contradictions and tensions arise for graduate students that are interested in pursuing alternative research paradigms within traditional disciplines.

One of the most frustrating aspects of graduate school is that the words in the papers of many academics work do not parallel their actions in their classrooms. Departments and disciplines engaged in participatory research paradigms are now beginning to test out some of the principles in truly participatory classrooms. For example, many doctoral programs require that the first year or two is dedicated to reading and classes in an area of specialization after which comprehensive exams are completed to assure the committee that the student has a solid foundation of the literature. What if you are attempting to start your research grounded in people's lived experience? How do you frame research questions for a proposal prior to meeting the group that you will engage in participatory research with? How do you write ethical reviews for a process that will unfold as it progresses? These are only a few of the questions that are unsettling to me as I consider using PAR as a methodology for my doctoral research.

I chose to write about participatory action research because I am intrigued with the democratic, participatory and learning dimensions of the methodology. I am struggling with the potential problems of using such a method as a Ph.D. student and yet I imagine the learning experience would be enormous. A number of published excerpts document the personal and institutional struggles involved in doing participatory research as a graduate student. Bernard (1999) feared that her department would not find her doctoral research to be 'academic' enough. Maguire's (1993, p.175) advice is loud and clear. "Seek out faculty promoting, or at least open to, alternative paradigm research approaches. The ideal is to find faculty as open to learning with you as they are to teaching you."

### **A new vision for the academic community**

Academics are essentially paid to ask questions, solve problems, analyse data, teach classes, and most definitely to write and publish. Most departments include community service as part of the role of the tenured academic. If the combination of teaching, community service and research publications is the current framework for the responsibilities of an academic, then academic success should be fairly based on a combination of these three areas. Despite the continuous struggle for academic promotions to rely more heavily on teaching ability and community work/service, academic success does not always work in this simple equation. An equal numbers of academics agree that the role of the academic is to produce research and should therefore be evaluated by publications alone.

According to my own universities Academic Plan (UBC-Trek 2000), the university is a diverse entity with a multiplicity of roles in society. We have entered a time when post-modernism and deconstruction are high on the list of challenges to the scientific paradigm that has dominated the last century. I am engaged deeply in feminist critiques -- of traditional research paradigms, of theory and of the academy. I see through a lens of feminist critique on some days and an ecological lens on others. I read feminist work and I am excited by the need to place emotion and self into my work, so that other people can understand more deeply my thoughts during the research process. This type of reflection is

important for a mutual dialogue with the public about research. We need to embrace alternative ways of knowing and thinking about problems which includes subjective accounts of research and involving a wide range of people in research processes. The risk is that we shatter the image of the institution as the seeker of truth - the potential is that we move closer to societies where social justice and ecologically sustainability are the norm.

Participatory action research is not the key to all the problems in the university or society, nor is it the ideal method for all research problems or disciplines. It is important that academics consider the potential outcomes of introducing these methods into the classroom. If we view the university as the objective seeker of truth and knowledge then it is easy to connect truth to the current systems of power, authority and hierarchy associated with this structure. If we allow a diversity of people to create knowledge, to participate in knowledge production and to collaborate in the shared construction of knowledge, it is likely that the current systems of power and hierarchy will need to adapt.

During my doctoral program I have taken courses in action research, feminist research, read numerous books and papers on the subject and attended a number of academic seminars on the topic. I have been advised by some academics to stay clear of the methodology while others urge me to take on an action research project with all of my heart and soul. It appears that talking about participatory action research has become fashionable within academia, however there are few academics who discuss the challenges that PAR presents to the institutional framework and even fewer practicing PAR for themselves. Academics might consider opening forums to discuss the challenges and frustrations of collaborative and participatory work in an environment that creates solutions as well as publications.

To conclude I raise two questions that challenge the university to consider the widespread use of PAR within its walls. 1) How can we assess the usefulness of PAR in an academic setting when so few academics are practitioners of PAR? 2) How can we change the criteria by which we assess participatory and action researchers when we work within institutions entrenched in the dominant social paradigm that values objectivity and traditional methods above all others? We need to reconsider how we evaluate academic

research before moving PAR into our classrooms and graduate theses. Through a conscious effort to raise awareness about the democratic and social implications related to participatory research we may be able to move towards reconsidering the role of academics and the role of academic institutions within community practice. Perhaps the influx of participatory action research into more disciplines within the university will begin to transform the pathways of my future career. Perhaps not.

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## **Chapter 5**

### **Barriers and pathways to creating sustainability education programs: Policy, rhetoric and reality.**

A version of this chapter has been submitted for publication in the journal *Environmental Education Research*.

Sustainability education is essential for students to appreciate, understand and think critically about complex environmental, social and economic problems (Huckle & Sterling, 1996; Orr 1996). Many educators agree that learning about sustainability should include discussions of the implications of ethics, alternative worldviews, the role of humans within ecosystems, and ultimately a discussion of what matters (Bowers, 1993; Jickling, 1994). How students learn to think about sustainability will influence their actions as local and global citizens. As more universities exchange degrees for money they risk becoming corporations with customers who demand education that will help them compete in the global economy (Orr 1998). Orr (1998) addresses the relationship between academic planning and ecological sustainability and the current state of affairs within many universities:

At an organizational level denial is embedded in the very fabric of bureaucracy, management, and committee structure characteristic of higher education in the post World War II era. Colleges and universities have become over-managed and under-led institutions operating more and more like businesses with customers. College presidents increasingly regard themselves as CEOs whose chief mission is fundraising. Few think of themselves as intellectual and moral leaders and will not often invest themselves in controversies that jeopardize their upward mobility (p.2).

Following on this theme of the university as part of the problem is the need to find ways for universities to become part of the solution.

When I started learning about the sustainability, I thought it meant riding your bike to school every day and recycling tin cans. I assumed that sustainability was a new word for environmentalism. I had little understanding of the complexities of the social world until I moved from science to social science to pursue a doctoral degree. I have since come to understand that sustainability encompasses much broader and more complex issues than transportation choices and recycling, including social, ecological, economic, political, and



spiritual components. Sustainability also encompasses *how* things happen –classroom dynamics, decision-making processes, organizational structures, leadership strategies, strategic planning initiatives and collaboratively envisioning the future.

## **Researching the University**

As a graduate student, I was generally expected to research outside of the institution I should research others, analyse the data and write papers for publication. Instead, I chose to study my own institution and my research is a personal and political journey of pursuing activist research within the university. It is also a personal inquiry to determine whether or not I could practice sustainability education and find personal well being within an academic environment. I want to create university level sustainability education programs and find out the extent to which the university is open to transformative shifts in programming, promoting sustainability and questioning its own everyday, taken for granted practices.

In 1997, the University of British Columbia (UBC) created a Sustainable Development Policy that all UBC students will be educated about sustainability. “UBC seeks to become a centre for teaching and learning about the skills and actions needed to manage ourselves in a sustainable way”(UBC Sustainable Development Policy 5, 1997). The University of British Columbia is also committed to improving its performance in sustainability at an operational level. My knowledge of the University of British Columbia includes my experiences as a Masters student, a teaching assistant, a research assistant, a Sessional Lecturer in Biology, a Doctoral student in Community and Regional Planning, and a currently a Doctoral student in Education. I have filled notebooks with encounters that demonstrate the tensions between the values of sustainability and my day to day experience of university education. These tensions became so apparent to me as I continued my schooling that eventually they came to be the core of my research. I address two questions in this article: What are the barriers and limitations to creating sustainability education at UBC? What possibilities for overcoming these barriers are plausible? The intention of my research is to create change and to create space for change- whether that is

a change in perspectives at an individual level or larger changes in institutional action, programs and policy.

## **Methods and Methodology**

My understanding of educational and social research is informed by feminist epistemology and feminist research methods as feminists (among others in the university) challenge our current institutional hierarchies and power structures (Hubbard, 1996; Lather, 1988; Maguire, 1993). Feminist methodologies rely heavily on the experience of both researchers and participants involved in the research (Reinharz, 1992). My research is also influenced by the principles of participatory action research, which recognizes the inherent subjectivity in all social science research and includes reflexivity as an integral part of the research cycle (Hall, 1990; Stanley & Wise, 1990). Participatory action research (PAR) has many names and faces in the academic world and is gaining momentum in a number of disciplines, but all projects involve participants in the research process (participatory), are committed to social change (action) and have elements of social learning (education). Action research is an emergent, iterative process by which change and understanding can be pursued simultaneously (Dick, 1997; Zuber-Skerritt, 1992).

## **The research process**

Ideally I would have had full enough participation from enough people to name my work 'participatory action research'. Unfortunately faculty members and administrators are extremely busy and it was difficult to find people on campus with enough time to engage in this study. Instead, I concentrated on the action part of the PAR methodology. Action research is different from an 'ethnography' in that the researcher does not merely observe the system, even as a participant, but becomes an active participant in the research process. Coghlan and Brannick (2001) discuss these differences in their book *Doing action research within your own organization*.

The ethnographic observer attempts to be an unobtrusive observer of the inner life of an organization, while the action researcher works at enabling obtrusive change. Above all, action research is about planned change. The intended change typically involves re-education, a term that refers to changing patterns of thinking and action that are currently well established in individuals and groups (p.42).

It was my intention to create change – not necessarily ‘obtrusive’ change but instead a more subtle kind of subversive change. I intended for my research to lead to changes in attitudes and understandings about sustainability education and I wanted all members of the university community to recognize the importance of implementing the sustainability policy.

During the research, I engaged in many sustainability projects on campus, I attended sustainability events, planned and delivered courses on sustainability and met with faculty and staff on numerous occasions in committees connected to sustainability education projects. To gain further insight into sustainability education, I interviewed people who were actively working on sustainability issues at UBC and discussed their experiences of creating sustainability education programs at the university. During initial interviews, I asked participants to identify other individuals of importance in this field. Through 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. The second round of interviews focused on change-agents, decision-makers, administrators (Associate Vice Presidents, Vice Presidents, Deans) and people who were considered influential. This was an important step in the research process as the second set of participants held powerful positions in the university and had different kinds of lived experiences of the university. All interviews lasted one hour, were semi-structured and included 10 questions that paralleled my research questions. In total, I interviewed 30 participants at UBC, including undergraduate students, staff, faculty members from a range of disciplines, Deans, Associate Vice Presidents and Vice Presidents. None of the student interview quotations were used in this particular paper. Interview questions can be found in Appendix C.

After transcribing and analysing the interviews I invited all participants to review their remarks and quotations. Participants were welcome to view the complete transcripts and could withdraw their comments at any time during the study. The process of checking all quotations ensured that participants were a part of the research and were open to having their voices in the report and publications. At an early stage, I decided not to identify the participants by name or position in the university. At the end of the research project, I circulated a 75 page internal report to all 35 participants that outlined the barriers and pathways to sustainability education at UBC. I encouraged participants to provide feedback, then integrated it into the final manuscript.

During the research, I was involved in two significant projects related to sustainability education at UBC. One activity was a collaborative inquiry writing project in which seven participants (staff, students, faculty, administrators) shared their experiences of the implementation of UBC Sustainable Development Policy (Chapter Six). I am also a member of a small team planning a proposal for an undergraduate program in sustainability studies. Our proposal for an interfaculty undergraduate program in sustainability studies (IFPSS – Appendix B) is complete and we are continuing program design and developing implementation strategies and tactics.

## **Barriers to Sustainability Education**

A number of themes emerged during the interviews and discussions of barriers to sustainability education at the university (See Table 5.1). These barriers form the organizational structure of this article and include: the competitive environment, the disciplinary environment, misdirected criteria for evaluation, and unclear decision making structures for priority setting and implementation. These are obviously not the only barriers to sustainability programming, nor are mine the only interpretations possible. The quotations included in the article are intended to portray expert opinions as all of the participants in the research have spent a large portion of their careers working within the university system and have experience with how the 'system' or 'institution' works.

**Table 5.1: Barriers to curriculum change towards sustainability education at the University of British Columbia.**

<b>Barriers to Sustainability Education</b>	<b>Details</b>
<b>Disciplinary environment</b>	<ul style="list-style-type: none"> <li>• Disciplines determine organizational structure and most departments claim interdisciplinary programs.</li> <li>• Funding is allocated to departments – infrastructure/structures determine outcomes.</li> <li>• Turf wars and boundary wars due to contentious worldviews.</li> <li>• Students have difficulty changing directions, taking courses outside their discipline – i.e. too many prerequisites.</li> </ul>
<b>Competitive environment</b>	<ul style="list-style-type: none"> <li>• Between and within: students (for grades), faculty (publication, grants), departments (students, funding), universities (prestige, power, etc.).</li> </ul>
<b>Misdirected Criteria for Evaluation</b>	<ul style="list-style-type: none"> <li>• Faculty (publication lists for promotion and hiring).</li> <li>• Student exit surveys focus on jobs and salaries as criteria for student evaluation.</li> <li>• Lack of clear evaluative structures for university policy and plans – i.e. lack of policy implementation.</li> </ul>
<b>Unclear Priorities, Decision Making and Power</b>	<ul style="list-style-type: none"> <li>• Too many priorities.</li> <li>• Unclear decision making structures. Research as top priority.</li> <li>• Distinct hierarchy of power – administration, faculty, staff and students.</li> </ul>

### **Barrier One: The Disciplinary Environment**

The University of British Columbia's organizational structure is closely tied to disciplinary boundaries (e.g. Departments of Sociology, Biology, History etc.), but the academic plan supports and promotes interdisciplinary education. Despite a number of specialized programs for undergraduates (e.g. Interdisciplinary Arts degree, Integrated Sciences Program) and graduates (e.g. Individual Interdisciplinary Studies graduate program) at UBC, many participants associated sustainability with a need for more interdisciplinary programs. The problems associated with researching and studying within a

single discipline are nothing new and UBC has recognized the need to move towards interdisciplinarity in its recent academic plans. In 1932, Charles Beard wrote a paper "The Quest for Academic Power" for the American Association of University Professors. He had this to say over 80 years ago.

The task is difficult no doubt, and the educator who rushes in where angels fear to tread will probably run the risk of amusing his colleagues who sit snugly ensconced in their specialist corners. It is easier to ascertain the price of cotton in Alabama from 1850-1852 or to measure the length of frogs' legs in Ireland than to find out what education is and might be; but, despite our desire to escape the problem, the issue presses itself upon us with increasing insistence. (p. 464)

Despite a long list of warnings from academics, universities continue to be discipline-centred and teach undergraduates subjects as if they were arranged in tidy boxes (or so it may appear to undergraduates). Do disciplinary boundaries choke creativity and transformation at UBC or are they necessary to maintain order and structure within a large organization? One research participant said this on the subject of interdisciplinarity;

I am very critical of disciplinary boundaries and the way disciplines try to define everything and lock it in. I am a bit ambivalent in the following sense. I think that knowledge is vast and to some extent you have to parcel it in order to practically have some coherent body of knowledge that leads to people feeling they can get their mind around something and the training - to do something practical with. But at the same time the disciplines often have a stranglehold on the way the university runs, and this translates into departments and people who defend their territories. The disciplines have too much of a stranglehold on the structure of the university, so there has to be kind of a blending of the two...And that is difficult to do.

Several interviewees were quick to blame disciplinary boundaries for a range of problems in the university. They also recognized that the system produces "excessively specialized" experts. One recognized how sustainability had pushed the envelope of interdisciplinarity on campus in many interesting ways, to the point where people had raised concern over which department did 'sustainability' best! Another participant discussed how subject matter or concepts might better organize universities.

Anything, absolutely anything that focuses on subject matter and not disciplines is useful. I believe that disciplinary boundaries are not useful in any truly meaningful way. Sustainability is a perfect example of a subject that should not be constrained. Perhaps the interaction will foster tolerance for different disciplines and respect for the people who do the work.

Most of the major problems in the world are not disciplinary in nature (i.e. climate change, overconsumption, poverty, global trade issues). One participant gave the example of the complex issue of children's rights to clean water. This problem can be considered through a number of lenses – a corporation's interest in creating water treatment facilities, management of natural resources, global water policy, children's rights and international planning and development. All of these topics are closely related to the concept of sustainability and it is commonly assumed that problems like these can be solved only with an interdisciplinary focus. If future generations will face these types of problems, how will our education system prepare students to deal with them? Do students need to wait until graduate school to grapple with issues in an interdisciplinary manner? Because sustainability issues are interdisciplinary in nature, it is imperative that undergraduates be exposed to the problems and products of interdisciplinary thinking and research.

A long-standing argument against interdisciplinary undergraduate programs is that it would be 'better' for students to get disciplinary training first as the following participant explained.

The feeling has generally been at UBC that it is better to get some sort of disciplinary grounding under your belt first so that you then have some body of expertise that is coherent, and then you put something else on top - something more specific to a given industry or a given concern. Now what you have to be very careful about is that if you do have people in more disciplinary backgrounds at the undergraduate level, you at least make them aware of all these fields and not lose sight - in fact encourage them - to go on and do graduate work where they broaden and cut across disciplines.

Many faculty members suggested that it is important for students to start with a disciplinary foundation and wait until later on in their schooling to deconstruct that foundation. My concern with this argument is that many students will never actually get to a stage in their education where they engage in interdisciplinary thinking or deconstructing the foundations

they have been taught. At UBC, most undergraduate programs are 4 years in length and there is little time to become interdisciplinary when the current disciplinary curricula demand particular pathways and prerequisites and permit little movement between Faculties. Increasingly, programs at UBC allow interdisciplinary movement but few cross the boundaries of Faculties, i.e. between Arts, Science, Commerce, or Engineering.

## **Barrier Two: Competitive Environments**

The second major barrier that emerged during the interviews was the competitive environment of the university. The theme of competition arose in discussions about the perceived prestige of disciplines, the inequity of funding to departments, and a general discussion of "turf wars". Many participants were upset with the tensions between Faculties, between departments, between faculty members, and within classrooms. Participants believe that competition between universities was heightened by yearly rankings by the media and other sources. Participants discussed their experiences of competition in everyday work life and many suggested that we live within a societal culture of competition that also dominates academic culture. Here is one participant's partial response to the question "What is inhibiting universities from the larger paradigm shift towards sustainability?"

The well paid and well funded faculties are the sciences - the technology, engineering, medicine and so on . That is where the university growth is. And as a result we see the fading of the humanities, the collapse of interest in languages, culture, history and so on. Things that make us really remarkable as a species, as human beings, are being pushed into the background in the mad technological rush to train people and give them the best technical training and equipment to maximize both their income potential and the economic return to the university on patentable research . I think all of these trends are manifestations of the university having bought into the corporate game. Now in fairness, the withdrawal of public funding forces the university to look for alternative ways of supporting itself. But again, the withdrawal of public funding is an indication that society at large has bought into this corporate privatization model. The university is forced by circumstances to reflect the larger social view but to my mind this results in the trashing of the real goal of higher education, the idea that we can actually create better people.



In order to gain access to a university education, students needed to compete for grades in high school and (in many cases) on standardized examinations. The promotional material for UBC clearly explains that students in high school need to have a record of high averages to be admitted. For example, a soundclip on the UBC webpage for incoming students explains why UBC is hard to get into;

Some people think we are hard to get into and we are. At UBC, we are looking for the future leaders and so we court the country's best and brightest, then we ensure they are surrounded by others who are just as talented. To get into most UBC programs you need a very high average not to mention straight A's for effort. Yes, we may be hard to get into but by demanding the best we are able to produce the most prepared graduates possible. UBC website (2002).

