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

by

JANET LYNNE MOORE

B.Sc., McGill University 1993
M.Sc., The University of British Columbia 1996

A THESISSubmitted in partial fulfillment of
the requirements for the degree of

DOCTOR OF PHILOSOPHY

In

THE FACULTY OF GRADUATE STUDIES

Department of Curriculum Studies, Faculty of Education

We accept this thesis as conforming to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA
May 2004
© Janet Lynne Moore, 2004
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.
<table>
<thead>
<tr>
<th>TABLE OF CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
</tr>
<tr>
<td>Table of Contents</td>
</tr>
<tr>
<td>List of Tables</td>
</tr>
<tr>
<td>Acknowledgements</td>
</tr>
<tr>
<td>Preface</td>
</tr>
<tr>
<td><strong>Chapter 1</strong>: Introduction: Sustainability Education at the University of British Columbia</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 2</strong>: Policy, priorities and action: A case study of the University of British Columbia’s engagement with sustainability.</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 3</strong>: Lessons from Environmental Education: Strategies for Public Consultation in the Georgia Basin Futures Project.</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 4</strong>: Living in the basement of the ivory tower: A graduate student’s perspective of participatory action research in academic institutions.</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 5</strong>: Barriers and pathways to creating sustainability education programs: Moving from rhetoric to reality</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 6</strong>: Recreating the university from within: Collaborative reflections on the University of British Columbia's engagement with sustainability.</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 7</strong>: Is higher education ready for transformative learning about sustainability? A graduate student perspective.</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 8</strong>: Seven recommendations for creating sustainability education at the university: A guide for change agents.</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Chapter 9</strong>: Conclusion: The emerging field of sustainability in higher education</td>
</tr>
<tr>
<td>References</td>
</tr>
<tr>
<td><strong>Appendix A</strong>: Sample list of interview questions</td>
</tr>
<tr>
<td><strong>Appendix B</strong>: Interfaculty Proposal for Sustainability Studies</td>
</tr>
<tr>
<td><strong>Appendix C</strong>: Letter of response from President’s Office at UBC</td>
</tr>
<tr>
<td>Bibliography:</td>
</tr>
</tbody>
</table>
### LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Two possible strategies for sustainability education.</td>
<td>50</td>
</tr>
<tr>
<td>4.1</td>
<td>A comparison of characteristics of traditional social science research and participatory action research.</td>
<td>60</td>
</tr>
<tr>
<td>4.2</td>
<td>A sample of guidelines and principles found in PAR literature.</td>
<td>66</td>
</tr>
<tr>
<td>5.1</td>
<td>Barriers to curriculum change towards sustainability education at the University of British Columbia.</td>
<td>85</td>
</tr>
<tr>
<td>6.1</td>
<td>Selected list of programs related to sustainability on UBC Campus - past and present. Information adapted from websites listed and participant contributions.</td>
<td>107</td>
</tr>
<tr>
<td>6.2</td>
<td>Major barriers identified in creating sustainability programs at UBC.</td>
<td>112</td>
</tr>
<tr>
<td>8.1</td>
<td>A six step workshop process on the future of sustainability education.</td>
<td>148</td>
</tr>
<tr>
<td>8.2</td>
<td>Future directions and recommendations for change at University of British Columbia.</td>
<td>152</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

To my supervisors, advisors, mentors, friends and colleagues:

Gaalen Erickson who helps keep me focused, on track and reminds me to answer my own rhetorical questions. Bill Rees who motivated me to make a difference, to challenge the status quo and to keep asking hard questions. Pamela Courtenay-Hall who inspires me as an educator and philosopher to carefully consider my words, practices and intentions. My work is truly inspired by Pam’s gentle nature in the classroom. Cynthia Nicol for demonstrating true collaboration in a classroom and opening my eyes to alternative forms of research. George Spiegelman who inspires me to continue to create change at universities and to hold on to my beliefs in what often feels like an uphill battle. George is a true activist and he reminds me to stand up for what I believe in. Lee Gass (my fearless editor/friend/mentor) for hanging with me all these years and continuing to support me fully and greet me with an open heart. Lee inspires me to take my research and practice to new heights. Rob VanWynsberghe who has been a collaborator and trusted friend throughout this messy process. Rob keeps me laughing and is always there to remind me about another side of the sustainability coin, a perspective that includes community, social change and digging in the dirt. John Robinson and the Georgia Basin Futures Project for your intellectual and financial support - all the way to the end of this process. All of you inspired me in the classroom- the place where changes happen everyday and the possibilities are endless. I am excited to continue learning with all of you in the future.

I would also like to acknowledge the Social Sciences and Humanities Research Council (SSHRC) for supporting the Major Collaborative Research Initiative (MCRI) that funded this research and my work with the Georgia Basin Futures Project (GBFP). Thanks to the University of British Columbia for supporting my research through University Graduate Fellowships (UGF). And to the many departments and disciplines that helped support my research and teaching– the School of Community and Regional Planning (SCARP), Sustainable Development Research Initiative (SDRI), and the Department of Curriculum Studies (CUST).

To my co-authors for engaging in the refreshing process of collaborative inquiry that eventually turned into Chapter Six: Freda Pagani, Moura Quayle, John Robinson, Brenda Sawada, George Spiegelman, and Rob VanWynsberghe. To the co-creators and students of the first ever sustainability field course at UBC – I learned more in 4 weeks than I could have ever imagined. To all of the research participants who co-operated in workshops, interviews, classes and surveys…thanks again for all your stimulating ideas and wisdom.

To my family and friends for your understanding, support and the hours of conversations that got me to this point.

To my husband Viren, for your support, love and unrelenting belief in my vision. And for listening to all the nitty gritty details as we walked Garp through the forest. I promise that this is the last dissertation!
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.