Is Higher Education Ready for Transformative Learning?
A Question Explored in the Study of Sustainability

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As universities begin to consider sustainability as a core value in education, there is a need to contemplate the role of transformative learning in higher education. Are current models of university education capable of facilitating action to promote ecological literacy and social change? This article outlines three models of group learning (cooperative, collaborative, and transformative) for use in higher education learning environments. It also examines the possibility (the potential benefits, drawbacks, and implications) of shifting university education from the current model toward a model for transformative learning and sustainability. Ultimately, this article raises a number of questions for academics to consider, including the possible outcomes and implications for implementing transformative education in university curriculum.

Keywords: collaborative learning; sustainability; sustainability education; transformative learning; transdisciplinary

Introduction

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. Partway 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 had 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 4 years of thinking about what students want in a university, what students might want to know, and whether students can, need, or even want to be transformed. I will address this important distinction in the section on transformative learning and indoctrination.

New models of interdisciplinary education promote student teamwork in a shift toward 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 toward models for transformative learning.

The Role of the University

According to the university I attend (University of British Columbia, Vancouver, Canada) and its academic plan, *Trek 2000* (University of British Columbia, 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. 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.

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). The most commonly reported (and perhaps the most ambiguous) definition of sustainability was refined in the World Commission on Environment and Development document titled *Our Common Future:* "Sustainable development is development that meets the needs of the present without compromising future generations to meet their own needs" (Bruntland, 1987, p. 43). My own definition of sustainability and sustainability education are outlined in the following sentences. 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 toward a sustainable future. Sustainability education is defined as education that concentrates on the concept of sustainability 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.

The current conversations among academics in the interdisciplinary field of sustainability demand that we change things quickly and that we cannot continue the way we are going. Article after article insists 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). 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 can education include the dialogue and actions necessary to create this kind of change? What role can 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 21st Century*, O'Sullivan (1999) suggested 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 envisioned the ecological crisis as a cue for moving education in a transformative direction at all levels. O'Connor's (2000) 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? (p. 158)

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. 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 cocreators of knowledge instead of experts and nonexperts. 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 used 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) described three types of group learning as a means to understanding that working in a group is not synonymous with collaboration. She distinguished 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) toward 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 cocreators 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 practices taken for granted in the classroom. As Bruffee (1993) explained, 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, Ury, & Patton, 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 colearner. 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 does 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) outlined the ideal conditions for discourse, adult education, and learning as including the following (these are close to Habermas's [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, and
- 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 concientization has also influenced Mezirow's theory and is considered a parallel process for his model of transformative learning. Mezirow also published critical theories used for adult education (1981) and self-directed learning (1985).

Mezirow (1997a) explained 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 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 discussed the emphasis on self-reflection and student responsibility for learning objectives. Cranton (1994) discussed 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 students 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 explores 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 suggested 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, and neither 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 teach-

ing method that entails a great deal of time and energy. Cranton (1996) explained 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 un-orthodox 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 toward it? Cranton (1994) suggested that within the typical North American model of teaching, learners do not develop an understanding of the system or themselves. She cautioned that many adults do not have the skills or maturity to be self-directed learners or 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 identified the awkwardness of the transformative learning process and suggested that if learning is too comfortable, we are unlikely to undergo transformative changes in our understanding.

Grieving and Transformation

Scott (1997) wrote 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 psy-

chological 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 titled *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. Many social scientists argued that the scientific paradigm (including scientists, measurement, and quantification of data) was at the root of many current problems. 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 the 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 and 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 2-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 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 students into? Are we biased toward 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 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) raised 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 be-

liefs should be questioned or problematized? Is it ethical for an educator to present his or 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) made it clear that an educator is not to decide on the outcome for the transformation; if he or 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) clarified 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 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 use transformative learning in the classroom? As academics, we talk about 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 documented a vision for education in the 21st 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 was 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 disequilibrium 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 claimed 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) explained 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., 1-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 ("President Simmons," 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 has 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 toward a more sustainable future, then we need to consider the entire system of university education.

> 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.

References

Ball, G. D. S. (1999). Building a sustainable future through transformation. *Futures, 31,* 251-270.

Bowers, C. A. (1993). *Education, cultural myths, and the ecological crisis.* Albany: State University of New York Press.

Bowers, C. A. (1997). *The culture of denial: Why the environmental movement needs a strategy for reforming universities and public schools.* Albany: State University of New York Press.

Bruffee, K. (1993). *Collaborative learning: Higher education, interdependence and the authority of knowledge.* Baltimore: Johns Hopkins University Press.

Bruntland, G. (Ed.). (1987). *Our common future: The World Commission on Environment and Development.* Oxford, UK: Oxford University Press.