At first glance this soundclip entitled "UBC -leading by example" is a simple soundbyte of promotional information, but unpacking the underlying message reveals that these kinds of messages are at the root of the unsustainability problem. Many university programs demand the best and the brightest students and claim to produce the best students and yet these programs rarely explain what it means to be the best. In his book *The University in Ruins* Readings (1996), claims that universities rarely define the criteria for being the best or outline the values underlying excellence. "As an integrating principle, excellence has the singular advantage of being entirely meaningless, or to put it more precisely – non referential" (Readings, 1996, p. 22). In a recent academic planning process, UBC asked the members of the community to respond to the following vision statement in an online questionnaire. "In indicating that UBC aspires to become 'Canada's best university', is the current Vision statement in Trek 2000 too ambitious – or not ambitious enough?" The question did not ask "what does it mean to become Canada's best university?" and as a result we are left with ambiguous and unclear intentions.

There is a difference between creating an environment in which students, staff and faculty strive to compete and an environment in which students, staff and faculty are encouraged to become enthusiastic learners. There is also a difference between creating a 'learning community' or a 'learning university' and creating a university that competes for excellence (Duke, 1992). A learning university is not only focused on research, but places significant importance on creating an environment for learners (faculty, staff and students).

A learning university emphasizes a shift in organizational culture, a focus on collaboration instead of competition and creating a community to foster and stimulate learning in all of its members. I am not suggesting that a learning university may not also be an excellent university but instead that the members of the learning community would create the criteria by which excellence is assessed. This is a subtle but important distinction. The consistent message to 'be the best' (as opposed to working collaboratively or creating learning communities) is just as explicit for new faculty competing to gain tenure and become a permanent part of the UBC community. Another participant discussed this predicament;

Main stream culture sends a message that competition leads to greater productivity and excellence. I think that can, and should be challenged. It's like learning. Students receive individual grades and marks. Outside of the university, people work in teams much of the time. Even when people aren't in teams, most recognize that their success depends in many ways on the cooperation of other people. In a university context, work is graded on an individual basis... you are pretty much on your own.

The environment of competition is found not only among faculty and students. One staff member suggested that competition is the default and that we need to work more consciously to cooperate with one another. In an academic environment, critical thinking is valued, rewarded and encouraged and this may be connected to the ongoing competitive environment in academia. In academia, individuals gain power and prestige by creating new knowledge and publishing it. New knowledge claims and assertions are assessed by critiquing one another's work, through critical examination by other researchers, by publicly critiquing research at conferences and by blind peer reviews for journals and other publications. One participant discussed the tension between moving forward as an institution and spending time critiquing ideas of colleagues.

It is an embedded cultural thing at the university...so is the whole idea about moving knowledge forward through criticism - that is very deeply embedded at the university - the idea of whatever you do having to stand up to criticism. And so that is where the atmosphere of competitiveness evolved. And I think sometimes competition is really good for stuff - to up the ante - but it is often used in a negative way at the university - quite distressing and I think that is one reason there are not more women academics - they actually don't like that whole scene.

Another participant suggested that the university is a reflection of the dominant worldview that regards human beings as independent from the rest of nature. This participant was deeply concerned about the corporatization of the university.

The university reflects the values of mainstream society. If you read our own literature, we are not really here any longer to produce better citizens with a wider understanding of our role in the world or our relationship to one another. We have increasingly bought into a kind of corporate model of higher education. Increasingly I think society sees the university as a way of training highly skilled technicians who will be better able to compete in the global economic rat race. And of course, it is precisely this rat race that is destroying the planet. In short, the university is a reflection and it reflects in most of its operations the values of the mainstream society.

I asked one participant the following question "What would a collaborative approach at the university look and feel like?" and this was the response: "I think everyone's stress would go down measurably, we would feel better about coming to work, morale would increase and interestingly, so would productivity. We might even have moments of mirth and merriment."

### **Barrier Three: Misdirected Criteria for Evaluation**

Evaluation takes place at a number of levels at the university; in classrooms, in department meetings and in boardrooms where administrators plan. Students are asked routinely to evaluate the teaching ability of their instructors and new systems are being developed at UBC to record and appropriately release these evaluations to the university community. Every unit (department, research institute) on campus also conducts evaluations on an ongoing basis that include departmental reviews by internal and external review committees. Evaluation indeed happens at the level of classrooms and departments but I wanted to know how university plans and policies were evaluated.

At UBC, university-wide evaluation takes place in the office of Planning and Institutional Research (PAIR). During the interviews it became apparent that the feedback loops and evaluative structures for the university plans are rarely co-ordinated with the criteria used in the meta-evaluations of UBC. UBC has a set of plans, priorities and policies as well as operational timelines that are well intentioned and useful. I was curious

to find out how the university (as a whole) determined whether it was doing a good job of meeting the goals and expectations outlined in these plans. How does UBC know if these plans and policies were making a difference? Administrators informed me that it is difficult to evaluate the objectives of the university because of the large size of the institution and the range of mandates of the units on campus. UBC does evaluate student experience through exit surveys of graduates in collaboration with government agencies and other organizations (e.g. University President's Council of B.C., 2001). These surveys are geared towards employment statistics, job satisfaction and student satisfaction of their university experience. I asked one participant why the questions on the exit surveys did not match the current goals of the administration and this was the response;

Well the survey came long before the TREK plan came in and I guess what we would do is base it more on the academic plan - the part that has to do with students. Have you read the academic plan? It puts a high value on sustainability and citizenship and again we are torn because we do have to look at the economic aspects. We do have to report that they got jobs. And we do have quite a lot of emphasis on jobs and employments and level of employment. We do also try to look at generic learning and sustainability might be a topic that might be a future survey.

UBC has a mandate to teach all students about sustainability but has no way to determine whether this goal was being reached. During the interviews I learned that the university evaluates its own progress in only a few concrete ways.

### **Evaluating faculty**

At the University of British Columbia, faculty in tenure track positions are expected to excel in three core areas in order to be promoted: teaching, service and research - not necessarily in that order. Evaluating individual faculty for promotion is not as straight forward as it may appear. The Faculty Association negotiates UBC's policies and procedures for moving candidates through a series of evaluative steps to a final appointments committee. The Guide to Promotion and Tenure Procedures at UBC (2002) is 27 pages in length and outlines the detailed process for faculty promotion. Recently these procedures were updated to include a more detailed section on the scholarship of

teaching as reason for promotion. Many participants discussed the overwhelming problem of the current reward structure or what many called 'the publishing game'.

It basically comes back to the reward system. The reward systems for sustainability education and the reward system for true interdisciplinary research and education and the basic reward system for teaching well.... I don't see why we cannot promote someone who is an exemplary teacher - if you see it as 3 cups or 3 glasses of water - you have got your service /outreach and your teaching and your research. Why we can't appoint people as 70% teaching 10% research and 20% outreach. - If we don't have anyone transferring knowledge to people who actually need it in society we are not fulfilling our obligation. And yet a lot of people in this Faculty and I am sure in other applied Faculties whose skill is very much in knowledge transfer and they are less interested in publishing in a journal that 100 people read...they are more interested in an op.ed. piece that 100,000 people read - but you go down that road and the rigor thing comes up and all that. But my sense is that there are a number of Deans that are really concerned about building the undergraduate foundation - the question always comes back - well wait a minute - there is a real tension between the priorities of the "research intensive university" and the need to build that really great foundation of excellence in undergraduate learning.

Evaluating the number and quality of research publications is the simplest way to assess faculty members. Hiring and promotion committees count publications and citations and rank journals in order of prestige. If teaching is AS important as research, how do universities evaluate the teaching capabilities of new faculty?

You know it is interesting, I don't think we have a good way of evaluating whether someone is going to be a good teacher or how much they care about teaching. Most people ask them to write about why they want to be a faculty member - what do they think about teaching, what are their philosophies and they can bullshit that one pretty easily. Many departments look at the performance in the seminar and try to translate that into teaching and some departments have them deliver a lecture...which I always thought was kind of artificial - walking into the middle of a 4<sup>th</sup> year class...I just don't think we have objective criteria that work.

I was told that it was common practice for hiring committees to count the number of publications of a job applicant and to consider where the publications were published and how many authors appeared. I was told that in the case of multi-authored papers, hiring committees would contact the other authors to determine the percentage contribution of the candidate. The order of authorship is another way to quantify the "excellence or lack of excellence" in an individual. As one professor retires, another is brought through the same

demanding system of hiring and promotion and the system reproduces itself with minor (and in some cases major) grumblings.

Fortunately, the reward system is slowly changing to include criteria for the scholarship of teaching. The rhetoric at UBC has shifted to embrace and encourage collaborative exercises and yet the reward structure remains very much in tune with individual efforts. Collective efforts by faculty members are forcing administrators to reconsider outdated criteria for hiring and promotion. What questions should be included to expand the current criteria for excellence? In what ways are teaching and service assessed? Is publication the only way to become a leader in the academic world? One participant answered this question when it was posed in an interview.

I think faculty that either are leaders or we believe will become leaders in whatever discipline they are in...By being leaders they are recognized as being in the top 10 in the world as cardiac physiologists or whatever it might be...Victorian historians or whatever. Of course the expectation is that those people will be also superb teachers. So we reward teaching and we expect teaching - quality teaching.

I had heard this argument many times before - that somehow the best researchers were the best teachers in universities. And so I asked the question "Do you see that there is a link between top researchers and top teachers?" The following was one response.

I think that. Yes I do. It is not 100% but you find people that are enthused and excited about generating knowledge want to share it and people that want academic careers do it because of their involvement with students.

I will leave the argument about the link between good teachers and good researchers for others to consider. An entire chapter of the book *No place to learn: Why universities aren't working* by Pocklington and Tupper (2002) is devoted to the connections (or lack thereof) between research and classroom content. The authors claim that the link between research and teaching needs to be carefully considered and call it the "myth of mutual enrichment" (p. 110). The notion that top researchers make the best professors has and will continue to be challenged. There are many attributes that active researchers bring to their classrooms

just as there are important attributes that skilled educators and practitioners can bring to the undergraduate classroom.

#### **Barrier Four: Unclear Priority Setting and Decision - Making**

I wanted to know how and where decisions are made with regards to creating curriculum about sustainability. In talking with administrators who are 'at the centre' and yet they told me that the faculty members had more power than they did to change the curriculum. The faculty pointed at the administration, and management pointed back at the faculty. It became clear that administrators were considered 'above' faculty members in this clearly hierarchical institution and yet there is confusion about how decisions are made and who has the power to create change. Here is one of many examples of what I call 'pointing at the power'.

The blocks are actually in what I call middle management and even lower - I don't think the blocks are always with the senior administration around sustainability education - the blocks are often with the disciplines and the Faculties- we need to educate our colleagues about how they can put sustainability education learning outcomes into their courses. I think it is a block at the delivery level that we need to work on - it is a block at the Faculty level. Now you could say - wait a minute - there is no funding...it isn't coming through...but it is like that with everything...there has to be reallocation and creativity around how we do things.

I imagined that I was going to find people with 'the answers' in the interviews, people who would inspire me with their intellect, finesse and strategic thinking about undergraduate education. Over the years I had questioned the decisions at UBC but I trusted the decision-makers were making strategic, carefully considered choices. In talking with one participant it became apparent that they too had similar ideals about how the inside of a large university worked.

I agree with you and what struck me (and this is across institutions) is the lack of the simulations of the models to which we are going to ascribe. We might be making some other kinds of decisions so what is the impact...has someone done a simulation of this 2 or 3 years down the line...what is going to be the ripple effect? Where are we going to get the money from? All we have to do is build more apartments...and that sort of crosses, social, environmental and political impacts. I don't see that kind of thing going on and I expected to see that the closer I got to the

centre...I thought there was somebody off in some building somewhere who did this sort of stuff. I am not sure how anxious I should be about that. I would have thought that because we are caretakers of an institution we would be doing a lot more of that.

I was looking for a single answer, but I came to realise that there are many ways to create change at the university.

## **Pathways to Change**

The final interview questions were about organizational change as it relates to sustainability and university culture. The discussion of sustainability often led people to ponder how change happens in general, and whether the shift towards sustainability happens at the level of the institution or the individual. One participant who had spent a lot of time thinking about change suggested that instead of changing individuals one by one, members of the university should work on the things they could more easily change such as policies, rules etc. Most participants believed that major changes must happen before sustainability education will find a place within the university. Unfortunately, there was no consensus on the best approach to creating that change. Some participants believed that a major shift needed to occur at the level of individual while others felt that the institution as a whole needed to change directions.

The four barriers outlined in this article (disciplinarity, competition, misdirected evaluation, and unclear priorities) are not specific to sustainability education. However, without changes in these areas, there is little hope for sustainability education to become a reality. I have outlined a short set of recommendations for creating sustainability education including transdisciplinary research and teaching, collaborative and transformative learning and structures that incorporate participatory evaluation. A more thorough discussion of recommendations is found in Chapter Eight.



## **Transdisciplinary research and teaching**

Universities need to think broadly about interdisciplinary education and begin to consider transdisciplinary research and teaching. Sustainability education is transdisciplinary in nature and should NOT be thought of as a new subject or discipline. The dialogue about sustainability must include globalization, environment, development, economic systems, social justice and conservation to name just a few. The distinction between interdisciplinary and transdisciplinary is in the meaning of the prefix of the words. Interdisciplinary refers to research or education that occurs between or among disciplines. Interdisciplinary research can also mean research on a single topic by two or more disciplines, or using methods and concepts from one discipline to answer questions from another discipline. Transdisciplinary education or research goes further than interdisciplinary to include interfaculty programs and has the intention of creating new boundaries for exploration and understanding. Transdisciplinary research and education is complementary to interdisciplinary approaches and concentrates on the space *between* the disciplines, *across* the different disciplines, and *beyond* all disciplines (adapted from Lattuca, 2001; Nicolusco, 1997).

It is important to note that UNESCO (United Nations Educational, Scientific and Cultural Organization) supports transdisciplinarity in projects related to creating a culture of peace and the upcoming decade (2005- 2014) of education for sustainable development (deRebello, 2003). There is a small (but growing) literature on the relationship between sustainability and transdisciplinary research and thinking (Hopkins & McKeown, 2002). Creating structures within our universities to promote transdisciplinary research and teaching would open pathways in the movement towards sustainability education.

## **Collaborative and transformative learning**

Everything that happens inside classrooms between students and between students and professors is a part of the curriculum of higher education. How we teach is as important as what we teach. Sustainability education must also include the implicit curriculum often hidden within the structures and organization of the entire campus

(Margolis, 2001). Shifting to models of collaborative and transformative learning is necessary if we are shifting towards models of sustainability education. A collaborative working space focuses on the process of learning where people exchange ideas, feelings, experiences, information and insights and there is an emphasis on listening, negotiating, challenging, questioning and understanding alternative perspectives (Cranton, 1996). The role of the educator in these learning environments is to provide materials and goals for the students and establish a trusting atmosphere for learning. The focus of teaching and learning in a collaborative model shifts from information transfer (transmission and reception) or discussion (cooperative model) towards a model in which all participants are involved in a shared process of constructing knowledge. By creating spaces at the university where collaboration is practiced and encouraged, academics can move away from the current structures of competition, towards processes connected with the values of sustainability.

### **Participatory evaluation**

Ideally, evaluation strategies should be integrated into the planning of educational projects and programs. As the university makes plans and sets priorities it needs to create evaluative structures to determine whether program goals and objectives are being met. Patton (1990) explains that one negative connotation associated with evaluation is that it is something done *to* people (as opposed to *with* people). Instead of 'being evaluated', participatory evaluation is controlled by the community and is undertaken as a formal, reflective process for the development and empowerment of all participants (Patton, 1990). By creating evaluative structures that are open and transparent, all members of the university community would be able to participate in processes of decision making. University-wide evaluation needs to occur as an ongoing process, not only after a project or program is complete. Good evaluative structures are not unlike good action research projects with clearly outlined cycles of planning, acting, reflecting and evaluation. The intention of evaluation is that it happens over time in order to improve the outcomes and processes of the project. Participatory evaluation is appealing as it represents a movement away from conflict and competition towards a paradigm of collaboration and understanding. By allowing more participants to be involved in the university-wide

evaluation of programs, plans and priorities, members of the university could share in changing the institution and building the community.

The current trajectory of university education is not integrated with the ideas, values and processes connected to the concept of sustainability. Planning for sustainability education in an interdisciplinary context encourages us (students, staff, faculty and administration) to question how we might change the entrenched values and practices that have helped produce the present sustainability crisis. UBC committed to sustainability and sustainability education by signing international and local declarations for sustainability. In order to meet these obligations, UBC must ensure that sustainability education is a priority. In my opinion, it would help greatly to encourage decision-makers to become more accountable to their policies. Through interviews and workshops I came to understand that many academics share values that underlie sustainability and sustainability education. By creating new models of collaborative and transdisciplinary learning, the university can create structures that allow for sustainability to move from current rhetoric to reality.

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## Chapter 6

### Recreating the university from within: Collaborative reflections on the University of British Columbia's engagement with sustainability.

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#### Introduction

The University of British Columbia (Vancouver, British Columbia, Canada) is the third largest university in Canada - with over 28 000 undergraduates, 7300 graduate students, 1700 faculty and 7300 staff (and non-faculty employees). The campus is located on a 402 hectare plot of land that overlooks the Georgia Strait at the base of the Fraser River. The campus is filled with learning spaces, research labs, recreational areas, a farm, a second growth forest as well as parking lots, garbage bins and fast food outlets. On the UBC campus, there are communities of people that live full time, a major hospital, hundreds of Departments within Faculties, theatres, sports facilities, retail shops, art galleries, gardens and a wide array of operational units. As the role of the university shifts, expands and transforms it is important to take time to reflect on and evaluate its potential future pathways. This paper considers how the university as a whole is dealing with issues of sustainability, ecological and social justice and how these concepts are integrated into the day-to-day functions and teaching practices of the institution. The intentions of the paper are:

- To summarize the sustainability education initiatives at UBC, and address the barriers and pathways to creating sustainability education programs at the university level
- To consider the implementation and integration that has occurred at the operational level since the signing of the UBC Sustainable Development Policy
- To create a collaborative writing process with a range of voices and experiences

Our focus is on sustainability education and the operational procedures of the university. As a result, we will not address in this paper the significant number of research initiatives, centres and institutes at UBC that focus on sustainability research.

Formal organizations and mandates exist in the United States for implementing sustainability in higher education (e.g. University Leaders for a Sustainable Future (ULSF), the President's Council on Sustainability, 1994) and Canadian universities are shifting directions to implement similar practices (Environment Canada - National Consultation on Environmental Education and Sustainability, 2000). In 1990, UBC signed the Talloires Declaration which is an international commitment to environmental sustainability in higher education. The Talloires Declaration is an action plan for incorporating sustainability and environmental literacy into teaching, research, operations and outreach at the university level. Prior to the UNCED (United Nations Conference on Environment and Development) meetings in Rio de Janeiro (1992), another group of University Presidents and senior officials from universities, governments, the business community and NGOs from five continents met in Halifax in 1991, to discuss the leadership role of universities on the path to sustainable development. UBC signed the Halifax Declaration that was created during this meeting. The following are two of many actions that the university has committed to by signing these documents;

- to emphasize the ethical obligation of the present generation to overcome those current malpractices of resource utilization and those widespread circumstances of intolerable human disparity which lie at the root of environmental unsustainability
- to enhance the capacity of the university to teach and practice sustainable development principles, to increase environmental literacy, and to enhance the understanding of environmental ethics among faculty, students and the public at large.

