

Creative Disruptions in the Subway of Critical Environmental Pedagogy

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Abstract

This paper reflects on the process of developing a pedagogy that uses experiential learning and disruption in environmental education practice to challenge students to develop critical thought. We examine our practice with university students in an Environment and Culture course, and focus on the processes that can transform disruption into an opportunity. We recognize that creative disruptions may not only be valuable to students, but also provide an opportunity for instructors to critically assess teaching practices. Bringing together the course content (critical environmental thought) with pedagogical theory and practice, we present the unfolding of an environmental pedagogy which aims to create symmetries between course content, our teaching methods, and student learning.

Résumé

Cet article examine le procédé d'élaboration d'une pédagogie faisant à l'expérience par l'apprentissage et les bouleversements dans les pratiques d'éducation écologique afin d'inciter les étudiants à développer une pensée critique. Nous étudions nos méthodes avec les étudiants à l'université dans un cours sur l'environnement et la culture, et nous nous concentrons sur les procédés qui peuvent transformer un bouleversement en une occasion. Nous reconnaissons que des bouleversements créatifs peuvent non seulement être utiles pour les étudiants, mais peuvent aussi fournir l'occasion aux éducateurs d'évaluer de manière critique des pratiques d'enseignement. En joignant le contenu du cours (la pensée critique par rapport à l'environnement) à la théorie et à la pratique de l'environnement, nous présentons le dévoilement d'une pédagogie de l'environnement qui vise à créer une symétrie entre le contenu du cours, nos méthodes d'enseignement et l'apprentissage des étudiants.

Keywords: critical pedagogy; critical environmental education; prescriptive and holistic technology; ecological literacy

Sometimes the most important factors in the success of a venture are not those which can be planned, but rather those that happen serendipitously. This research on critical environmental pedagogy was from the beginning a lesson in serendipity. We were given the double good luck of living in downtown Toronto while working as teaching assistants for an *Environment and Culture* course at York University. While the course instructor provided a dynamic

classroom with great pedagogical flexibility for us to actively work on our own teaching practice, it was our mutual downtown destination that provided us with a weekly commute to debrief our classes, the course readings, and our own environmental research. These conversations disrupted teaching habits and transformed our teaching practice, with the consequence of changing the classroom into a space for creatively questioning and disrupting the assumptions of students through the nurturing of critical thought on environmental theory, issues, beings, and processes.

The course content emphasized looking at the environment from various perspectives. David Abram's (1996) phenomenological analysis offered students an awareness of the subjective value of nature experience. The implications of Abram's experiential phenomenology resonated with Annie Dillard's (1993) written description of different ways of seeing the world and Mary Oliver's (1998) personal rendition of the natural and cultural relations that make a place home. Meanwhile, Val Plumwood (1993) provided students with a critical analysis of dualisms in Western culture. These readings contributed to the dominant course theme that students were expected to critically reflect upon: the co-existence of different cultural perspectives on the environment that at times resonate or conflict with each other and with the world.

In late October, we lectured on environmental histories, drawing from William Cronon's (1992) different representations of the dust bowl. His analysis drew students into a case study of how different cultural, political, and economic assumptions influence the telling of stories. This reading was coupled with Thomas King's (1993) "A Coyote Columbus Story," which interwove an analysis of dominant and marginalized stories. It was in the planning of this lecture that our subway conversations began to examine different ways of ensuring that classroom pedagogy mirrored the course content. While the following analysis describes our collaboration as co-teachers and critical researchers, any homogenous sense of voice is a stylistic choice that is meant to represent a dialectic process that saw each of us bring very different insights to this critical environmental pedagogy. This reality of difference is clearly depicted in our analysis of the second year, when only one of us continued as a teaching assistant in the course while the other stepped back and researched the effectiveness of this pedagogical approach. What follows is a critical description of this two-year process of teaching and researching pedagogy within the context of this course.

Banking on Critical Environmental Thought

While the first term largely involved each of us developing an isolated pedagogical plan, as the course went along our discussions about the problems of helping students understand course concepts led to an increasingly collaborative effort in the second term. Our goal was to use experiential learn-

ing in a way that encouraged students to connect the course material to their lives, and thus make the concepts less abstract. To facilitate this connection, we developed a tutorial exercise¹ to help students experientially understand the difference between Ursula Franklin's (1999) conceptions of prescriptive and holistic technologies. Franklin's discrimination between these technologies offered students an opportunity to critically evaluate the role of technology in their lives and its potential relationship to environmental issues.

In Franklin's (1999) thought, holistic technologies are associated with forms of craft work that allow people to be involved in the whole creative process, from inception to final product. Prescriptive technologies, in contrast, are reflective of modern work realities where people are involved in only one element of a larger process that coordinates the actions of many people. Her main point is that prescriptive technologies are not simply tools, but ways of organizing human relations that can create dependencies which limit the larger vision required for critical thought. The question Franklin posed to our students was concerned with the nature of sustainable relations between humans, their technological creations, and the environment.