Candy, P. C. (1991). *Self-direction for lifelong learning: A comprehensive guide to theory and practice.* San Francisco: Jossey-Bass.

Cranton, P. (1994). *Understanding and promoting transformative learning: A guide for educators and adults.* San Francisco: Jossey-Bass.

Cranton, P. (1996). Types of group learning. *New Directions for Adult and Continuing Education, 71,* 25-32.

Fisher, R., Ury, W., & Patton, B. (1991). *Getting to yes: Negotiating agreement without giving in* (2nd ed.). New York: Penguin.

Freire, P. (1970). *Pedagogy of the oppressed.* New York: Seabury Press.

Habermas, J. (1984). *The theory of communicative action: Reason and the rationalisation of society* (Vol. 1). Boston: Beacon.

Hall, B. L., & Clover, D. E. (1997). The future begins today: Nature as environmental adult popular education. *Futures, 29,* 737-747.

hooks, b. (1994). *Teaching to transgress: Education as the practice of freedom.* New York: Routledge.

Inglis, T. (1997). Empowerment and emancipation. *Adult Education Quarterly, 48,* 119-134.

Jickling, B. (1994). Why I don't want my children to be educated for sustainable development. *Trumpeter, 11,* 114-116.

Jucker, R. (2002). *Our common illiteracy: Education as if the Earth and people mattered.* New York: Peter Lang.

Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education Quarterly, 32,* 3-24.

Mezirow, J. (1985). A critical theory of self-directed learning. In S. Brookfield (Ed.), *Self-directed learning: From theory to practice. New directions for continuing education* (pp. 17-30). San Francisco: Jossey-Bass.

Mezirow, J. (1989). Transformation theory and social action: A response to Collard and Law. *Adult Education Quarterly, 39,* 169-175.

Mezirow, J. (1991). *Transformative dimensions of adult learning.* San Francisco: Jossey-Bass.

Mezirow, J. (1997a). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education, 74,* 5-12.

Mezirow, J. (1997b). Transformation theory out of context. *Adult Education Quarterly, 48,* 60-62.

O'Connor, M. A. (2000). [Review of the book *Transformative learning: Educational vision for the 21st century*]. *Convergence, 33,* 158-161.

Orr, D. W. (1992). *Ecological literacy—Education and the transition to a postmodern world.* Albany: State University of New York Press.

Orr, D. W. (1998). Transformation or irrelevance: The challenge of academic planning for environmental education in the 21st century. In P. Blaze Corcoran, J. L. Elder, & R. Tchen (Eds.), *Academic planning in college and university programs: Proceedings of the 1998 Sanibel Symposium* (pp. 1-12). Rock Spring, GA: North American Association for Environmental Education.

O'Sullivan, E. (1999). *Transformative learning: Educational vision for the 21st century.* Toronto, Canada: University of Toronto Press.

President Simmons. (2001, March 4). *60 minutes* [Television broadcast]. New York: CBS (Columbia Broadcasting System).

Rees, W. (1999). Scale, complexity and the conundrum of sustainability. In M. Kenny & J. Meadowcroft (Eds.), *Planning sustainability* (pp. 101-127). New York: Routledge.

Rees, W. (2003). Impeding sustainability? The ecological footprint of higher education. *Planning for Higher Education, 31*(3), 88-98.

Robertson, D. L. (1996). Facilitating transformative learning: Attending to the dynamics of the educational helping relationship. *Adult Education Quarterly, 47,* 41-60.

Robinson, J., & Tinker, J. (1997). Reconciling ecological, economic and social imperatives: A new conceptual framework. In T. Schrecker (Ed.), *Surviving globalism: The social and environmental challenges* (pp. 71-94). New York: St. Martin's.

Scott, S. M. (1997). The grieving soul in the transformation process. In P. Cranton (Ed.), *Transformative learning in action: Insights from practice* (pp. 41-50). San Francisco: Jossey-Bass.

Smith, D. E. (1999). *Writing the social: Critique, theory, and investigations.* Toronto, Canada: University of Toronto Press.

Taylor, E. W. (1997). Building upon the theoretical debate: A critical review of the empirical studies of Mezirow's transformative learning theory. *Adult Education Quarterly, 48,* 34-60.

Thessaloniki Declaration. (1997). Retrieved March 17, 2004, from http://www.unesco.org/education/esd/english/international/thesdecl.shtml

University of British Columbia. (2000). *UBC Trek 2000.* Retrieved March 19, 2004, from http://www.trek2000.ubc.ca/index.html

Wright, T. S. A. (2002). Definitions and frameworks for environmental sustainability in higher education. *Higher Education Policy, 15,* 105-120.

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