(Lester Pearson Institute for International Development, 1992)

These public commitments to sustainability are only two of many competing commitments made by the University. As a signatory of these two declarations UBC has had access to action plans and a community of universities that are attempting to implement them. In 1997, the University of British Columbia (UBC) adopted a sustainable development policy (UBC Policy No. 5) which states that the campus should adhere to sustainable practices in



all of its actions and mandates. It also suggests that all students who attend UBC should be educated about sustainability.

UBC recognizes that just as the university contributes to a healthy society and economy through education to build up social capital, we also need to invest in maintaining the ecological services and resources, our natural capital, upon which society depends. UBC seeks to become a centre for teaching and learning about the skills and actions needed to manage ourselves in a sustainable way. (UBC Policy 5)

There is a fundamental difference between creating policies for sustainability versus creating programs and systems that model and develop sustainable practices on the ground. One of the authors suggested an addition to the policy that would better reflect the necessary fundamental shift towards sustainability would read "UBC recognizes that it is not possible to contribute to a healthy society without developing mechanisms and practices within the institution that model the critical importance of social capital". Institutional policy is often created at a great distance from the day to day activities of undergraduate classrooms and student interactions or the operations and facilities that form the infrastructure of the university. As universities create sustainability policies, programs and curriculum, there is a need to coordinate and reflect on these initiatives.

### **The UBC Experience**

Over the past six years at UBC, a number of programs and organizations related to sustainability in the fields of teaching, learning, research and campus operations have been initiated. This paper grew out of a collaborative process involving a small group of faculty, staff and students who were responsible for implementing a number of sustainability programs at UBC (see Table 6.1). The main research question concentrated on the barriers and pathways to creating sustainability education programs at the university. Through the collaboration we also shared stories of success and failure. By writing reflections on our experiences we were able to consider the barriers and opportunities for change and the possible future directions for these initiatives and for the campus as a whole. The collective experiences of the collaborative group were wide ranging and the process was an opportunity to have students, faculty and staff reflect on their collective experiences of creating sustainability programs at UBC.

In 1998, UBC created the Campus Sustainability Office to implement the Sustainable Development Policy. The Sustainability Office has a primary focus on planning, design and operations, as well as a role in staff, faculty and student education about sustainability. The policy required the formation of a sustainability advisory committee that reports to the administration on all matters related to sustainability on campus. Another early initiative was the organization of a committee that considered the state of environmental education at UBC. A report was created from this group called 'Rethinking Environmental Education' that suggested a number of new initiatives related to sustainability including a "College of Sustainability" and a mandatory first year course entitled "Sustainability 101". The College of Sustainability was proposed for research and learning about issues of sustainability within an interdisciplinary framework and to coordinate and focus the diverse courses and programs dealing with sustainability and environment at UBC. The committee envisioned a College with three core functions: to develop and administer an interdisciplinary course on sustainability for first year UBC students; to coordinate course offerings related to environment and sustainability across campus; and to offer interdisciplinary programs of study for students who want to focus in greater depth on questions of sustainability (UBC Environmental Programs Review Committee, 1997). This College was proposed in 1997 and has not yet been implemented. At present (2004) another proposal is being circulated which calls for an undergraduate Interfaculty Program in Sustainability Studies (IFPSS).

Other sustainability initiatives that influenced our discussions included: the UBC Campus Sustainability Office, the creation of the Greening the Campus program (created by the Sustainable Development Research Institute -SDRI), the SEEDS program (Social, Environmental, Economic Development Studies created by the Campus Sustainability office as an extension of the Greening the Campus Program), the Environmental Studies and Environmental Science programs, and the transformation of the Faculty of Agricultural Sciences to include sustainability as a core value. A more detailed listing of a sample of sustainability initiatives on the UBC campus is found in Table 6.1.

**Table 6.1: Selected list of programs related to sustainability on UBC campus - past and present. Information adapted from websites listed and participant contributions.**

<b>Academic Undergraduate Programs</b>	<b>Program Details</b>
Sustainability Pledge <a href="http://www.sustain.ubc.ca">www.sustain.ubc.ca</a>	The UBC Sustainability Pledge Program is designed to help students get involved in sustainability at UBC. Students who sign the pledge receive newsletters and emails about what is going on around campus related to sustainability. Program began in 2002. The program is a collaboration between the Campus Sustainability Office and the Student Development Office.
SENSE webpage <a href="http://www.sustain.ubc.ca">www.sustain.ubc.ca</a>	A listing of all courses about sustainability on campus. In order to provide a framework to explore options related to sustainability at UBC, SENSE mapped undergraduate programs into three rings of sustainability: ecology, economy and society. Several sustainability courses and programs specifically address the balance between society, economy, and ecology and fall into the middle overlapping area of the three rings. Others are more specialized and may only relate to one or two components. This webpage presents a list of courses and programs that students can use as a resource. Website completed in 2001. Site is updated by the Campus Sustainability Office annually.
SEEDS Social, Ecological, Economic Development Studies. <a href="http://www.sustain.ubc.ca">www.sustain.ubc.ca</a>	UBC SEEDS grew out of the Greening the Campus initiative. UBC SEEDS coordinates internship or applied research opportunities relating to sustainability. Students earn academic credit and staff members gain research pertinent to their areas of operation. SEEDS links staff with faculty and students for sustainability related projects that are practical, meaningful, and potentially implementable. SEEDS began in 2000.
Faculty of Agricultural Sciences <a href="http://www.agsci.ubc.ca">www.agsci.ubc.ca</a>	To date the Faculty has; devolved departments moving to a program model; and totally re-invented our undergraduate curriculum to create new degrees (B.Sc. (Agroecology), B.Sc. (Food, Nutrition and Health), B.Sc. (Global Resource Systems), and Bachelor of Environmental Design) with a student-centered, interactive learning focus around land, food and community.
Environmental Sciences Program <a href="http://www.science.ubc.ca/envsc">www.science.ubc.ca/ envsc</a>	The Environmental Sciences Program is designed to give undergraduate students a broad perspective on the environment. It concentrates on understanding the major environmental issues facing human societies and adopts an integrative cross-disciplinary approach to the study of these issues. UBC's Faculty of Science offers a Bachelor of Science (Major or Honours) in Environmental Sciences.
Student Sustainability Conferences	For three years students from the SEC (Student Environment Centre) have organized and run a one day conference on sustainability intended for students and the broader community.

<b>Campus Operations</b>	<b>Details</b>
Campus Sustainability Office (CSO) created 1998. <a href="http://www.sustain.ubc.ca">www.sustain.ubc.ca</a>	The Campus Sustainability Office's (CSO) role is to promote, coordinate, and implement the most effective sustainability practices possible on campus. The CSO demonstrates leadership in sustainability initiatives including the implementation of UBC Policy #5. The CSO develops and implements a number of sustainability programs including the Sustainability Coordinator program, UBC SEEDS, Sustainability Circles, Ecotrek1, energy management program and green building initiatives. The CSO also supports work done by Waste Management and the TREK office (transportation initiatives).
Sustainability Coordinator Program <a href="http://www.sustain.ubc.ca">www.sustain.ubc.ca</a>	Sustainability Coordinators (SCs) act as a liaison between the UBC Sustainability Office and their department. With the help of the office, they provide their colleagues with information about the environmental impacts of daily activities, help individuals identify alternative behaviors, and provide tools to make tasks easier. With their supervisor's permission, SCs spend 2-4 hours of work time per month fulfilling the role while the Sustainability Office ensures they are well trained, well fed (with plenty of free lunches), supported, and recognized for their efforts.
Sustainability Circles <a href="http://www.sustain.ubc.ca">www.sustain.ubc.ca</a>	Sustainability Circles occur two times per year in the model of the world café where staff and faculty with some students partake in informal conversations focused on key questions. The goal is to create grassroots change and increase awareness in a relaxed setting. There is a sharing and "seeding" of ideas and knowledge as participants move among small groups in a café atmosphere. Issues are focused on sustainability and creating awareness of the social nature of learning.
Sustainability Advisory Committee (SAC)	This committee is the direct link from the CSO to the University. A small group of faculty, staff, and student representatives provide overall guidance on CSO activities identifying strategic opportunities for sustainability initiatives, establishing and maintaining sustainability as a high-priority focus throughout UBC, facilitating consultation with the university community, and creating task groups to address specific issues such as social sustainability and waste reduction.
<b>Graduate Studies</b>	<b>Details</b>
RMES – Resource Management and Environmental Studies Graduate Program.	Resource Management and Environmental Studies graduate program ( <a href="http://www.rmes.ubc.ca">www.rmes.ubc.ca</a> ) is an interdisciplinary graduate program that offers M.A., M.Sc. and Ph.D. degrees. The RMES program's research activities address a range of topics related to fisheries management, land management, environmental assessment, policy analysis, coastal zone management, agroforestry, water resource management, hydrology, energy,

	negotiation issues, risk perception and assessment, issues of governance, science and policy, and community development. The program's aim is to integrate the socio-economic (political) and biophysical (ecological) approaches to resource and environmental issues.
SCARP – School of Community and Regional Planning	SCARP's mission is to advance the transition to sustainability through excellence in integrated policy and planning research, professional education and community service. SCARP offers graduate programs leading to M.A., M.Sc. and Ph.D. degrees.
<b>Proposed Programs</b>	<b>Details</b>
Proposed College of Sustainability and Sustainability 101	An undergraduate interdisciplinary program with a focus on sustainability is currently being proposed entitled the Interfaculty Program in Sustainability Studies (IFPSS). Sustainability 101 was an idea and a proposal for a team-taught interdisciplinary first year course on sustainability that was not implemented.
<b>Discontinued Programs</b>	<b>Details</b>
Greening the Campus Program (GTCP)	The GTCP was formally established in 1994. The project centred around student-run projects, for which academic credit was given, but which would in every case directly address an aspect of the environmental performance of some component of UBC life. The original idea of the UBC Greening the Campus Program (GTCP) emerged out a similar program established at the University of Waterloo in the early 1990's.
Environmental Studies program - BA	Arts degree - honours - no longer running due to limited enrollment. Problems faced - too many prerequisites for a degree, honours program only option.

## A Collaborative Inquiry

Collaborative inquiry is a research approach that takes action research principles (reflexivity, flexibility, social change etc.) and further engages the participants and researchers as collaborators of knowledge production. The goal of collaborative inquiry is to present participants' findings in a public arena, through dialogue and actions within the group. The inquiry creates the opportunity for new data and life experiences to become a part of knowledge construction at all stages in the research process (Group for Collaborative Inquiry & thINQ, 1994). By engaging in a truly collaborative process of inquiry, researchers begin to break down the hierarchical and institutional structures that surround the process of research.

The idealistic assumptions behind collaborative inquiry give rise to a wide array of challenges in practice. For example, collaborative inquiry is presented in the literature as difficult, frustrating and yet extremely rewarding (Barr Reagan et al, 1994; Group for collaborative inquiry & thINQ, 1994). Groups of collaborative writers and researchers publish their research under group names to reflect a conscious process of shared knowledge construction. The consideration that all viewpoints are a collaborative resource contradicts the "conventional status hierarchy which gives some members' viewpoints greater credibility than others" (Winter, 1996, p.22). This emerging paradigm of research enables researchers to be engaged in collaborative knowledge production but it does not fit within traditional academic models for writing, publishing or promotion. Collaborative inquiry challenges academic institutions to create a system that accepts (and even rewards) these alternative processes for research.

### **The process**

In many discussions of sustainability, there is a strong commitment to collaborative processes and exploring alternatives for writing and reflection. An invitation was sent to a number of people to create a collaborative writing group as a means for creating an environment where people could tell their stories and reflect on their experiences of initiating sustainability education programs at UBC. A collaborative process allowed us to attempt to walk the talk of sustainability by creating a community of investigators on campus. We worked hard to allow different voices to come through and to unfold a range of experiences. What follows is a collection of many of the conversations that occurred in our collective and individual writings for the collaboration. Many of the quotations and excerpts are left to stand alone as the voices of the participants represented expert opinions and accounts of their lived experiences at the university. By mixing our voices as the main text and quotations we believe the end product is richer and more provocative than a standard process whereby different authors write different sections of the text.

Our group faced a number of challenges during the collaborative writing process. The first challenge was the scheduling of meetings for the group. In many cases, members of the group had only a few hours of open space a week in their schedules due to a large

number of university commitments. It would take 6-8 weeks for the group to find a common 3 hours to meet. As much as reflection was encouraged by academics it appeared that time for reflection was at a minimum. When we did get a chance to meet we recognized that this type of writing process was not something that was easily published in academic journals and as a result this was not a top priority for those working to further their careers through research and publication. We went through a number of versions of a table of contents and had many discussions about what the final product would look like. Another difficulty facing the group was how to structure the collaborative writing in a way that everyone would be involved. We found that our current software was inadequate for trying to have seven authors writing simultaneously.

We settled on writing independent reflections (500 words) on our experiences of creating sustainability education programs at UBC and collated these experiences during workshops. Eventually we had a collection of seven stories about sustainability at UBC. We discussed the common themes in all of our stories by utilizing a brainstorming technique. We labeled the final five themes and spent time getting clear about them as a group. After three, 3 hour meetings and many emails we decided to go back to our initial writing and rewrite our reflections in accordance with the themes we had brainstormed in the meeting. The five themes are presented as a list of barriers (Table 6.2) to creating sustainability programs.

**Table 6.2: Major barriers identified in creating sustainability programs at UBC**

<b>Barriers</b>	<b>Explanation</b>
<b>1. Lack of institutional commitment</b>	Institutional rhetoric and "lipservice" Support (or lack thereof) from institution.
<b>2. Diffuse power and unclear decision making</b>	Who has it? Who doesn't? How important is it? Who makes the decisions?
<b>3. Difficult to balance energy and exhaustion</b>	Personal sustainability. Culture of overwork and high levels of stress. How can we find a balance?
<b>4. Lack of strategic vision or historical continuity</b>	Decision making and implementation of plans. New initiatives change direction of plan. What is the plan anyway?
<b>5. Difficult to walk the talk of sustainability</b>	Moving from knowledge to action. Faculty (theoretical) and staff (practical) dynamics. Reality check- what can we actually implement?

The next section of the paper contains excerpts from the collaborative writing process and the discussions that occurred in the workshops following the writing. Each person wrote a short essay on their experience and then rewrote their stories after considering the collective themes and writing of the others in the group. The following excerpts are only a small sample of what came out of this process. We have chosen elements that we believe will help others at institutions of higher education reflect on the transformation towards sustainability and sustainability education.

### **1. Lack of institutional commitment**

Despite having a Sustainable Development Policy in place and many sustainability programs underway the group agreed that more commitment was needed from 'the institution'. This discussion raised a number of critical questions including; what is an institution? And how do academic institutions differ from other organizations? It became clear that universities are complex systems and there was no single answer to any of the questions raised.



It is hard to talk about institutional commitment at UBC since there is not really an institution in the conventional meaning of the term. I find that most of my non-academic colleagues and partners in the community continually misunderstand or are frustrated in dealing with UBC (or any other large university I expect) because they assume that it is led and managed as most organizations are. My own experience is that UBC consists of three levels of institutional decision making. There is the university administration, the Faculties and then the faculty. The key point is that there is limited (though not negligible) ability of each level to direct the one below. So decisions made by the university administration may be significantly altered or even completely undercut at the Faculty level or at the level of individual faculty members. This of course is endemic to academic culture. But it means that it is very hard to talk of institutional commitment as a singular phenomenon.

How committed is UBC to sustainability? UBC has a sustainable development policy, a sustainability office and there are a number of programs underway however there was a general feeling that sustainability was not a major commitment for the university as a whole. The institutional commitment of UBC to sustainability education has been significant yet there is still support needed. Academic pressure and the signing of the Talloires and the Halifax declarations led to the writing of the Policy No. 5 - Sustainable Développement. The presence of the Sustainable Development Research Institute and the fact that our president has a strong interest in UBC's role in the community are factors that should promote sustainability education at the university. There are also many intentional people, staff, students and instructors and faculty here at UBC looking for ways to contribute to creating a more sustainable campus. The group agreed that there have been signs of institutional support but that it needed to be stronger and that it needed to come from upper administration as one participant explained.

I think there is still considerable confusion amongst the senior administration about what sustainability means. Somehow it isn't an easy concept for them to grasp. There is a need for education and awareness of our colleagues in regard to "good examples" of what we mean by sustainability.

Another participant commented on the need for upper level commitment when creating institutional change. "Without heartfelt commitment from the senior administration levels you won't achieve any major breakthroughs". And then they reconsidered..."You also need heartfelt commitment from the grass roots and along with heartfelt commitment from the

senior administration levels you can achieve great things." Other participants commented that administrators and decision-makers were financially motivated as they had the job of ensuring that the university would continue to operate. As one participant noted "It is relatively easy to get the administration to agree to initiatives that save money, much harder to get them to agree to financially risky initiatives that are good for people or the environment. There is little motivation beyond money or reputation for senior decision-makers."

Although funding played a major role in deciding what programs continued and which did not, participants were interested in other kinds of support from the institution. The university needed to show commitment to re-evaluating the current reward system as well as reconsidering issues of power and decision making as this excerpt describes.

In my own experience with the Sustainable Development Policy, and the Greening the Campus program, there was often strong personal interest and support from individual faculty, Deans or members of the administration, support that was critical for some of our activities to continue. But there was no sustained support of a kind that would make these activities reach their potential. In the case of the Sustainable Development Policy, the university administration was unable or unwilling to take a strong supportive stand on this so that only a sustained pressure from committed individual faculty prevented the whole thing from being watered down even more than it was. In the case of Greening the Campus, we were unable to continue to obtain the funding needed to sustain the program in its original form...I emphasize that this is not just a function of the attitudes of whoever is in a decision-making role at any given time. A large part of it is structural, very heavily tied up in the reward system of the university and the way decision-making power is distributed.

If the top administrative levels considered social and ecological factors in all decision making, UBC could become a more effective institution where staff, students and faculty might take greater pleasure in being part of the community on campus. In order for this to occur, there needs to be more obvious and concrete support from the President and the Board of Governors. Universities need to demonstrate that taking social and ecological factors into account creates wealth *not* scarcity.

## **2. Diffuse power and unclear decision-making**

The second theme that emerged during our deliberations was a discussion about the role of power in decision making. Who has power to make decisions at the university and

who doesn't? An intriguing conversation emerged with regards to which level of the university structure had the most power (the Faculties, the departments, the administration or the individual faculty member). Some participants pointed up towards administration (and the perceived hierarchy) and others pointed down towards students and faculty members. Very rarely did we talk about our own power with regards to decision making at the university.

Power is distributed at UBC in very unusual ways, from the standpoint of a government or private sector institution. At one level, most of the power lies in the academic side of the programs. As one participant described "In my experience academic rationales trump most other reasons for discussions, a fact that is very frustrating sometimes to university operations like Land and Building Services or Development." Another participant described the lack of decision making structure and accountability and the need for more formal structures around policy decisions.

My experience has been that little is written down, little is prescribed by explicit policy, and much depends on being in the loop, part of the (informal) discussions, and connected to individual decision makers. This imparts a kind of whimsical arbitrariness, and lack of accountability, to UBC decision making, which I think is very unfortunate. This could presumably be corrected by a strong commitment to more formal processes of policy making and explicit accountability but I don't see any particular evidence of this or any powerful reason why it would likely come to pass.