Franklin's (1999) work served as a theoretical introduction for students into this tutorial exercise which began by asking them to draw a picture that had a minimum of five common features (i.e., a ball, a tree, a person, a sun, and a cloud). After listening to a few volunteers describe their personal and creative reasons for combining the five features in their own ways, we began a role play. Two lines of five students were seated at opposite tables and told not to talk, while the rest were asked to stand quietly in the corner. A picture consisting of the five common features, each numbered and assigned to the five students in each line, was drawn on the blackboard. We took on managerial roles and gave the first person in each line a stack of papers, and told them to draw their specific feature then pass it on to the next person. While the first part of the exercise provided students with an experiential example of holistic technology, this latter exercise drew from students' personal and work experiences to help clarify Franklin's prescriptive technology.

Our initial purpose for creating these exercises was to reduce the gap between the course's critical content and the pedagogy. We were following the pedagogical concern of Franklin (1999), who saw resonances between the dominance of prescriptive technologies in Western society and the dominance of a production model of education. In this model, "schooling is regarded as a production process that can be analyzed and evaluated in terms of input, output, efficiency, and cost effectiveness" (p. 168). Perhaps Paulo Freire's elucidation of *banking education* would best describe the pedagogy Franklin was challenging. In Freire's (2000) words:

Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat. (p. 72)

According to this “banking” pedagogy, the teacher is in the position of analyzing and evaluating that which enters students so that they can be “better ‘fit’ for the world” (Freire, 2000, p. 76). Meanwhile, students are treated as if they have neither experience nor knowledge relevant to the course content.

From an environmental education perspective, C. A. Bowers (1996) makes a similar argument that finds many prescriptive assumptions to be mitigating environmental issues. These assumptions include scientific experimentation as the route to cultural progress, anthropocentrism as enlightened thinking, and Western development as the pre-destined end for all human cultures. According to Bowers, “these assumptions have made it even more difficult to recognize the educational implications of how individuals are nested in culture and how culture is nested in and thus dependent upon the viability of natural systems” (1996, p. 6). Rather than a prescriptive stance, which presumes students can focus on isolated aspects of the environment as a means to understanding and eventually managing this world, Bowers promotes an ecological literacy that recognizes the holistic nesting of culture within natural systems as a prerequisite for environmental understanding and responsibility.

While Bowers (1996) offers an ecological scope for understanding the social relations that need to be considered in a critical environmental pedagogy, it is Freire’s (2000) work that informed a pedagogy which allowed students to dialogue with the course content from their own social position. Stressing the importance of dialogue based upon a critical thinking that recognizes connections, processes, and situational contexts, Freire developed the concept of *conscientização*. Through recognizing historical, cultural, and—we would add—ecological situations, people become more capable of critically reflecting and acting upon their living situation. In his words, through this recognition people can:

emerge from their *submersion* and acquire the ability to *intervene* in reality as it is unveiled. *Intervention* in reality—historical awareness itself—thus represents a step forward from *emergence*, and results from the *conscientização* of the situation. (p. 109)

Taken together with Bowers’ (1996) ecological literacy, *conscientização* can be seen as an important aspect of a critical environmental pedagogy that can creatively disrupt prescriptive student assumptions by giving them exercises and tools for considering their cross-cultural and ecological situations.

Being part of a society and education system that places such emphasis on the prescription of scientific progress, economic development, and anthropocentrism (e.g., Bowers, 1996; Franklin, 1999), it is not surprising that many of our students often relaxed the critical thinking process in their desire for static rules that would provide them with the basis for prescribing environmental solutions. Students often attempted to skip personal and cultural analyses that could interconnect them more directly to environmental issues

so as to get to their view of the important work: solving crises or managing nature. In contrast, the point of this course was that environmental phenomena and issues are primarily a function of people's relationship with nature, and thus prescriptive approaches will be limited without a critical environmental awareness that is defined here by holistic technology, ecological literacy, and *conscientização*.

We soon realized that the development of this exercise was to be merely the first of many creative disruptions designed to interrupt hegemonic assumptions. This exercise revealed that tutorial activities needed to draw students into deeper dialogues that had some experiential texture for them. With these issues in mind, we decided to spend the following summer developing a more extensive *Tutorial Guide* that was aimed at inspiring students in the development of their critical environmental thought.

Fostering Critical Thought

Every spring, York University's *Centre for the Support of Teaching* (CST) delivers a three-day intensive *Course Design Institute* (CDI) participatory workshop. At this point, we imagined the guide as nothing more than a collection of tutorial exercises that corresponded well with several of the course readings. During an afternoon workshop on the first day, however, we were introduced to the notion of cognitive apprenticeship. This concept describes a process that supports the development of critical thinking skills, and it was clear to us that we had already been engaging in a similar method of teaching. As proposed by Collins, Brown, and Newman (1989), cognitive apprenticeship is a sequential method that begins with extensive direct support from the teacher; support is gradually withdrawn to allow the students to take on a more active role in their learning. They assert that:

teaching methods should be designed to give students the opportunity to observe, engage in, and invent or discover expert strategies in context. Such an approach will enable students to see how these strategies fit together with their factual and conceptual knowledge and how they cue off and make use of a variety of resources in the social and physical environment. (Collins, Brown, & Newmann, no p. no., cited in Poser, 2004)

Cognitive apprenticeship involves a series of stages called: modeling; coaching; scaffolding and fading; articulation; reflection; and, exploration (Collins et al., 1989). While we took all these stages into consideration, we focused on the "scaffolding and fading" part of the technique to coordinate the exercises in the guide towards our main course goal: fostering critical environmental thought.