Many of the participants agreed that power is concentrated in particular pockets (not always those you might expect on reading university policies and procedures) and one's ability to get access to these pockets depends quite a bit on the informal networks that one is able or willing to build up. There are many sources of power at the university both at the top and at the grassroots, student level. It was agreed that students could have a lot of power at UBC if they used it strategically and were proactive about their demands for their learning community and their learning environment. Students may be able to move the sustainability agenda ahead faster than faculty. There is a need for more support from the administration and also more activism on the part of students to move sustainability education forward. One participant described the need to get everyone at the university involved in the sustainability movement.

We all have different degrees of power and different ability in wielding it. All the major players must be willing to exercise their power for positive change, otherwise it won't happen. This goes for remembering to switch off your computer screen, taking the bus or for helping out employees or neighbours in trouble, as well as changing any dysfunctional work/study processes and practices in our area of responsibility.

It was generally agreed that by involving more people in the process, the more fruitful the process and the outcomes were. In particular, two of the programs (Greening the Campus and SEEDS) were considered successful because of the inclusion of staff in the planning and implementation of the program. One of the reasons that Greening the Campus worked so well is that staff, faculty and students were members of the steering committee and as a result had a direct role in the program. This was powerful for three separate reasons. It created a degree of staff buy-in, it provided a conduit for students to get information from staff, and it allowed staff to 'commission' work they couldn't do themselves and in so doing, build some research and a constituency they could point to in arguing for change internally. SEEDS works a little differently in that the steering committee (SEEDS Ad Hoc Task Force) is not the place to get "buy-in" from staff, but it is sought from the staff by the program manager and is key to the success of the projects. Ideally, staff approach SEEDS with projects and support students throughout the project in various ways (i.e. checking work, making sure they are on the right track, attending final presentations etc.). Because this method works for SEEDS and worked for Greening the Campus, we can say that the absolutely necessary ingredient for success is the 'buy-in'.

Unfortunately we did not come to any clear conclusions about who has the most power at the university but the exercise led us to interesting discussions of the levels of perceived decision making. We were left to wonder if there was a way for decision making to have a clearer structure in such a complex environment of people and interests. With regard to sustainability, this situation manifests itself in a disconnect between the university level commitment (expressed, for example, in the UBC Sustainable Development policy and various speeches or statements of senior administration) and the Faculty-level decision making process, where sustainability is essentially invisible and also with the level of individual faculty, where the commitment is often very strong. There is little or no ability

for these three levels to be aligned, except by chance. One of the recommendations that came out of this process was to find ways to involve those who will have responsibility for implementation in the development of the program in order to achieve 'buy – in'. Only when all members of a community are willing to exercise their power for positive change can sustainability take root.

### **3. Difficult to balance energy and exhaustion**

The next theme discussed was the tension between having a full time position on campus and having the energy to create social and institutional change while working within a system that tends to be resistant to change. How do we continue to make a difference and make change without becoming exhausted? One participant noted that we all have energy for things we think are important but we need to be self-aware enough to recognise when we are tired of fighting the same battles. When we recognise we are heading for exhaustion we need to change our tactics or bring in fresh people with fresh ideas. All of the participants agreed that this was a major tension in their day to day lives at the university. One participant described the problem of personal sustainability as a "huge problem".

By this I don't mean what the environmental impact of our personal behaviour is but our ability to sustain the level of time, energy and commitment needed to pursue the sustainability agendas (or any others for that matter). Almost everyone I know in government, the private sectors, or the NGO world, is suffering from this and is close to burn-out.

Another participant discussed their experience with the tension between energy and exhaustion and the difficulty of modeling a sustainable lifestyle to others.

I spend my energy on projects that are practical, meaningful, and potentially implementable. I view myself as an optimist. Fortunately, I work with a lot of committed staff, faculty and students who really want to make change, get involved and DO things. I try to concentrate on areas where leverage is good and build on it. I don't try to change things that are not working and I have learned to let go of things. I have limited time and I choose to build on the commitment of people who care. This creates optimism in others. I believe small steps create big changes. Unfortunately there is a rushed work ethic at UBC - people have the feeling that there is no time and a lack of resources. I don't think the administration recognizes that many staff, students and faculty on campus are overwhelmed and stressed with

their volume of work. I would like to see the administration talk about and model balance between energy and exhaustion. Individually, those of us interested in sustainability can do the same.

Others suggested that the problem was much larger than just the university. It is a much more general cultural phenomenon (not unconnected to issues of social unsustainability) and there may be institutional ways for the university to address it (e.g. related to the reward system and promotion and tenure criteria). We agreed that we all need to learn to say "no" and choose when we take on new projects. How do we ensure that we are not exhausting ourselves and others involved in this work? What can we do to help each other?

It is instructive to remember the story about the geese flying south in v-formation. When the leader gets tired another goose moves up to take its place and when one gets sick two other geese take the sick goose to a safe place and wait with it until it gets better before flying on.

As a recommendation it was suggested that faculty be rewarded for the sustainability work they do and that somehow that needs to be integrated into the current structures for promotion and hiring. The rewards for Faculty supporting sustainability projects need to be further promoted and developed. Faculty need to be recognized for participation somehow by their administration, perhaps under their "community service". There also needs to be a place within the structure for courses that can focus entirely on sustainability projects where academics are credited and celebrated for participation

#### **4. Lack of strategic vision or historical continuity**

Many of the participants questioned whether or not UBC had a clear vision related to sustainability and the greater good of society. UBC does have a planning process entitled TREK 2000/2010 and each of the academic and operational units and departments also have strategic plans. Current versions of the plan seemed to be connected to the idea of UBC "being the best" and not necessarily being geared towards sustainability. It was also suggested that there is a lack of historical continuity as the university is continually being swayed by new funding sources and government initiatives. There was a sense that UBC needed to recognize where it had come from and make clear plans about where it was going. How does UBC ensure continuity over time with a constantly changing administration and faculty? The underlying question is whether sustainability is a part of

UBC's long term plans. A strong strategic vision enables opportunities that support the vision and those that are contrary to it to be put aside. UBC has had many visions over its brief life – but it still needs to develop one compelling vision that has community support and stick with it. There should be consequences for those that breach the community vision for internal gain. There are no consequences for departing from the vision at UBC and until there are, we will continue to have a free-for-all approach to apportioning resources with the strongest, loudest getting the most. Another participant discussed their vision of the university:

For me, I want the university to operate like a positive community, where the public realm – i.e., the good of the university – is at the top of everyone's agenda. Faculties, departments and individual disciplines are not as important as the public good. Remembering this puts my Faculty successes and failures into perspective.

UBC is likely at the forefront of Canadian universities when it comes to strategic vision. Others agreed that the TREK planning process was a very useful attempt to create a strategic plan but there needed to be more continuity between programs and administration so that long-term changes could occur. There are a host of roadblocks and institutional barriers that distort, pervert or block changes that apparently have been decided on at a higher level that results in new initiatives with a lack of continuity. Another participant questioned whether the vision of "being the best" was in line with the vision of a sustainable university.

If TREK is of any real use, then we would have the vision. I'd argue that TREK isn't of any use. The academic plan that was devolved from TREK basically hasn't had any impact. TREK was not widely agreed upon and its used when convenient and ignored most of the time. As usual not enough time was taken to develop the ideas and consensus. The goals of TREK --to be the best, etc-are pretty meaningless when you are trying to change the rules about what it means to be successful. There are those who would say that the goal of being the best IS the goal, and we are striving and succeeding. If you ask me, that becomes a barrier.

Not all participants agreed with this idea:

I would argue that TREK and the academic plan has had an impact. It was very helpful to have the academic plan supporting what we are trying to do. One has to be very pro-active and "use" the academic plan to move ideas ahead. It isn't a prescriptive document but was designed as an enabling document.

Other participants disagreed that UBC needed more strategic vision and instead suggested that other systems in place need to be re-envisioned such as the reward system and decision making structures. As another participant described "The solution isn't more vision, it is concrete institutional changes to the reward system, policy making process and system of accountability, and the commitment of significant amounts of money (under the control of the administration) to desired outcomes." Universities need to turn principles into projects or programs that are 'real' and 'implementable'.

## **5. Difficult to walk the talk of sustainability**

The final theme raised during the collaborative workshops was the problem of implementing the concepts and theories of sustainability on the ground. It was noted that university faculty tended to converse about theory while staff members were charged with creating practical solutions on the ground. These conversations moved from discussions about energy and paper conservation to larger, more fundamental shifts in the practices of the university and all of its members. As one participant described "This really gets to the heart of the sustainability problem. If we find ourselves unable to practice the things we know are right in theory then we will never be sustainable. It is easy to talk theoretically about sustainability but hard to put it into practice." The one major exception is in the medicine where society will go to inordinate lengths to make sure it gets the absolutely most-up-to-date care available for a medical problem. If universities could bring people to see that caring for the environment is just as important as caring for their health then it would be a lot easier to get things done.

The following participant discussed the disjuncture between staff and academics and suggested that job-swapping might help the two parties better understand the realities of their day to day existence at the university.

Faculty should be asked to spend some time in a staff job and vice versa. They would then understand the difficulties of putting their theories into action and the staff would understand the process of developing theories and the rigour required to make them defensible - "walk a mile in my shoes"! Both practitioners and theoreticians need to respect each other's situation and carefully consider what each can give the other. That way applied research can be more applicable to real life.



And finally one participant suggested that the whole distinction between theory and practice is part of the problem and not the solution and that we need to move beyond these kinds of distinctions.

My issue here is not about the disjuncture between theory and practice. In my view this kind of analysis (which in the political realm is usually described as a problem of lack of political will) is a rather naïve and a red herring. It takes a traditional neo-liberal individualist approach to the problem, which locates agency entirely in individual choices and behaviours. There is a lot of good social science out there that suggests that the real issue is more complex than that, that we need to take account of how social agency is constructed and mediated through complex political, social and institutional arrangements.

## **Conclusions and Future Directions**

Sustainability initiatives, policies and practices are well meaning but are not usually at the forefront of decision making or teaching at the university. For a university to take a leadership role in sustainability is much more complex than simply having the right policies or even rewarding good practice. The shift to sustainability involves; a fundamental thinking through of basic issues about the role of the university in society, creating a strong relationship between sustainability principles and the core goals of the university. It also will require a reworking of the design and operation of institutional reward systems, creating an appropriate linkage between the operational and academic functions of the university, and finding an appropriate mix of disciplinary and interdisciplinarity.

In summary, our experiences and insights led to a number of conclusions about what needs to happen in order to create institutional change towards sustainability. Institutional commitment needs to be more than just a policy and a few programs. Universities need to consider sustainability in the decision-making structures and everyday practices of the whole university. The decision making process needs to be open and transparent in order to allow everyone to be involved in the process and to be able to voice concerns. Connecting academic plans with sustainability policies may be a strategic way for sustainability to be infused throughout the organizational culture of the university. There was also a strong desire to reconsider and change the current reward structure in a manner that recognized and rewarded sustainability initiatives on campus. By rethinking

the reward system we may be able to recognize how much work is to be done and therefore allocate enough time and resources to the mission. There was also a strong need for faculty, staff and students to find time to rest and renew while attempting to change academic culture. Unfortunately, all of these ideas assume that there is a conversation already happening on campus about these topics. Faculty and staff need more time for reflection and integration of projects so that communication across large campuses becomes possible. For example, this collaborative writing process helped to bring people together to reflect on the projects of the past and consider the plans for the future. It allowed us to consider if we were walking our own talk. The following are three overarching recommendations that we believe could help UBC and other institutions in the transition towards sustainability education.

- We believe that the university needs to be transformed. We should be in experimentation mode during our transformation, taking the opportunity to help the University chart new paths in demonstrating values, re-defining work-places and making innovations in course content and delivery.
- We should foster institutional self-reflection with the purpose of understanding and then changing the damaging institutional policies and structures (e.g., promotion and tenure criteria, capital expansion investment criteria etc.) that reinforce negative practices and that make the post-secondary education structure a source rather than a solution for the problem of unsustainability. We need to create more avenues for discussing these issues within the traditional university system.
- We should recognize the time and effort necessary for true interdisciplinary communication and that educating people about process is a big job. For the process to be successful it requires a common language which has to be shared and worked within the quest to communicate fully.

There are many individuals actively developing and implementing sustainability initiatives on the UBC campus. Some of the Faculties are keenly aware of the importance of

sustainability issues and many programs are being proposed and funded with relation to sustainability. The energy and commitment are high but so is the danger of burn-out.

Universities need to find ways to reward this enthusiasm and energy and to integrate it into the more traditional decision-making processes of the university. If these recommendations turn into clear priorities, UBC has the potential to be a leader in creating innovative and effective sustainability initiatives.

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## **Chapter 7**

### **Is higher education ready for transformative learning about sustainability? A graduate student perspective.**

A version of this chapter has been submitted for publication in the *Journal of Transformative Education*.

I am one of a growing number of graduate students who have entered a discipline with little or no background in the substantive area of that particular discipline. I completed an undergraduate science degree in Marine Biology and a Master's of Science degree in Zoology. I initially embarked on a Ph.D. in a School of Community and Regional Planning because that department focused on planning for a sustainable future and emphasized interdisciplinary learning. Part way through my program I realised that my passion was in creating new kinds of educational experiences for undergraduates, and I moved to the Department of Curriculum Studies (Faculty of Education) to study sustainability education at the university level. As a graduate student in a large Canadian university, I have the opportunity to engage with many other graduate students situated on the edges of disciplinary boundaries. We share interdisciplinary and transdisciplinary experiences that are worthwhile and important to examine.

I first read about transformative learning in a graduate level education class. Transformation sounded more powerful than change. In my new home of social science, I was learning that most of the discourse focused on action, change, movement and social reconstruction. Many academics supported the ideals of transformation and social change and the importance of these constructs for the 'public' - outside of the university. Intrigued by the possibility of a theory for transformation and a book with a recipe for transformative learning, I dove into the literature to do my own search. What I did not recognize at the time was that I was searching for understanding about my own transformations and my personal struggle to create meaning within interdisciplinary spaces.

My experience as a doctoral student in an interdisciplinary context has been a difficult but empowering learning experience. My own experience makes me an expert in my own transformative learning, but it does not make me an expert in creating

transformative experiences for other people. By starting with my personal experience, I am ensuring that I am researching from a place that I understand to the best of my ability. Feminists refer to this strategy of starting from an everyday experience as a standpoint epistemology (Smith, 1999). My experiences at the university are deeply connected to my perspectives on transformation, sustainability, education and research. For these reasons I must include critical self-reflection about the process of my own transformative learning in this article. I have embedded reflections throughout the article that describe emotions and feelings related to my personal transformation that I experienced contemplating transformative theory and the possibility for sustainability education at the university level. This article includes four years of thinking about what people *want* in a university, what people might *want* to know, and whether or not people can, need, or even want to be transformed.

New models of interdisciplinary education promote student teamwork in a shift towards transformative, experiential, and collaborative learning (Cranton, 1996). Unfortunately, collaborative models are difficult (but not impossible) to create within current academic systems that emphasize individual grading and other competitive models of success. Despite having academic freedom in teaching and research, few professors engage in alternative models for teaching and learning in their classrooms or emphasize social change as an outcome of their classes. Is the current structure and system of university education capable of shifting frameworks to incorporate alternative forms of knowledge construction and social action? This article examines the possibility (the potential benefits, drawbacks, and implications) of shifting university education from the current model towards models for transformative learning.

### **The Role of the University**

According to the university I attend (University of British Columbia) and its Academic Plan (Trek 2000), the university is a diverse entity with a multiplicity of roles in society. These roles include research, community outreach, technological innovation, and knowledge creation. One of the most significant roles of the traditional university is to transfer this knowledge to undergraduate students in a responsive learning environment.

Students enrolled in university programs gain expertise and understanding in a range of disciplines by learning a series of lessons and concepts deemed important by disciplinary experts. The lessons learned within universities are passed on to others as they pursue lives and careers outside of the institution.

The current conversations amongst academics in the interdisciplinary field of sustainability demand that we change things *quickly* and that we cannot continue the way we are going. Articles upon articles insist that we must change and that time is running out (Bowers, 1993; Orr, 1998; Rees, 1999, 2003; Robinson & Tinker, 1997). There are even more prescriptions for changing higher education (e.g. University Leaders for a Sustainable Future - [www.ulsf.org](http://www.ulsf.org)). The message is quite simple - a paradigm shift needs to occur if we are going to stop the increasing global rates of human-caused environmental and social degradation. The difficult question is how education can include the dialogue and actions necessary to create this kind of change? What role does transformative learning play in creating a more sustainable future?

Concerns about the state of the world are echoed in concerns about higher education. "Sustainability is about the terms and conditions of human survival, and yet we still educate at all levels as if no such crisis existed" (Orr, 1992, p.83). I try to imagine how stressful a classroom might be if we educated with the thought of a crisis looming. There is a tension in this repeated discussion of crisis - are activist academics contributing to our culture of fear? How do we raise awareness without creating more anxiety, fear, and worry in our classrooms? How do we support students fully after exposing them to these ideas? Given that theories for transformative learning exist, is higher education prepared for transformative learning in practice?

Many academics argue that knowledge production and the consequent transfer of knowledge from experts to laypersons (or professors to students) is a significant role of the university. A growing number of academics are concerned with the current trends of society and call for a transformative shift in what universities teach and how universities create and regard knowledge production. From discussions with a number of these so-called radicals it appears that they are also disillusioned with the current structures for

academic success and promotion (not to mention the exclusion of marginalized groups from knowledge production within universities).

In the book, *Transformative learning: Educational vision for the 21<sup>st</sup> century*, O'Sullivan (1999) suggests that a radical shift in education is necessary if we are going to create change agents who can put an end to the current ecological crisis. He envisions the ecological crisis as a cue for moving education in a transformative direction at all levels. O'Connor's (2000, p.158) review of this book summarizes its fundamental question. "He presents a choice for us to make both collectively and individually, both consciously and at the deeper level of our dreams: will we educate for the global marketplace, or will we educate for peace, social justice, diversity and integral development?" Many authors suggest a radical shift in education is a necessary but not sufficient solution to the current ecological and social crises that are continually reproduced in North American culture (Ball, 1999; Bowers, 1993, 1997; Hall & Clover, 1997; Jucker, 2002; Orr, 1992). Phenomena such as consumerism, globalization, and our lack of connection with the natural world are troubling academics. This concern has led to an increase in academic collaboration on interdisciplinary projects and an increase in community-university collaborations.

Ultimately, educators need to find a way to practice the ideals of sustainability within our classrooms so that teachers and learners can experience what sustainability feels like. In order to implement sustainability education at the university level we need to consider process as well as content. But what does it mean to have a pedagogical process that encompasses sustainability? The pedagogy of sustainability education is about creating spaces where disciplines are not piled on top of one another but instead integrated in new ways. Educators need to move into these spaces as collaborators and co-creators of knowledge instead of experts and non-experts. By changing the practices in classrooms there is a potential for transformations to occur- for individuals, organizations, and systems. The following section suggests a number of ways in which 'sustainability education' might be practiced in the classroom.



### **Three models for learning: Cooperative, collaborative and transformative**

Most traditional models of learning can be classified as subject oriented learning - the goal is to master the subject matter at hand. Subject oriented learning emphasizes accumulating information, content, skills, facts and concepts and is widespread throughout university classrooms. The common lecture format in universities where one person speaks to an audience and there is little time for discussion is commonly utilized for subject-oriented learning. A number of alternative models for learning that emphasize group learning are practiced in university classrooms. Collaborative approaches encourage a shared construction of knowledge by a group of learners. Cranton (1996) describes three types of group learning as a means to understanding that working in a group is not synonymous with collaboration. She distinguishes between cooperative, collaborative, and transformative group learning.

#### **Cooperative learning**

Cooperative group learning is a “structured process that requires learners to work together on a task, share information, and encourage and support each other”(Cranton, 1996, p. 26). In a cooperative group situation the educator is considered an expert and is responsible for designing the activities and issues that the group will work through. Because educators are considered experts, they are in a position of power that will ultimately control the outcome of the experience. The cooperative group focuses on the issues and subjects versus the interpersonal processes. There is often a goal to be achieved and the conversation focuses on achieving that goal (Cranton, 1996). There are many situations in which this type of learning is appropriate and useful.

#### **Collaborative learning**

Collaborative models are important for learners working in interdisciplinary spaces. Teaching and learning in a collaborative model shifts from knowledge transfer (transmission and reception) or discussion (cooperative model) towards all participants sharing the construction of their knowledge. A difficulty with the collaborative model for teaching is that it assumes how teachers are supposed to act, how learners are supposed to learn, and how knowledge is made. For example teachers and students may be comfortable

in traditional roles and uncomfortable becoming co-creators of knowledge. Students working in groups (without supervision by an instructor) may begin to ask difficult questions about the lessons, and think critically about assignments, methods for grading and other taken for granted practices in the classroom. As Bruffee (1993) explains we need to change the way we think about knowledge construction. Knowledge is *not* something we transfer from one person's head to another. "Collaborative learning assumes instead that knowledge is a consensus among the members of a community of knowledgeable peers-- something people construct by talking together and reaching agreement"(Bruffee, 1993, p.3).

Collaborative learning assumes that all participants have something to contribute to the process (similar to cooperative learning). Collaborative problem solving is the foundation of a number of models for negotiation and mediation (Fisher et al, 1991). Collaborative conflict resolution assumes that long lasting solutions can be discovered only through listening and attempting to understand all points of view. To increase the chances of reaching a shared understanding of the problem, we need to transform conflicts into learning opportunities. For this reason, collaborative learning emphasizes process and the exchange of experiences, associated feelings and insights and one of the underlying goals is ultimately related to group process (Cranton, 1996).

The role of the educator in a collaborative learning group is that of a participant or a co-learner. The educator may provide materials and establish the context of the situation but is not considered the expert or facilitator. Collaborative learning processes emphasize questioning, negotiating, and creating a shared understanding of alternative ways of knowing (Cranton, 1996). This is not as simple as it first appears. Lofty discussions of ideal dialogues and collaborative knowledge construction are easily constrained by issues of power and authority - issues that are difficult to alter in most learning environments. What do each of the partners in a collaboration ultimately gain from their working together; what do they have to lose? It is unlikely that issues of power, authority, and emotion will remain outside of collaborative discussions. Collaborative learning situations are created by carefully designing processes for dialogue in an attempt to minimize power dynamics. Mezirow (1997a) outlines the ideal conditions for discourse, adult education, and learning

as including the following (Note: these are close to Habermas' (1984) suggestions for ideal dialogue). This list is intended as a starting point for developing and grounding these types of learning processes.

Participants are:

- Allowed full access to information
- Free from coercion
- Allowed equal opportunity to assume various roles of the discourse
- Encouraged to become critically reflective of assumptions
- Empathic and open to other perspectives
- Willing to listen and to search for common ground of a synthesis of different points of view
- Willing to make a tentative best judgement to guide action

Academics need to consider if collaborative learning is possible given the current state of higher education - a place that is rife with competition, time pressures, and external pressure to train the leaders of tomorrow. It will only be possible to create collaborative learning within university classrooms if academics take into account the influence of the systems and structures influencing classroom dynamics.

### **Transformative learning**

The transformative model fits within a constructivist paradigm where individuals construct knowledge through their experiences in the world (Candy, 1991; Cranton, 1994). The collaborative model implies that knowledge is socially constructed by a group of individuals - the transformative model goes one step further to include both the individual and social construction of meaning perspectives. Mezirow has the largest body of published theory on transformative learning. The ideal discourse derived from the critical theory of Habermas is the foundation of much of Mezirow's work. Freire's (1970) work on conscientization has also influenced Mezirow's theory and is considered a parallel process for his model of transformative learning. He has also published critical theories used for adult education (1981) and self-directed learning (1985).

Mezirow (1997a) explains transformative learning as a process of effecting change in a frame of reference. Throughout our lives, we develop a series of concepts, values,

feelings, responses and associations that make up our life experience. Our frames of reference help us to understand our experiences in this world and consist of two dimensions - habits of mind and points of view. Our habits of mind are broad and habitual and can be articulated through points of view. For example, consumerism is a habit of mind that is articulated through a point of view about purchasing products. Points of view are generally more accessible than habits of mind which are described as more durable and harder to change than points of view. Transformative learning is concerned with altering frames of reference through critical reflection of both habits of mind and points of view. For example, critically reflecting on patterns of consumption and production may have an impact on our own consumptive behaviours. Through critical reflection of biases and assumptions, we can relocate understandings, change worldviews, and create transformative learning experiences. To follow the example of consumption, we may come to understand why we consume what we do.

The basic cycle of transformation proceeds via a series of reflections on points of view and habits of mind in order to alter one's frame of reference. The objective of transformative learning is to revise old assumptions and ways of interpreting experience through critical reflection and self-reflection (Cranton, 1996). This process often involves an outpouring of emotions related to the grieving of the old self and the misunderstanding and frustrations of the new self. Cranton's (1994) definition of transformative group learning is similar to definitions of participatory group learning. In her expansion of Mezirow's theory she discusses the emphasis on self-reflection and student responsibility for learning objectives. Cranton (1994) discusses the underlying assumption that transformative group learning will lead to individual and social change. In her interpretation, participants can and will engage in collective action after establishing collective goals within the group. The educator in these situations is responsible for creating an environment that is supportive and open to self-reflection. The ultimate goal of transformative learning is to empower individuals to change their perspectives. It is unclear how individuals will transform, and we are left with the idealism of empowerment and little sense of what people are transforming into. Despite an educator's best intentions a process of transformative learning can lead to unpredictable and unintentional events.

A large literature is available on the theory of transformative learning and a number of studies explore the practical applications of the theory (Taylor, 1997). In a review of the literature, Taylor (1997) concluded that the practices for fostering transformative learning are theoretically based and there is a need for more emphasis on the practical aspects of transformative learning in the classroom. He also suggests that more research is needed in the areas of cultural diversity and the role of critical reflection in transformative learning. He found that many of the studies confirmed Mezirow's theory. "The revision of meaning structures seems to be initiated by a disorienting dilemma followed by a series of learning strategies involving critical reflection, exploration of different roles and options, and negotiation and re-negotiation of relationships" (Taylor, 1997 p.51). The study also examined many of the aforementioned critiques of the theory related to "its autonomous, self-directed and rational nature" (Taylor, 1997, p. 51).

### **Is higher education equipped for transformative learning?**

Transformative learning is not for everyone, nor is it applicable to all fields of study. In my role as a university instructor, I have found that many students are comfortable with subject oriented learning and become uncomfortable when alternative models for learning are proposed in classrooms. Many professors are not trained as educators and transformative learning is a complex teaching method that entails a great deal of time and energy. Cranton (1996) explains how practicing transformative teaching in a classroom can put teachers into an uncomfortable position.

Most of us feel discomfort in giving up positions of power, for example, and we worry about the reactions of colleagues or program administrators to our unorthodox approach to teaching. To become a truly equal participant in the group process is to feel vulnerable as an educator. Perhaps the roles evolve best with confidence in what one is doing and experience in doing it well (p. 31).

If transformative learning is complex, uncomfortable, and time consuming, how do academics propose to make the radical shift towards it? Cranton (1994) suggests that within the typical North American model of teaching, learners do not develop an understanding of the system or themselves. She cautions that many adults do not have the skills or maturity to be self-directed learners, nor the ability to ask inventive and creative

questions or think critically about problem framing. Transformative learning can be frustrating and awkward if students don't have the types of skills required for reflection.

Shifting perspectives often involves embarrassment and discomfort. By avoiding transformation of perspectives, we may feel safe and secure, whereas shifting our underlying assumptions can make us feel insecure and unsure. In the long run, if we do not fully understand the situation (due to lack of critical reflection among many other things) we have a tendency to make up for the lack of understanding with feelings of security and comfort. For example, people are comfortable leaving three garbage bags a week at the curbside for pickup by a garbage truck. However, people may be uncomfortable visiting the city dump and recognizing the massive amounts of waste produced by our collective lifestyles. We become comfortable with our level of waste and avoid thinking critically about the reality of overconsumption. Individuals are consciously aware that critical questioning and reflection can result in emotional upheavals and will consequently avoid the approach (and the critical reflection). Many people have a tendency not to think about problems that are disconcerting. Mezirow (1997a) also identifies the awkwardness of the transformative learning process and suggests that if learning is too comfortable, we are unlikely to undergo transformative changes in our understanding.

### **Grieving and transformation**

Scott (1997) writes about the grieving that occurs when people's meaning perspectives are challenged. Despite the final stages of relief and understanding, transformative learning is often uncomfortable and awkward. From my own experience with it, I would agree that transformative learning is extremely difficult and full of emotional upheavals. If this is the case, it has the potential to cause major disturbances within the academy. The learner "questioning personal psychological beliefs and assumptions related to his or her social context can experience considerable emotional upheaval" (Cranton, 1994, p.18). Are teachers and learners prepared for these types of transformations? Do alternative strategies exist for invoking the same type of thinking without the upheaval?

In a recent study entitled *Building a sustainable future through transformation*, Ball (1999) interviewed 14 people who had undergone transformative learning experiences. In intensive interviews, it was found that strong emotions often accompanied transformation and that "supports from families, friends, mentors, allies, books, magazines, as well as from confirming real-life experiences, were critical to sustaining personal changes" (p. 268). This study also suggested that personal changes were not conscious and rational but often unconscious and unpredictable. Many of the participants were unlikely to recall conscious reflection about their assumptions and explained most of the experience as emotional and subconscious. The study suggests that transformative learning in practice is not as deliberate and rational a process as it is in Mezirow's theory.

When I entered the social sciences for the first time during my doctoral studies, my understandings about science were ripped out from underneath me. In many classrooms, social scientists' notions of the scientific paradigm was the problem -the scientists, the measurement and quantification of data. What I had grown to honor and respect was now being criticized and publicly berated. After 10 years of being trained as a scientist, I entered social science classrooms where students and instructors made assumptions about the type of person I was and questioned my ability to become a social scientist. In classes that sat on the edge of natural science, I fit in perfectly and I was often seen as powerful...my understanding of statistics, my ability to spend 14 months analysing data, and my knowledge of ecological systems. In other classes, feminist methods for example, I would sink into my seat and listen to the students as if it were the first time I had heard a woman's voice. In these classes, I was taught to begin research by understanding my experience, by considering my role as a researcher, and to reflect on how this role could influence my work. I had to reconsider who I was, my background, my understandings and the implications that my science background has had on my understanding of research, knowledge, and my frames of reference. Reflecting on my journey from science to social science, I now understand that the awkwardness and difficulty I experienced was part of a two year long transformative learning experience.

## **Disorientation and elation**

Mezirow (1991) explained that the alienation resulting from transformative learning tends to make people seek out others in similar situations. Transformative learning is often associated with reintegration, reorientation, and equilibrium that refer to 'reentry' back into the world that existed before the experience. Disorientation is not intended to be the objective of this type of learning, but it is often a result that comes with the territory of paradigmatic shifts. A question this raises for academics is whether students are mentally and emotionally prepared for this type of learning and whether or not the academic institution (and professors) has the ability to foster and nurture these kinds of experiences. Students may need a great deal of support, especially if they are living away from home or are lacking a personal support network.

Taylor (1997) collated a list of positive consequences that occurred for people after transformative experiences. These included an increase in self confidence in new roles and relationships, feelings of greater personal power and spiritual growth, increased compassion for others, increased creativity, new connections with others, and changes in discourse. The consequences of changing one's worldview are most often represented as positive, but associated with these changes can be a long list of troubling experiences. In my own experience of keeping journals during my doctoral studies, I have recognized the intensity of emotion in my writing - anger, hurt, frustration, and sadness often mixed with elation - and an ensuing calm. My journalling is an active way of critically reflecting on events, thoughts, and actions and considering future possibilities.

For Robertson (1996), one consequence of a new worldview is the awareness that old relationships are no longer helpful and may become oppressive. He discusses the "mix of excitement, grief, wonder and guilt" (p.45) and is concerned with the lack of emphasis on the importance of the student-teacher relationship necessary for transformative learning. The delicate relationship between a teacher and a student raises obvious questions about the possibility for a helping (and emotional) relationship between the student and teacher. A learning experience that involves the questioning of structures, systems and relationships is



bound to enter personal and interpersonal areas that need to be carefully considered for all involved.

### **Indoctrination and coercion**

Transformative learning is based on the notion of recreating underlying thoughts and assumptions about the systems, structures, and societies that we are a part of. This includes an ethical dimension related to the intentions, methods, and preconceived outcomes suggested by the educator. What are we transforming people into? Are we biased towards certain outcomes for the transformation? Is it only students who transform or teachers as well? Educators need to be aware of their own goals and desires with respect to transformative learning in order to ensure that it does not become brainwashing, coercion, or indoctrination. Educators are cautioned to think critically about why they might choose to engage with transformative models of education. Mezirow (1991) raises a number of ethical questions for educators to consider before attempting this type of learning in a formal setting. Three questions that ring true for environmental and sustainability educators are as follows. Is it ethical for an educator to decide which of a learner's beliefs should be questioned or problematized? Is it ethical for an educator to present his/her own perspective which may influence the learner? Is it ethical for an educator to facilitate transformation when the consequence may include dangerous or hopeless actions? These and many other questions raise important issues for anyone considering transformative learning in action.

Numerous critiques of Mezirow's work (Inglis, 1997; Taylor, 1997) have allowed him to respond and elaborate on the theory. The most significant critique involves his lack of emphasis on social change and social action. If transformative learning is chosen as the intention for a course of study - to what end is the transformation? Mezirow (1989) makes it clear that an educator is not to decide on the outcome for the transformation, if he/she does, he considers this indoctrination and not transformation (Cranton, 1994). This suggests that educators responsible for transformative learning experiences should not push students in any particular direction. Instead, students are supported by the facilitator and others in the classroom to embark on a critically reflective journey that has the potential to be transformative. Educators have a great responsibility for supporting learners in the delicate

process of transformation. Mezirow (1997b) clarifies this position in the following response.

I have always made the distinction between the role of the adult educator in fostering critically reflective learning and that of fostering social action. I have suggested that all adult educators should help learners foster transformative learning by becoming critically reflective of the assumptions and frames of reference of others (objective reframing) and of themselves (subjective reframing). Not all adult educators are positioned or knowledgeable enough to foster social action. I have always held that it is entirely appropriate for adult educators who choose to do so to become engaged in social action education when they feel a sense of solidarity with those who have decided to take such a course of action (p.61).

We learn lessons from what is included in the curriculum and from what is left out. The inclusion or exclusion of content in a curriculum places educators in a difficult situation. If we do not include critiques of the status quo we may be in fact strengthening its validity. Conversely, if we do emphasize these critiques we may be labeled as coercive or radical. I believe that all education is value-laden and that by presenting all issues under a critical perspective, students can make their own judgements and decisions about how to live in this world. For this reason, many educators feel it is important to include (and emphasize) alternative views in their classrooms (Cranton, 1994).

### **Is sustainability an ethical context for transformative learning?**

The following list of terms: paradigm shift, social change, transformative learning, sustainable development, social justice and environmental justice are concepts that have become a part of the social science vocabulary. In my doctoral studies I have concentrated on the concept of sustainability and sustainability education and my investigation of sustainability has been deeply connected with transformative theory. Sustainability is a concept, a social construct, and is often used as a conceptual framework for decision making processes. Is it possible for higher education to utilize transformative learning in the classroom? As academics, we talk about other people, the public, and the common good, but rarely do we talk about ourselves. Academics need to take more responsibility for their own actions in the classrooms. Transformative learning is one of many possible ways to reconsider our roles at the university.

O'Sullivan's (1999) book documents a vision for education in the 21<sup>st</sup> century that shifts people from consumers to an alternative consciousness and holistic understanding of the earth. It is not a practical guide for transformative learning. O'Sullivan is speaking about a vision for transforming culture, namely western culture, and how we might challenge our communities to create alternatives. Despite the potential emotional upheavals during transformative learning and the potential for dis-equilibrium following the experience, many academics believe transformative education is necessary. There is a tendency in many environmental texts to emphasize the enormity of the current ecological crisis and to suggest responses that would turn every student into an environmentalist or sustainable citizen. Many educators believe that learning about sustainability should include discussions of ethics, worldviews, the role of humans within ecosystems, and ultimately a discussion of what matters (Bowers, 1993; Jickling, 1994). Orr's (1992) book on ecological literacy claims that a transformative shift is more likely to occur if we teach students about the importance of ecology and place. Transformative learning with a particular endpoint in mind is different from transformative learning for the purpose of empowerment and freedom of thought.

The need for empowerment, transformation and freedom is a common phrase found in the transformative education literature. Transformative learning is not a simple endeavor. It is complex and difficult for both learners and educators. A recent article by Robertson (1996) explains the struggles of the helping relationship in teaching that make transformative learning almost impossible to plan for; the "problem with this approach, however, is that the field neither adequately prepares nor supports adult educators to manage the dynamics of helping relationships or the dynamics of transformative learning within the context of those relationships" (p. 43). Transformative learning is an intensive process that requires experienced educators and support mechanisms. Higher education would need to create structures that allowed more time in classes for reflection and support for both the students and educators involved in the process. Upon reflection of my experience of both undertaking and teaching undergraduate courses, I do not believe that the current models of academic teaching (i.e. one hour class three times a week) are properly structured for the potential disturbances that might occur while students are encouraged to transform.

## **The Role of Higher Education**

Academic institutions have access to enormous amounts of information about what constitutes good practice in teaching and research. Unfortunately, there are few rewards for educators willing to embrace alternative practices in their classrooms and even fewer classrooms that create space for social change and action. The President of Brown University, Ruth Simmons, was interviewed by Morley Safer (CBS '60 minutes', 03/04/2001) on the state of university education in America. She suggested that her vision of higher education was to give all Americans the chance to go to university. The interviewer then pointedly suggested a scenario of highly educated people flipping burgers for a living. She reminded him that the goal of university was not to get yourself a better job. He then asked her - what was education for? And she replied that education is about transforming your soul. It sent shivers down my spine. Are we creating university programs that transform our souls?

In my own practice as an educator, I am attempting to break free from the institutional barriers that help reproduce the institution of which I am now a part. I am learning about the theory as it exists in books and journal articles, aware that I am simultaneously experiencing transformations on a series of conscious and unconscious levels. After a transformative awakening to feminist theory during my doctoral studies, I have come to recognize that I cannot look at the world the way I did as a scientist. I mourn for my scientific self, and wish her to resurface (and some days she is with me) but in the pit of my stomach there is a need to include experience and emotion in my writing and teaching. I have encountered a literature that I never knew existed, a place where research starts with an investigation of the interactions in everyday life (Smith, 1999). The ability to cross disciplines and to work in transdisciplinary spaces has allowed me to change, and will eventually allow the disciplines to change with the next generation of interdisciplinary students.

I am excited to be a part of a new generation of educators that have access to a wide range of teaching and learning models. I am concerned that transformative learning and sustainability education will become buzzwords and that academics will not recognize the

support necessary for personal changes of this magnitude to take place. If we are truly interested in social transformation towards sustainability then we need to consider the entire system of academia and not merely a course or program on the subject of sustainability. "The classroom remains the most radical space of possibility in the academy. For years it has been a place where education has been undermined by teachers and students alike who seek to use it as a platform for opportunistic concerns rather than as a place to learn" (hooks, 1994, p. 12). The possibility to recreate and rethink higher education is exciting, dangerous and ripe with possibility.

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## **Chapter 8**

### **Seven recommendations for creating sustainability education at the university level: A guide for change agents**

A version of this chapter has been submitted for publication in the *International Journal of Sustainability in Higher Education*.

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 article presents a facilitated process by which a group of faculty, staff and students at the University of British Columbia considered the future of sustainability education. The article outlines a concrete set of recommendations for universities committed to becoming leaders of the sustainability movement.

The University of British Columbia drafted and signed a policy committing the university to sustainability in all of its actions and mandates (UBC Sustainable Development Policy 5, 1997). 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). As a doctoral student attending the University of British Columbia, I became interested in how the university was implementing the Sustainable Development Policy with respect to education and how members of the university community were working towards the goal of sustainability education.

For the past three years, I have been a member of a small, interdisciplinary team of researchers actively engaged in creating a proposal for an undergraduate program in sustainability studies at UBC. An early task of our team was to engage with faculty, staff, students and administration (Vice Presidents, Associate Vice Presidents, Deans) about the possibilities for an interfaculty program in sustainability studies. We 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. We needed to create a space for dialogue about the interfaculty proposal and we needed to ensure that decision-makers and administrators would be an integral part of the planning process.

### **Approaching sustainability research**

Early on in my doctoral studies I recognized the importance of aligning my interest in sustainability with an appropriate research methodology. The concept of sustainability does not have a fixed set of criteria to work from, so I searched for a research methodology that aligned with my own conception of sustainability. I soon came to realise that feminist research, participatory research and action-oriented research frameworks espoused principles similar to those of sustainability. My personal interest in action and participatory research stems from the suggestion that it is "a movement away from competitive, power-driven, conflict-ridden organizational processes toward more cooperative, consensual way(s) of living" (Stringer, 1996, p.160). 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.

Dialogues about sustainability are ultimately a discussion of values (of both individuals and collective) (VanWynsberghe et al, 2002). Using a process based on the value focused thinking model, over 60 staff, faculty and students brainstormed possible barriers and pathways to sustainability education during two Saturday morning workshops held at the university. 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 participant might suggest that underlying this a desire to be connected with other people and to treat people with respect. The underlying value that is motivating this choice is related to the value of respect. Value focused thinking draws a clear connection between values and objectives and ultimately what is important to people.

## **Workshop Process and Results**

The workshops focused on the future of the university and the structures that aid and inhibit institutional change. The goals of the workshop were:

1. To create alternatives for sustainability education at UBC.
2. To ask hard questions about the alternatives (through the use of critical thinking and examining assumptions and biases).
3. To create momentum for the implementation of alternatives.
4. To gain buy-in for the idea of an interfaculty program in sustainability studies.

In the first workshop, 30 faculty, staff and administrators worked together to create a long list of values and alternatives for creating sustainability education at the university level. Participants were invited by an email that explained the workshop process. Over 50 emails were sent to people who had expressed an interest in sustainability education programs. The second workshop involved the same process for a group of 25 undergraduate students who made a number of excellent suggestions for creating change at the undergraduate level. The student workshop was advertised via email and poster. These two workshops, along with in-depth interviews (outlined later in the article), helped to create a framework of recommendations for sustainability education. The following Table 8.1 outlines the six steps used in the workshops.

**Table 8.1 A six step workshop process on the future of sustainability education.**

1. **Story of Present Day Situation.** We read the story of sustainability education at the university (up to present day) and explained the objectives of the workshop.
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 (ie. 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. We asked people to consider the question - what are your individual values that relate to sustainability education, ecological and social justice education and global citizenship education? People 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 we prompted the groups 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 4 quadrants or scenarios. Examples of the continuums included;

Theory	Applied
Emotion	Reason
Student centred	Faculty centred
Asking questions	Providing answers
Disciplinary	Interdisciplinary
Reform	Revolution
Adaptation	Transformation
Collective	Individual

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 3-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. The two workshops were extremely useful as the participants created a long list of ideas, alternatives and recommendations for the future of sustainability education at UBC.

## Interviews

Over a period of 3 months following the workshops, I interviewed 30 key informants including undergraduate students, staff, faculty members from a range of disciplines, Deans, Associate Vice Presidents and Vice Presidents. Many of these people had attended the workshops and were open to talking further about sustainability education. The interviews elicited a number of specific recommendations for how the university might be transformed. I interviewed people on campus who were working on sustainability issues to discuss their experiences of creating (and attempting to create) sustainability education programs. During initial interviews, I asked participants to identify others I should talk to. 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, decision-makers and generally people who were considered powerful on the campus. No student quotations are used in this particular paper. All interviews lasted approximately one hour, were semi-structured and included 10 questions (Appendix C).

After transcribing and analyzing the interviews I allowed participants time to review their remarks and quotations in the context of the manuscripts. They could view the complete transcripts or withdraw their comments at any time during the study. At an early stage in the research, I 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?” After an hour long interview that focused on interdisciplinarity, sustainability education and the structure of the institution most of the answers addressed ways to move the institution forward in relation to these concepts. The open ended, magic wand question generated hopeful answers, suggesting participants had a strong beliefs in the merits of higher education. After analysis of the interview transcripts and workshop results I had a long list of ideas, recommendations and suggestions for moving UBC towards a program of sustainability education.

## Results

The following recommendations come from the voices of staff, students and faculty at the University of British Columbia. They are divided into seven categories that will help universities transform into institutions that are focused on a long-term vision of sustainability. On the following page, Table 8.2 outlines seven categories of recommendations that create the framework for this article. 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 article.

**Table 8.2: Future directions and recommendations for change at University of British Columbia.**

<b>Goals and Objectives:</b>	<b>Implementation Ideas and Examples</b>
<b>1. Infuse Sustainability in all Decisions</b>	<ul style="list-style-type: none"> <li>• Update Sustainability Development Policy</li> <li>• Infuse sustainability into all levels of decision making</li> <li>• Sustainability becomes the vision of the institution and the overarching goal instead of excellence and 'being the best'</li> <li>• Campus becomes a living/learning lab</li> </ul>
<b>2. Promote and Practice Collaboration</b>	<ul style="list-style-type: none"> <li>• Support faculty to discuss values, include time for reflection at all levels. Create incentives for collaboration</li> <li>• Promote collaborative inquiry</li> <li>• Dialogue on current grading system-consider options</li> <li>• New broader based admissions standards</li> <li>• Support team taught courses</li> <li>• Promote collaborative group work, peer grading</li> </ul>
<b>3. Promote and Practice Transdisciplinarity</b>	<ul style="list-style-type: none"> <li>• Increase program flexibility for undergraduate students</li> <li>• Redesign disciplinary programs</li> <li>• Promote reflection and discussion of epistemology and disciplinary/cultural worldviews</li> </ul>
<b>4. Focus on Personal and Social Sustainability</b>	<ul style="list-style-type: none"> <li>• Increased job security for sessional lecturers</li> <li>• More community involvement in teaching</li> <li>• Reconfigure timetables i.e. block scheduling</li> <li>• Reduce work loads</li> <li>• Promote openness in workplace</li> </ul>
<b>5. Integration of Planning, Decision Making and Evaluation</b>	<ul style="list-style-type: none"> <li>• Integration of evaluation with policies, priorities and plans</li> <li>• Set priorities with evaluative structures attached</li> <li>• Change faculty incentives and reward structure</li> <li>• Promote transparency in decision making</li> <li>• Create criteria and indicators with the community for evaluating goals of the institution</li> </ul>
<b>6. Integration of Research, Service and Teaching.</b>	<ul style="list-style-type: none"> <li>• Promote and integrate scholarship of teaching</li> <li>• Evaluate Ph.D. programs and curriculums</li> <li>• Continuing education for instructors, professors</li> <li>• Community/ local learning on campus (not just off)</li> <li>• Improve university/community relationships</li> <li>• Rethink outside relationships with community, government and industry</li> </ul>
<b>7. Create Space for Pedagogical Transformation</b>	<p>Promote, Enhance and Reward:</p> <ul style="list-style-type: none"> <li>• Community Service Learning</li> <li>• Participatory Group Learning/ Transformative Learning</li> <li>• Critical Thinking/Reflective learning</li> <li>• Student Centred learning/Problem based learning</li> <li>• Experiential learning</li> </ul> <p>Remove barriers and create space for transforming pedagogy:</p> <ul style="list-style-type: none"> <li>• Improve student-instructor interaction and learning</li> </ul>



## **1- Infuse sustainability in all decisions**

The first recommendation is that sustainability must become a fundamental priority for UBC. The Sustainable Development Policy outlines the need for sustainable development of campus buildings and operations and requires 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. For example, it calls for a continuation of the “Greening the Campus” program that is no longer running; another program, SEEDS, has taken its place. 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 University of British Columbia 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. Another way to incorporate sustainability into the framework of the institution is to consider the campus as a living/learning lab for experimenting with alternative ideas for sustainable living, communities and classrooms.

The following are a few of the responses to the magic wand question that clearly explain where many of these recommendations came from. 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.

Participants also recognized the need to update the Sustainable Development Policy to reflect changes in institutional structure. It is necessary to evaluate planning documents with an emphasis on policy implementation in order to determine which of the policies are actively being pursued and which areas need more support. Shortly after the signing of the Sustainable Development Policy (1997), a new President (Dr. Martha Piper) was hired at UBC. She initiated a new academic planning process entitled TREK 2000. In 2004, the administration has initiated another planning process to reconsider TREK 2000 and move on to TREK 2010. The following participant reflected on how the Sustainable Development Policy was connected with academic planning processes and documents.

So it strikes me that if I was thinking this through and we will be thinking it through - because I think we will be rethinking TREK...we might want to update the sustainability policy - what ever it was called the sustainable development policy - I have never liked the juxtaposition of sustainable and development - I think we have gone a lot farther with just the concept of sustainability albeit that some people just roll their eyes and say that is just rhetoric. But rhetoric is important.

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.

For a university - coming up with ways to incorporate social and ecological sustainability in each department would be a good starting point and that has to be based on a better understanding and so communication about how ecological and social sustainability are linked and how people's lives at the university are related to environmental health and that kind of thing and what some processes for people to talk about what they think and how they could do it.

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. The following participant spoke of the need for our society to become more cautious about 'good ideas'.

So I think one of the things we need to do as a society is to become more cautious about plunging ahead with things just because we think it is going to be a good idea. On the other hand there are a lot of common sense things that we can do that we know are good things...we don't need anyone to tell us - we all know that it is better to get on the bus or your bike or walk than take your car - we don't need scientific studies to show that. On a commonsense level we know there are a whole lot of things that we can start doing right now but the big things we have to go more cautiously with right now.

## **2- 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 honor scholars at the top of their field. Unfortunately, this overwhelming climate of competition found its way into discussions (and interviews) 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 kind of rivalries went away because collaborative efforts (across disciplines) allowed people to share a common purpose. I am not suggesting 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... Yes 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.

The university needs to find more ways to support and encourage faculty, staff and students to create time for a discussion of values. 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 & Parsons, 2000).

### **3- 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. After asking participants to change anything at UBC with a magic wand, one participant told me that they would create more prominent problem-based institutes and give faculty members credit for moving easily between disciplines. Another participant used the magic wand to restructure the university to require more arts and humanities for everyone.

I would restructure the university - not around disciplines. In fact, if I were really God on this whole matter, everyone we be required to have at least a 3 year degree in the arts and humanities - the civilizing courses- before they are allowed to become a physician or an engineer or an anything else in the tech or science areas. I go back to the old European school here where university people are educated people. People who have some perspective of our history, who understand the causes of global strife, who recognize the connection between economy, society, history and so on.

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.

#### **4- Focus on personal and social sustainability**

Many people discussed the difficulty of finding ‘personal sustainability’ or an appropriate work/life balance. As universities continue to survive on smaller budgets they compete for students, funding, and prestige. As a result, fewer people are asked to do more work as budgets continue to be cut. There is a need to reduce stress in the workplace by incorporating alternative work schedules for parents or people with illness and/or disabilities. 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.

## **5- Integration of planning, decision- making and evaluation**

The University of British Columbia is a large academic institution with many faculties, departments, schools and competing mandates. The annual budget of UBC in 2002 was close to a billion dollars (\$960 million; UBC annual report, 2002). This money is allocated to salaries, Faculties, Operations and a range of other areas. A question that constantly arose in my 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 for 2002 only 31% of students were very satisfied with their educational experience and 65 % were satisfied with the experience (UBC Annual Report 2002). Nowhere did the surveys ask if the students learn 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 could 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. I hope you can understand what I am groping for. Something in the direction of greater breadth. 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.

## **6- 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. How should teaching fit into the picture of an institution clearly focused on being a top research university? This conversation was central in many of the interviews I conducted and included comments regarding the overemphasis on research excellence and perceived lack of emphasis on undergraduate teaching. After handing over another magic wand in an interview, 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 Ph.D. programs are preparing graduates for careers in academia. It is essential for departments and Faculties to evaluate and nurture their Ph.D. programs and to look carefully at the learning communities within these programs. Currently the structure of many Ph.D. programs emphasize research skills above all else. Although several Faculties offer courses for Ph.D. students in university teaching, UBC has no university-wide mandate to teach Ph.D. students how to become teachers. This leads to the assumption that a good professor is a good researcher and that good teaching follows naturally. And what about service? How can community service become an integral part of the life long learning process for academics? This comment from an interviewee considers how Ph.D. programs might need to shift with changing university agendas.

Maybe we need to rethink the Ph.D. - this is in the context of meeting the new professoriate...how are we going to get enough of them, what's important...maybe it is a bit of blasphemy but are Ph.D.s the best instructors? Are they the best people to actually guide the learning process at universities? Some of them are and some of

them are not. Does the Ph.D. designation give them a ticket to be a good learning facilitator? No. Not at all. So I would argue that there is huge scope for really rethinking that. But opening that can of worms...wow.

The evaluation of current Ph.D. programs would be an ideal topic for the next round of academic planning at UBC.

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 & 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 endeavors. If UBC considered sustainability as a mission of the university, this would clearly transform the role of community partnerships.

## **7- 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 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. Following are some comments from participants that outlined the need for changing pedagogy as a beginning of the transformation toward sustainability

education. One participant stressed the importance of finding ways to improve interaction between instructors and students by reducing class sizes and shifting pedagogical approaches to allow students the opportunity to engage with one another.

Make smaller class sizes. I think large class size is an obstacle for student interaction. One of the questions we are asked often - do you feel like you belong? It is really hard to establish belonging in a class with 100-150 students. I think we have very good sessional lecturers and very good faculty. I think structurally if I could have every student in a smaller class - at least one class - it would make a difference. I think great classes can happen with 500 but I do think some smaller classes would make a big difference. Getting students engaged in what they study and who they are.

In response to the magic wand question, many participants related their dreams of changing course schedules, reducing course loads and reducing program requirements for students.

What I would do is to make our course scheduling much more flexible...I would ease up tremendously on requirements...I would demand that all students had faculty members who encouraged or taught them how to communicate effectively... I don't think I would remove the departments but I would sure make departments very porous...so that working across disciplines became [the rule and] not the exception.

A shift in delivery could encourage more student-centred learning (Donald, 1997), reflective learning (Brockbank & McGill, 1998), problem based learning (Evensen & 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.

There would be a total shift in our delivery. I really do believe that somehow we have to find a way to have more student centred learning in the big Faculties and for those of us that have had the luxury or who have really tried to do it...I do think of it as citizenship and that citizenship would be a huge piece of what we have as our learning outcome.

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.

### **Shifting the tide**

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 remind me of the realities of lean budgets, increasing student numbers and reduced government support. I asked interview participants to describe the University of British Columbia with a metaphor (or in a few words) and received a wide range of responses including; tanker, old fashioned, loosely organized, friendly, classic, robust, extremely conservative, decentralized, huge bureaucracy, loosely coupled system, dynamic, everchanging and in battle with itself. UBC is made up of many pockets of people engaged in a wide array of activities connected to teaching, research and community service. The institution as a whole had made commitments to sustainability and yet very few people were engaged in sustainability education or sustainability research on campus. I was left confused about how the institution could have such a mandate, and how the administration planned to further implement the policy. While many of the voices that I heard were deeply concerned with the current situation in academia, many voices also expressed positive and enthusiastic attitudes. When I was feeling pessimistic about campus sustainability I would sit back and read a few of the more optimistic transcripts. Here is an example of a participant who saw a shifting of the tide happening at UBC and believed that great changes were coming.

One of the wonderful things about the university right now is that not yet...but there is a critical mass...people who are really genuinely interested in sustainability and they are starting to contact and get to know one another. The other day I was thinking about how many times I see tagged on to someones email...Margaret Mead's thing on never doubt how a small group of people can change the world...they are part of a group and they are working towards change...they may

have different emphasis on how they are achieving it but I really feel they are all working towards a similar end. And when you have that, that is when the paradigm shift happens...actually it will be like the Berlin wall...it will just fall away...and we are not there but we are getting closer...it is vastly different.

I learned a great deal from the experts involved in this study, the experiences I shared and continue to share with the faculty, staff and students who are working diligently to move the idea of sustainability forward at the university. I trust the process and that slowly things will change to create more sustainable communities and life experiences at the University of British Columbia and beyond. I would encourage individuals, communities and universities to seriously consider these recommendations for implementing and evaluating sustainability initiatives in higher education.

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## **Chapter 9 Conclusion**

### **The emerging field of sustainability in higher education**

I want to start by acknowledging what a privilege it is to spend four and a half years researching, teaching and studying sustainability at the University of British Columbia. My research focused on my lived experience at the university and I intended to create disturbances that would result in positive social change. I wanted to find out if a university environment was a place where I could work, thrive and teach students about sustainability. I chose to study the implementation of the Sustainable Development Policy at the University of British Columbia to learn more about institutional change, people's understanding of sustainability and sustainability education AND to create change. I was committed to ensuring that my research did more than gather dust in the library, so I set out to create something that would be greater than my thesis alone.

I embarked on a number of journeys during the four years of my doctoral program. I wanted to find out how the university works, how decisions are made and how alternative kinds of education can become part of the everyday experience of undergraduates. I wanted to learn about change by placing myself within the system. As the title of the dissertation proclaims, I set out to 'recreate the university' and do it from within. The idea of creating disturbances in research is well documented in action oriented (Winter, 1996) and feminist accounts of research (Reinharz, 1992). I moved beyond being an 'observer' to becoming a 'change agent' within the university I was attending.

### **A methodological journey**

I was also on a search for a methodology that fit my conceptions of sustainability. I explored a number of methodologies for this dissertation, trying them on for size, and learning through my experiences. My goal was to research 'with' the institution and to engage in a dialogue with professors, students and administrators. It is important that we study our own institutions - research the researchers - instead of always moving outside the institution to research the 'other'. I became intrigued with the possibilities of engaging in a dialogue with academics about the role of universities in creating a sustainable future. An

important tension throughout the research became my focus on creating change and the constant reminders to complete my dissertation, publish my research and align myself strategically for employment.

I read numerous accounts of the difficulties and risks of attempting action research or participatory action research for a doctoral dissertation (Bernard, 1999; Maguire, 1993) and became intrigued and excited by the possibility of institutional and personal transformation. I was also aware that action research dissertations can be controversial and needed to be carefully considered (Dick, 1997). I was warned by the head of one department not to undertake action research at UBC - "it won't get you anywhere" and besides "you have a lot to offer...just find something else to study - some other project". Other criticisms were loud and clear – "it is very difficult to engage in a short term action research project – they take too long and you will never finish". I had to become an expert on methodology at the same time as becoming an expert on sustainability education. I changed disciplines, changed departments and moved throughout the institution finding ways to become interdisciplinary in my thinking and research approaches.

### **Creating change and doing research**

By engaging in activist oriented research I became involved in a number of meaningful sustainability education projects. These projects were the highlight of my doctoral program in terms of my own personal learning and transformation. I continue to meet regularly with 2 faculty members to find ways to get sustainability education 'off the ground' at UBC. During meetings with this group I talk about my research findings, the collaborative inquiry process, the themes that emerged in the interviews and the writing of these manuscripts. One of the highlights of the research process was the faculty and student workshops that the three of us organized and facilitated (see Chapter Eight). The insight and enthusiasm was incredible and we gathered a long list of ideas about ways to implement sustainability education and the barriers that stood in the way. During these collaborative workshops, everyone had a chance to discuss ideas and push the boundaries of the everyday university – we asked people to envision the future of the university. These meetings and workshops greatly influenced my ideas about the university in general and

sustainability education in particular, and eventually were integrated into this dissertation and into the proposal for the IFPSS (Interfaculty Program in Sustainability Studies – Appendix B).

The word ‘strategic’ became part of our team’s lexicon. For example, I needed to act carefully and strategically without annoying administrators and faculty with a constant flow of ideas. At times I felt like a spy, interviewing decision-makers about how to move sustainability education forward and in the next hour meeting with the planning team to create a proposal for the Interfaculty Program in Sustainability Studies. I was always careful not to reveal anything that I learned in the interviews but at the same time I was learning what channels were open for creating change and how to create it. It was impossible to separate my case study research and my involvement in creating the proposal for this new undergraduate program.

During the interview process, I had a chance to learn how decision-makers attempt to create change within the institution. Although they were extremely busy, Deans, Vice Presidents, and Heads of Departments were all open to meeting with me and reflecting on their role in the university, their connections to community, sustainability and a range of other topics. I was looking to be inspired, to find people who were creating new kinds of educational programs and attempting to shift the current system. I was often concerned that my research would be too personal and rely too heavily on my own experience instead of others’. I worked hard to include the experience of others in the work and to leave the direction of the research flexible.

Many interviews had significant meaning for the entire university, and interpretations were critical for communicating these messages back to the community. For example, there were conflicting stories about the process of decision making, contradicting opinions on ‘what is important’ and a range of interpretations of policies and plans mandated by the administration. I was afraid of being overly critical and learned to be strategic with my words. I learned a great deal about the inner workings of the university but I also came to realise that my experience of these workings may not resonate with other people’s experience. I had made a commitment to the university community to report back

what other people had said and do so in a timely manner. I created a report entitled "What I heard UBC say: Three dialogue documents on sustainability in higher education" and circulated it to thirty participants and to the President of the university. I was concerned that if I was too critical of the institution I might be seen as being critical of individual members of the university community, including those who assess my work. I came to understand why so many people had warned me not to do this study in the first place. In the end, I produced articles that contained a fair mix of critique and recommendations.

### **Tensions between action/research**

My dissertation was a small component of a larger system of social and educational change. One suggestion by Coghlan and Brannick (2001) in their book on institutional action research is to 'light many fires'. During the four years that I concentrated on this research project, I created disturbances in a number of meetings by asking tough questions of administrators and decision-makers, I sent out reports and recommendations for change and continued to raise awareness about the importance of sustainability in higher education. In many areas, I moved away from the discussion of sustainability and concentrated instead on understanding the structures and systems that blocked the creation of sustainability education on campus. I also helped implement sustainability education on the ground through my involvement in the formation of the proposal for the Interfaculty Program in Sustainability Studies (IFPSS – Appendix B), on curriculum committees (i.e. SEEDS) and co-teaching the first summer field course on sustainability.

It is difficult to determine the consequences of the many actions that occurred during the research. For example, I sent two letters, four emails and three reports to the President of the university. I eventually received one letter back from the President indicating that she had forwarded my reports to the Campus Sustainability Office. Other actions included providing information to other groups working on sustainability issues, editing interview text with participants, inviting people to be involved in sustainability projects on campus, attending meetings and writing and sending emails, reports and thank-you cards to participants.

An important tension was generated by the fact that I was working on establishing the initiatives at the same time I was researching the barriers to sustainability education. For example, I was helping to create courses on sustainability education at the same time I was asking faculty what sustainability education might look like in classrooms. It was not until after completing the research that I realised how deeply intertwined my dissertation research was with the curriculum development for new courses and programs on sustainability. Now, at the end, it is obvious that this kind of tension is expected in action research.

I was concerned that I would cause 'trouble' for projects that were ongoing at the university. For example, people had been working on the project to create an undergraduate program in sustainability had been working on the project for years before my involvement. When I got involved in the project, I hoped to keep it separate from my dissertation work. I wanted to be sure that this project would move forward and that I would not interrupt this process. I tried desperately to separate the thesis from the interfaculty proposal as a way to bound the study. Eventually we all came to understand that my dissertation was constantly provoking and injecting ideas into the interfaculty proposal. All of the research, ideas, understanding and new perspectives on sustainability education that I had formulated in the interviews, workshops and collaborative inquiry were fed into the process for creating the proposal for an undergraduate program in sustainability studies. As I opened my mind to the possibilities of action research, I realised that these projects were intricately intertwined in a process of action, reflection and learning.

It is important to consider my position as a doctoral student as I moved within circles of faculty, decision-makers and administration. There were times when being a graduate student was beneficial – I could ask naïve questions about how the university functioned and people would explain the system through their own experience. On the other hand I had no 'position' at the university and therefore could not apply for grants or funding without involving other people associated with a department as collaborators. During the interviews I found there was a fine line between asking hard questions and making subtle suggestions about the institution. For example by asking about the difference between global citizenship and sustainability education I was not only asking

people to answer the question but also to consider why programs related to global citizenship were being implemented and sustainability education was not. I pushed the agenda of sustainability education whenever I had a chance, leaning towards my role as change agent and away from my role as objective researcher.

My position as graduate student also enhanced my ability to network with faculty and administrators during my research process. I found that I was getting to know a lot of people on campus and I had the potential to meet a lot of powerful people. I was learning as much about university politics and the subtleties of decision making as I was about sustainability. I learned from other change-agents how to move strategically, how to make waves that didn't cause floods, and sometimes I had to learn by my own mistakes. For example, I learned that I have a tendency to overestimate people. I assumed that because people were talking about sustainability that they also had both the desire and the ability to create change. I learned this was not always the case. It was an incredibly rich learning experience but at the same time it made me cautious about how I would proceed on many occasions. I wanted to find out if the university was a place where I could imagine working and my research process allowed for an insider's view into the ways in which change can occur in complex organizations.

Finally, I experienced the ongoing problem of how to structure this dissertation. I felt a great tension between publishing a purely academic text, writing with the intention of personal reflection and growth, and writing with an activist voice, with the intention of creating change. I struggled to find ways to consider all of my roles and voices and created a document for internal review for the university and a series of publishable papers.

## **Research Findings**

Returning to the research questions presented in the first chapter I now consider the research findings. The central research question focused on the institutional barriers to creating sustainability educational programs at the university level.

- What are the barriers and limitations to creating sustainability education? More specifically, what are the major institutional structures and dynamics that aid in (or

obstruct) the development of sustainability education at UBC in the area of undergraduate education in the arts and sciences?

I identified a long list of barriers to creating sustainability education at UBC as a result of hundreds of conversations with many different individuals, student and faculty workshops and interviews. These barriers were discussed and analysed further in a number of conference presentations, in our collaborative writing, emails and in my reflections of the overall process. Barriers to sustainability education outlined in Chapter Five included the disciplinary environment, the competitive environment, misdirected criteria for evaluating progress and contradictory priorities set by the university. Many participants argued that the decision-making structures at the university are unclear. Faculty members suggested that administrators have more power to create change and yet administrators maintained that faculty members have more power to create change in their departments and classrooms. It was clear that the goals of the administration were not always aligned with the goals of the faculty members and as a result many initiatives were uncoordinated. Another example of uncoordinated action (and another barrier) is the competing agendas of justice, equity, citizenship and sustainability. New initiatives around these concepts compete for funding and attention instead of operating synergistically as mutually inclusive ideas.

Faculty and administrators working for the inclusion of sustainability education felt exhausted and had difficulty balancing their workloads with further commitments for moving sustainability forward. My involvement with faculty and staff during the collaborative writing project (outlined in Chapter Six) allowed for a first hand experience with academic exhaustion as well as insights into their common frustrations in attempts to create change. Many faculty members are frustrated with the constantly shifting vision of UBC and felt there was a need for long term thinking beyond 5-10 years. Many participants felt the university needed to engage in sustainability planning that would consider 100 years in the future and the impact of our decisions on future generations. There was consensus that it is much easier to talk about sustainability than to walk the talk of sustainability. However many participants are working hard to walk the talk in their daily lives and believe that small changes will eventually turn the tide towards sustainability.

Despite a policy on sustainable development and sustainability education there is a lack of institutional commitment for moving the organization towards sustainability. It is clear that the Sustainable Development Policy is not coordinated with UBC's academic plans and priorities. It is also clear that the concept of sustainability means many things to different people and that more dialogue on campus is necessary for people to understand alternative perspectives of sustainability. Although a number of people on campus are working on sustainability issues, many other faculty and administrators do not consider the Sustainability Development Policy as a part of their role at the university. The university has too many priorities and competing visions to be successful at creating a sustainable campus. It is clear that a good academic vision does not necessarily result in an effective implementation plan of that vision. The current Sustainable Development Policy outlines the need for changing pedagogy, ecological literacy and sustainability education and yet few sustainability education programs are happening at the university.

There are many barriers to creating sustainability education programs at the university level. As a student, educator and activist trying to promote sustainability education I found that for each barrier I encountered there was also an opportunity or pathway for creating change. I was concerned that the members of the institution were quick to mention some of the age-old problems of university life (i.e. disciplinarity, competition amongst departments) and yet few had attempted to challenge these barriers during their careers. I wanted to find out how to create change at the same time as investigating barriers. There was a constant tension between moving forward with sustainability education initiatives on campus and learning from faculty and administrators the numerous reasons why new interfaculty programs focusing on sustainability education would be difficult to create. The second set of research questions look to the future of sustainability education and the possibilities for moving forward.

- What possibilities for overcoming these barriers are conceivable? What kinds of alternatives/steps toward sustainability education are being envisioned for UBC?



In the following four sections I outline the primary findings and recommendations about creating sustainability education on campus including *transforming institutions* to promote transdisciplinary research and teaching, *transforming classrooms* to promote collaborative and transformative learning, *transforming methodology* to promote alternative kinds of research at the university and *transforming evaluation* to develop structures to incorporate participatory evaluation.

### ***Transforming institutions***

The university needs to be transformed. There is a need to change the damaging institutional policies and structures (e.g. promotion and tenure criteria) that reinforce negative practices and that make university education more of a source of unsustainability rather than a solution. During this transformation, the university can experiment in transforming teaching and learning, transforming institutional structures and transforming approaches to research. We need to create more avenues for discussing these issues within the traditional university system to promote and foster institutional self-reflection. If sustainability was infused into all decisions there would be the potential to create a sustainable university that could walk the talk of sustainability in all its actions and mandates. There needs to be a focus on personal and social sustainability as well as the environmental and operational (i.e. building codes, waste management) sides of sustainability.

Creating structures within our universities to promote transdisciplinary research and teaching would open pathways in the movement towards sustainability education. Sustainability education is transdisciplinary in nature and should not be thought of as a new subject or discipline. Transdisciplinary education and research goes further than interdisciplinary to include interfaculty programs and has the intention of creating new boundaries for exploration and understanding. As I was nearing the end of the dissertation process I had a chance to talk to the Executive Director of the President's Office at UBC. I had sent reports to the office on a number of occasions during the research process and had hopes that they were read and utilized. After speaking with the Executive Director he told me that he had used large excerpts of my reports to inform the new academic planning

process at UBC entitled TREK 2010. He agreed that I could place the email he sent to me in an appendix of the dissertation. This letter can be found in Appendix C.

### ***Transforming classrooms***

Everything that happens inside classrooms between students and between students and professors is a part of the curriculum of higher education. How we teach is as important as what we teach. By shifting to models of collaborative and transformative learning we may be shifting towards models of sustainability education. Collaborative learning focuses on the process of learning emphasizes on listening, negotiating, challenging, questioning and understanding alternative perspectives. By creating spaces where collaboration is practiced and encouraged, academics can move away from the current structures of competition, towards processes connected with the values of sustainability. The hidden curriculum at the university includes everything that happens in classes, between classes and on campus. University curriculum includes how universities construct buildings, what pesticides are used on the grass, how decisions are made by student governments, what kinds of advertising is allowed on campus, what food is offered in cafeterias and the products sold at the campus bookstore. Raising awareness about the hidden curriculum is the first step in creating movement towards sustainability in all areas of the campus. The curriculum inside classrooms is just as important. Educators can help create a dialogue about the future by creating content related to sustainability and processes that allow for a wide range of perspectives to be heard.

In Chapter Seven, I explore the possibilities for transformative learning within the current structures of higher education. I raise concerns about the intensity of transformative learning and the need for experienced educators and support mechanisms. Universities need to create structures that allow more time in classes for reflection and support for both the students and educators involved in the process. Universities can begin to transform classrooms by promoting and rewarding alternatives pedagogies including; community service learning (emphasis on reflection and critical thinking) and transformative learning. There is a need for these pedagogies to be more broadly practiced, promoted and integrated with research and evaluation. Educators who have had success in practicing these kinds of

pedagogies in their classrooms need to be rewarded for their efforts in the same manner that top researchers are awarded for research publications.

### ***Transforming methodology***

Researchers investigating issues of sustainability need to seriously consider their choice of methods and methodologies. Participatory research allows for community involvement in all stages of the research process including; problem framing, data analysis and dissemination. Through a conscious effort to raise awareness about the democratic and social implications related to participatory and action-oriented research we may be able to move towards reconsidering the role of academics and the role of academic institutions within community practice. The role of participatory and action-oriented research methodologies raises a number of problems for academics to consider including the relationship between participatory action research and academic success and the possibilities for collaboration within traditionally competitive academic settings.

In Chapter Three, I consider the new kinds of university-community partnerships initiated by research on sustainability (i.e. Georgia Basin Futures Project). I examine the role of environmental and sustainability education in public consultation and community engagement by academics. I raise questions about the underlying goals of these kinds of academic projects – whether they are to continue the discussion of sustainability or they are attempting to shift public opinion towards accepting academic perspectives.

In Chapter Four I examine the use of PAR methodology for graduate students and other academics working towards social change. I raise two questions for academics to consider in future research 1) How can the usefulness of PAR be assessed in an academic setting when so few academics are practitioners of PAR? 2) How can we change the criteria by which participatory and action researchers are assessed within institutions that are entrenched in the dominant social paradigm valuing objectivity and traditional methods above all others? I conclude by suggesting the importance of raising awareness about the democratic and social implications of participatory research and the role of academic institutions within community practice.

## ***Transforming evaluation***

Evaluation strategies need to be integrated into the planning of educational projects and programs. Universities need to create evaluative structures to determine whether program goals and objectives are being met. These structures need to fit with the values of the people contributing to, attending and working at the university. Creating evaluative structures that are open and transparent would allow all members of the university community to participate in decision making and evaluation. The university would need to dedicate more time to creating plans to allow for consultation with the community. Ideally, evaluation strategies need to be integrated into the planning of educational projects and programs with the intention that evaluation happens over time in order to improve the outcomes and processes of the project. Participatory evaluation promotes collaboration and understanding and moves away from adverse and competitive models of evaluation. By allowing more participants to be involved in the university-wide evaluation of programs, plans and priorities, members of the university could share in institutional change and community building.

## **Future directions at UBC**

I continue to be a member of the team of individuals that has proposed a degree granting program in sustainability studies (The Interfaculty Program in Sustainability Studies –IFPSS – Appendix B). The interfaculty program proposes to engage students and faculty from a range of backgrounds in the integration and exploration of sustainability research and education. The features of the undergraduate program include an emphasis on community service learning, experiential learning and creating a learning community. Unfortunately, the interfaculty proposal has had serious difficulties getting funding. As a team, we go to meetings, write proposals, get feedback, go to more meetings, write more proposals, get more feedback and wait patiently for funding to be allocated to the program. There are already a number of other initiatives on campus that send inquiries to the IFPSS assuming that the program is funded and in development stages. The proposed undergraduate program in sustainability studies has been on the drawing table for almost 10 years and has yet to receive any funding for implementation.

The team developing the proposal for the Interfaculty Program for Sustainability Studies has become the centre of sustainability education on campus. Students and faculty (from UBC and beyond) contact us to locate information on sustainability education in general and on sustainability education programs at UBC. Faculty members who are already overworked are expected to be top researchers, innovative teachers, engaged in service to the community AND develop new curriculum and design programs. Many faculty are deeply concerned about the need for pedagogical change, however there are only a few people at the university who are designated to improve curriculum and pedagogy. There is a need for more people on campus to imagine, develop and evaluate innovative undergraduate programs.

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. If UBC is committed to sustainability and sustainability education the organization needs to include sustainability in its vision and mission statements.

### **Future Directions for Research**

Achieving sustainability is no small task. Sustainability is a complex interdisciplinary challenge for all of us to consider. 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. Research is also needed to determine how educator’s beliefs

and perspectives inform the classes they teach. How do educator perspectives aid or interfere with students' ability to discover their own ways of thinking and being in the world?

More research is needed that focuses on transformation, alternative pedagogy and new kinds of organizational 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? What are the values of sustainability? How can the values of sustainability be incorporated into the classroom? Research is also needed that will investigate whether alternative methodologies and pedagogy in the classroom reproduce the status quo or create alternatives for 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 share their work.

As members of the university community, we need to slow down, we need to consider the entrenched systems of the university that are so resistant to change - our reward systems, the shortage of funding to sustainability initiatives, the minimal emphasis on teaching and learning (as compared to research), publish or perish attitudes and behaviours, the difficulty of personal sustainability in our current work schedules and the general unsustainability of our current behaviour. Ideally, we need to find ways to practice sustainability within our classrooms so that we can experience what sustainability feels like.

In order to implement sustainability education at the university level we need to consider how we go about things in our classrooms as well as what we teach. The pedagogy of sustainability education will help to create spaces where disciplines are not added on but instead integrated in new ways. We need to move into these new spaces as collaborators and co-creators of knowledge. My dream is to be a participant in a learning community - a community that allows for collaboration, transformation, transdisciplinary

research and sustainability education. I imagine finding ways to embrace alternative ways of knowing, working and researching and bringing students into this arena as equal participants in a learning process. The potential is that transformation happens for individuals, organizations and classrooms.

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## **Appendix A**

### **Sample List of Interview Questions**

1. How long have you worked at UBC? What is your role at UBC? (If students I asked) How long have you been a student at UBC? What faculty/program/department are you in?
2. What is your involvement in sustainability education at UBC?
3. What are some of the major institutional structures and dynamics that aid in the development of sustainability education at UBC in the area of (undergraduate education in the arts and sciences)?
4. What are some of the barriers and limitations to creating sustainability education?
5. What possibilities for overcoming these barriers are conceivable?
6. What kinds of alternatives/steps toward sustainability education are being envisioned for UBC in the immediate future?
7. What are the anticipated benefits and limits of these alternatives/steps?
8. How would you describe UBC as an institution? Use a metaphor.
9. What is the number one thing you would change if you could about UBC? Imagine you had a magic wand.
10. Is there anyone else I should talk to about these issues?

## **Appendix B**

### **UBC Undergraduate Interfaculty Sustainability Studies Program (IFPSS)**

Co-authored by: George Spiegelman, Janet Moore and Rob VanWynsberghe.

#### **Program Overview**

This document presents a five year plan to develop an Inter-Faculty Program in Sustainability Studies (IFPSS). This program will include a Majors/Honours Program (presented as an analogue of an Arts & Sciences degree) and a Minors in Sustainability Studies. The Majors/Honours degree will be a showcase program that will attract a diversity of students interested in sustainability, community and global and local citizenship. The Minors degree will target a broader audience, since the intent is that it would be available to all students at UBC regardless of Faculty.

Over the past two years, the proposal development team has continued consultations with faculty, students, and administration and this document represents a proposal for the program. We have had significant interest from senior administration at UBC to create this proposal and significant support from faculty and students in a wide range of departments to implement our strategy.

We want acknowledge these staff members, faculty and students that have keenly promoted the movement of sustainability education at UBC. In January, 2003 a series of workshops were held to gather ideas and support for the interfaculty program in sustainability studies. This report was presented during Research Awareness Week 2003 at Robson Square. Feedback from the participants at that workshop is included in the proposal.

## Program Mission

- *The **Interfaculty Program in Sustainability Studies (IFPSS)** is designed to provide students with a transdisciplinary undergraduate education that focuses on sustainability, community and global and local citizenship.*
- *We envision an undergraduate program that is integrated with all faculties on campus. We are going to create new courses where they are needed and build on existing courses. There will be an emphasis on co-teaching and developing the resources already existing on campus.*
- *The program will contribute to making our local and global communities more sustainable. We aim to develop an experience that will allow students and faculty to integrate sustainability into their everyday lives and experiences at UBC and beyond.*

## Why Sustainability Studies?

The term sustainability refers to 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. The strategy is the combination of actions and processes that can lead to a sustainable future.

Sustainability Studies starts from a simple, but radical assumption: the current trajectory of the dominant western culture will lead to unacceptable change of the Earth's ecosystems. Sustainability Studies focuses on the fundamental issues at the base of this assumption as well as understanding the human, cultural and bio/physical limits that must be considered to create a sustainable society. This investigation will require understanding, questioning and re-evaluating our values and our history, as well as developing new technologies.

Thus Sustainability Studies is a perfect venue to establish a probing, dynamic investigation of the nature of the modern world. It is critical that this investigation is not be left to one part of the university – be it philosophers, economists or engineers. It is a *transdisciplinary* investigation of our culture, our history, our technology, and our future. Such an investigation is the very nature of the university as an institution, and drives much research done at UBC. Furthermore one could hardly imagine a better venue for this investigation than British Columbia where the clash between environmental limits and the modern high

technology culture is so apparent. To paraphrase David Orr's famous remark: if we are not about this, then what is the university for?

Within a program in Sustainability Studies, we envisage courses in which the students will explore the historical and current evidence and thought that leads to the radical assumption, both pro and con. The goal is not to simply identify and transmit information. The path to sustainability requires that students develop skills of making decisions in the condition of incomplete information. The program will strive towards developing alternate hypotheses, developing criteria by which to evaluate the hypotheses and understanding the basis used to develop the criteria. The intent should be nothing less than to change the lives of the students who partake, creating graduates who will be capable and motivated to be involved in meeting the challenge that sustainability implies. The intent is to create the citizens for the new century. The courses offered by the program will be challenging, exciting, and memorable. The program will cut across traditional boundaries of the university, leading to new ways of exploring existing courses at UBC, creating new pathways between existing departments and programs rather than subverting them.

We are proposing that the **Interfaculty Sustainability Studies Program** would be a four-year degree that could be completed on it's own, resulting in a Bachelors of Arts and Sciences in Sustainability Studies (BAS degree) or through the existing degrees from the Faculties of Arts or Sciences. A similar degree (BASc.) is currently awarded at McMaster University and is considered advantageous by interdisciplinary graduate schools and professions. We believe the program should also offer a Minor in Sustainability Studies. The pedagogy in the **Interfaculty Sustainability Studies Program** will be based on problem based learning and cohort style classrooms and will integrate service learning and field experiences into the classroom. There will be an emphasis on personal balance (i.e. personal sustainability) for students, staff and instructors.

The programs overarching goal is to establish a novel, effective transdisciplinary approach to teaching and learning about sustainability. As part of this plan we will create a collaborative, research-based evaluation process the program. This evaluative research will investigate the outcomes of the program as it is developed. The results of these studies will

allow an adaptive development process and will be used to link this program to education initiatives elsewhere through publication in journals and conferences appropriate for the scholarship of teaching.

Our community service coordinator will establish and maintain relationships with partners in community (agencies, groups and volunteers) who continue to rely on students for a portion of their work.

## **Curriculum Overview**

### **Student learning outcomes**

- To explore the impacts and implications of human decisions on the environment
- To empower students to question the status quo
- To help students realize their potential to contribute to the world
- To help students gain personal sustainability at the university and beyond
- To encourage reflection through education, and education through reflection.
- To increase student's knowledge of culture and place - including systems interacting in place and their complexity

### **Majors in Sustainability Studies**

This will be a novel 4-year degree based on sets of core courses taught by dedicated faculty linking Arts, Sciences, the Applied Faculties (Engineering, Forestry, Agriculture), and the Professional Faculties (Law, Commerce; Medicine).

It will be critical to develop requirements that students should take outside the program. Possible examples include: History, Political Science, Earth and Ocean Sciences, Biology (Genetics and/or Ecology), Forestry, Agriculture, Pharmacology. The degree requirements will be designed to be sufficiently flexible that students will be able to concentrate in areas of study within current disciplines in the university.

## **Program and credit details**

The core courses: called SUST 300, 301 and 302 are described below. These are 4 credit courses that are required of all Majors/Honours students. In addition to these courses, Major/Honours will be required to take one Student Directed Seminar Course (3 credits) and 27 credits from the course approved by the program as part of the degree. The list of courses from which these 27 credits should be taken has not been established at present. It will certainly include existing courses (as for example in the Environmental Sciences Program course list) and it would include new courses developed by the IFPSS Program.

For a degree in Sustainability Studies, students will have to complete 120 total credits, satisfying the Faculty of Arts and Sciences requirements for first year English. The degree will require 60 credits of upper level courses that are acceptable as credit in any of the Faculties of the University. The number of credits that can be taken outside Arts or Sciences is expected to be no more than 27 beyond the SUST core courses, although this can be negotiated with the Program Advisors. No more than 45 credits numbered 100 will be counted towards the degree.

To complete the Honours degree in Sustainability Studies, students must complete SUST 305 and SUST 449, maintain a 68% overall grade point, enroll in at least 24 credits per term and not fail more than 6 credits of courses. Students will be expected to complete either a non-English language course through 200 level (or be able to demonstrate the equivalent competency as described for Arts students), or to complete first year Mathematics or Chemistry.

To complete the degrees in Sustainability Studies through the existing Faculty degrees, students must complete the above program requirement while at the same time fulfilling the Faculty requirement for a degree. It is our belief, based on experiences with Environmental Sciences and Environmental Studies that this is not difficult.

We propose that there be two entry routes into the Program: direct entry in first year and entry from other Faculties after first year. We propose first year entry based on student feedback that they are interested in flexibility in first year.

### **First year entry**

A limited number of students will be accepted as first year students. These students will enroll in a section of the Foundations program that the IFPSS Program will offer. The students will be consulted concerning their general interests through program advisors and additional courses will be selected. It is anticipated that for some of the students the additional courses will be a combination of first year Science courses (Biology, Mathematics, Chemistry, Earth and Ocean Sciences) and courses such as language courses, Geography. Students entering IFPSS in first year will participate in a seminar series, largely run by students, with organization and help from the program in a special 3 credit course (SUST110). This course will be designed to help students examine program options during their studies at UBC. At the end of the first year students will choose whether to continue in the IFPSS Program within either Arts or Science or as an 'Interfaculty student' heading towards a BAS degree. The intent is to provide sufficient rules for first year that the students will not fall behind in program development.

### **Upper level entry**

Since the program is a graduation program we presume that students will enter in second or third year. Entry into the Inter Faculty degree stream will require that students have completed 6 credits of first year English plus 12 credits of first year Arts or 12 credits of first year Science, or the equivalent and a total of 30 university credits. Entry into the program in second and third year, will require approval of faculty advisors to ensure that the students preparation and proposed courses of study can accommodate timely completion of requirements for a degree.

### **Minors in Sustainability Studies**

Students from any Faculty in the university will be permitted to complete a minor in Sustainability Studies. A minor will require a total of 18 credits of courses approved by the Program including SUST200, 300 and 301. These will include the core courses plus courses

that are offered by the program and courses offered by other units. Core courses would be offered by the Interfaculty Program and would be available university wide as the basis for a Minors degree that could be taken by any UBC student in any year from any faculty.

**Summary of Courses** - We presume that there are courses that IFPSS students will take depending on whether they are in Arts, Science or the Interfaculty Program. Suggestions for such courses are needed.

**Year 1 Entry:**

**Year 1**

**Sustainability 110:** Special Seminar

Foundations

Electives

**Year 2**

**Sustainability 200:** Sustainability: The British Columbia focus.

Electives

**Year 3**

**Sustainability 300:** Global Citizenship

**Sustainability 301:** Awareness and Action

**Sustainability 302:** Ideas about Learning for Sustainability

**Sustainability 303:** Research Methods for Sustainability as Public Science

SUST Electives

Outside Elective

**Year 4**

**Sustainability 400:** Capstone Course. This 6 credit course will be required for Honours students and recommended for Majors. The projects will be team based, rather than individual.

**Student Developed Seminar.**

**Field Course in Sustainability** This course will be recommended, but not required.

SUST Electives

Outside Elective

**Upper level Entry:**

**Year 3**

**Sustainability 200:** Sustainability: The British Columbia focus.

**Sustainability 300:** Global Citizenship

**Sustainability 301:** Awareness and Action

**Sustainability 302:** Ideas about Learning for Sustainability

**Sustainability 303:** Research Methods for a Sustainability as Public Science

SUST Electives



Outside Elective

#### **Year 4**

**Sustainability 400:** Capstone Course. This 6 credit course will be required for Honours students and recommended for Majors. The projects will be team based, rather than individual.

**Student Developed Seminar.**

**Field Course in Sustainability** This course will be recommended, but not required.

SUST Electives

Outside Elective

#### **Courses**

**IMPORTANT NOTE:** At this stage we believe there is considerable flexibility in what the courses will be. For example some courses such as the Integrated Sciences course in Risk (411), the ISCS/Biology Ethics course (422), the Political Science course in Environmental Politics (369), and courses from the Agricultural Sciences program are appropriate and need not be duplicated.

We believe that the program should establish new upper level courses that will be available for the minors degree. This requires that the IFPSS Program offers a minimum of 18 credits of IFPSS courses. The courses could and should be available for credit in other programs, but should be IFPSS courses. This situation is like the Integrated Sciences and Cognitive Systems programs. There is a range of possibilities for such courses: Energy, Resource Economics, Multi-cultural views and mythologies of human-nature interaction, courses on the media and communication, community and health courses.

*At this the point we are seeking interest from individuals for potential courses.*

We assume that participating in the program by offering a course would replace existing commitments. In addition we are seeking input from people about what “should” be in the degree course ‘package’ and what kind of courses the IFPSS program should offer –even if you don’t want to teach the course. For example, a Commerce student who attended our workshops wanted “a course for Commerce students”, and it seems useful for IFPSS to organize such a course that would be available, but not restricted to Commerce students.

## **Course Descriptions for Proposed Courses in Sustainability Studies.**

We have not described the Foundations course in this group. This course would follow the current rule for Foundations and thus would have to include participation of other faculty. The course would include ideas and writings that raise the issues of sustainability, but the goal would not differ from any other section of Foundations.

**Sustainability 110: Exploring the disciplines.** This seminar form of course will meet with faculty members from many different areas of campus to discuss their work, whether directly related to sustainability or not. The course will include readings and essays related to the seminars. The goal of the course is to explore opportunities in the university and to broaden the students' knowledge of the large number of approaches to sustainability research, teaching and community service.

**Sustainability 200: Sustainability - The British Columbia focus.** This course will examine issues of the sustainability from social and technical points of view. Case studies that are largely based in British Columbia will be used. The course will use invited lecturers, student research projects, presentation and debates to explore the competing interests in these complex issues. The key goals are to uncover the technical as well as social and ethical bases of sustainability, and to develop the skills of research, analysis and communication. It is anticipated that this will be a service course for students from all Faculties to introduce sustainability issues. It will not have pre-requisites and so could be taken by first year students.

**Sustainability 300: Global Citizenship.** This course will examine the concept of a global citizen, starting from the issues of bioregionalism and ecological interdependence through flows of materials and energy. Topics will include political economy, and political science, multi-cultural views of the relationship between humans and nature, ecological economics. Systems theory and analysis and material and energy flows in nature and in industrial systems will be examined. The course will be taught as a series of questions to be answered by student groups. Evaluation will include written and oral presentation as individuals and as groups.

**Sustainability 301: Awareness and Action.** This course will focus on the social and political side of the question of sustainability. Included will be topics such as the influence of media and other organized groups in political decision making. The structures of levels of social organization and its impact. The impact of trade-offs is social change and the historical and ethical dimensions of movements for social justice. The goal of the course is to provide a background of understanding that will empower students to consider being active and engaged citizens.

**Sustainability 302: Epistemologies for Sustainability.** The goal of this course is a deep investigation of knowledge and understanding. This is an essential component of a program in sustainability since the range of possible topics is so large, it must be a clear tenant of the program that a student cannot learn all there is to know. The course will examine theories of knowledge and how they impact the ability to make decisions in the face of ignorance. Included in the course will be ideas of decision making and uncertainty.

### **Sustainability 303: Research Methods for a Sustainability as Public Science**

The goal of this course is to examine, through a case based approach, methods for investigating the problems of sustainability. The methods will include methods such as surveys, policy analysis, scientific method of investigation including controlled experimentation and field based observations. In addition the course will provide a venue for student investigation of controversial decision that affect sustainability both social and environmental. The goal of the course is to develop students skills as independent investigator and to sharpen critical analysis of research findings.

### **Program planning and research: Integration of teaching and service and research**

#### **The 5 year plan**

**Year 1 – Sept. 2003 –** 1) Recruit staff and faculty to successfully conduct and research three core courses and other courses that comprise sustainability studies. These positions include:

- The equivalent of 2 full time faculty associated with the program
- program director
- instructors for additional courses
- Full Time Program Co-ordinator-advertising component.
- Integrated Research Team
- Full time community service learning coordinator
- Occasional instructor for TAG workshops

We have not attempted to identify the individuals to fill these various positions at this point. One resource is the current Environmental Sciences Program that would likely become a part of the IFPSS Program. Our discussions have suggested that there are additional instructional resources in units that are likely to have strong affinities for the goals of the IFPSS Program. Ultimately (when it is clearly established) the Program should be in a position to hire faculty members to participate in teaching its core courses. We assume that these faculty members would be jointly appointed in a department in one of the existing Faculties.

2) Develop courses for SUST 110, Foundations and SUST 200

3) Advertise program widely

**Year 2- Sept. 2004 –** Welcome first year 1 entry students to program. Development of upper level courses and minors courses.

**Year 3- Sept. 2005 –**Ongoing coordination and course development.

**Year 4- Sept. 2006 –** First graduates from Minors programs. Ongoing service learning, more field courses, more integration with campus projects, continued evaluation. Research

published on program. Submission of individual candidates and/or projects to either a sustainability competition or other award for teaching excellence (3M or Pew Scholar).

**Year 5- Sept. 2007** – Graduate the first cohort of sustainability studies majors and 100 minors by April 2007, through the implementation of the 5-year plan. Carryout critical review of program using internal research documentation and external reviewers.

**Exit strategy:**

It is recognized that the program is an experiment. We presume that there will be amply means for evaluation of the success of the program or not by the 5<sup>th</sup> year of entry. Should the program not appear to be growing and establishing itself and there would be no obvious remedy, new enrollment could be terminated. The dedicated faculty would revert to existing departments in which they are cross appointed.

**What kind of future will a graduate of this program have?**

We have high expectations. We intend that graduates from the IFFS Program will be the leaders of society. We are training students in ways of thinking that are desperately needed to solve our current problems and reach to the future. We expect that the graduates will be found in all walks of life. They will be uniquely suited to meet the challenges of business as well as to pursue though higher education research, public service (including health related and education), academia and the arts. We feel confident that our graduates will be found making a difference at all levels of society from their personal lives to national affairs. Through the elective courses that the students will take, they will be able to gather training in specific areas of the university. These will, of course be invaluable additions to open possibilities for these students.

The **Interfaculty Program in Sustainability Studies** is ideal preparation for students to pursue careers in a wide range of areas including environmental studies, international and community development, strategic planning, business administration, health promotion, health administration, journalism, law, medicine and public policy. Upon graduation students will have gained skills for working in teams, conflict resolution, argument analysis, writing, critical thinking, public speaking, research design and implementation, field experience and community service.

**Which UBC programs will be engaged with the interfaculty program?**

- Integrated Sciences Program
- Environmental Sciences Program
- Faculty of Agriculture: Land Food and Community
- Faculty of Forestry: Conservation, Field courses
- Foundations and Science equivalent
- Individual Courses and Faculty
- SENSE webpage- listing of courses at UBC related to sustainability

**Appendix C**  
**Letter of Response from President's Office at UBC**  
**Received via email on April 27, 2004**

Dear Janet,

Thanks for your message. I'd be very happy to meet with you again to talk about Trek 2010. So far as your report is concerned, I excerpted pp. 58-78 for inclusion in the materials circulated to the VPs (and to a few other members of the Administration who expressed interest in seeing the responses to the consultation document). I thought the report was clear, well written, and helpful in its discussion of issues that were repeatedly coming up in responses by other people. I was especially interested in your quotation from responses by participants, and in the suggestions (some by you, some by your respondents) about the relationship between sustainability and "global citizenship", about the need for greater attention to be paid to teaching, and about the importance of collaboration. Your report was not alone in highlighting these concerns, but it was certainly one of the more articulate responses we received at that stage in the consultation process. I would say that what you wrote helped to crystallize these ideas and give them more coherent form as I attempted to synthesize the responses and whittle them down to manageable proportions.

Let me take this opportunity to thank you again for sending us a copy of your report; it really was helpful in underlining the importance to students of many of the issues we are trying to highlight in the Trek green paper.

Regards,

Herbert Rosengarten

Dr. Herbert Rosengarten  
Executive Director  
Office of the President  
University of British Columbia

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