According to Poser (2004), "scaffolding comprises the various supports the expert offers the learner during the course of learning that are minimally

necessary for the learner to execute the task. Fading refers to the gradual and incremental diminishment of such supports concurrent with the learner's gradual increase in skill." The final phase of fading is called "exploration," in which "the scaffolding of both the supports for a particular problem space and the definition of that problem space are removed." For "scaffolding and fading" to be effective requires it to be modeled by the teachers through externalizing "processes which are usually hidden from examination" (Poser, 2004, no p. no.) and being explicit with their students about what they're doing and why. Being a technique that gives students a view on the pedagogical process, it fit well with the course's primary goal of giving students critical tools for understanding the holistic nature of environmental issues.

The CDI workshop facilitators also referred to Bloom's taxonomy of critical thinking (Fowler, 2004), which posits that students move through five cognitive stages. In the first stage, referred to as "knowledge," students can recall "facts, terms, [and] basic concepts" during the learning process. This is followed by the stage of "comprehension," where students can demonstrate an "understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas." Moving to the third stage, students now attempt to apply this knowledge as a means to solving problems. This fourth stage was referred to as "analysis," wherein students examine and deconstruct knowledge so as to clarify underlying "motives or causes" in an overall attempt to infer theoretical generalizations. In the fifth and final stage a synthesis occurs, where all the descriptive and analytical knowledge from the previous stages are consolidated in new creative and "alternative solutions" (Fowler, 2004, no p. no.). This model offered us an interesting guide for understanding the different types of skills involved in critical environmental thought, and while skeptical of its stages we decided to adopt a similar progression of skill development in the *Tutorial Guide*. Each exercise would build off the previous, providing opportunities for students to practice their skills as they moved from description to critical questioning, to deconstructive analysis, and on to creative synthesis. These critical environmental tools would help students build an ecological literacy and *conscientização*.

When we assessed the *Environment and Culture* course syllabus from the previous year, we further recognized that the nature of the assignments roughly corresponded to this order, and as such we consulted with the course director to make it more explicitly so. It was with this coordination of the course's lectures, assignments, and tutorial activities around the guide's critical environmental pedagogy that Tim entered a second year of teaching the course while Traci ventured on to other teaching opportunities. The next section shifts to Tim's pedagogical experience with this guide.

Tim's Loss of Perspective

The redesigned *Tutorial Guide* provided me with a sense of confidence as I began the school year and attempted to critically engage the new students. Each week was to build upon the previous, a kind of accretion of academic skills that would provide students with a deepened understanding of the course content, while also preparing them to excel in critical self-evaluation. Rather than my standard approach to tutorials as an ad hoc adventure that could at times connect material and critical thinking skills across classes, here I was entering the school year with a clear plan that could be explained to the students at each stage in relation to their actual work assignments.

The first exercise of the year was conducted outside, and asked students to break into pairs so that each could take turns directing the head and body of their partner to something they wanted them to see. Through open-ended questions it was up to the other student to find out what they were to be observing, and why this was of interest to their partner. It was an exercise in perspectives, in recognizing the combination of objective and subjective realities, and in the kinds of questions that could potentially help students to critically assess the views of this course's authors, teachers, and peers as they directed what each student would perceive. The exercise oriented students to the central issue of this course: the ability to recognize how knowledge is situated in culture, gender, sexuality, class, race, personality, spirit, ecology, and so on.

This exercise also connected with Dillard's (1993) piece on *Seeing*, which asks students to consider different ways of opening space so as to see the world from different perspectives. In observing the challenge of nature's moving complexity, Dillard proposes that to see requires a focus of attention. Her view is similar to Freire's *conscientização*, which he defined as "the deepening of the attitude of awareness" (2000, p. 109). Drawing from the radiant vision of the newly sighted, Dillard finds that different ways of seeing are required to help people move beyond rigid assumptions about the world. The first term of this second year thus provided students with different critical thinking tools that would allow them to call into question prescriptive assumptions about culture and nature, and thus offered space for seeing and being aware of the world's magnificent diversity of views.

Another tool offered to the students in the first term was Plumwood's conception of dualisms. Plumwood suggests that the resolution of dualisms "requires, not just recognition of difference, but recognition of a complex, interacting pattern of both continuity and difference" (1993, p. 67). Her approach to dualisms went one step further into the critical environmental content of the course, asking students to analyze the dependence of culture on nature. These methods for undermining and reducing the distance between dualisms provided an early opportunity for students to creatively disrupt the assumed separation of nature and culture, an especially difficult task in a self-apparent reality of an urban western university.

Despite the active coordination and planning of exercises, readings, and assignments, I was not prepared for some things that were out of my view. First, when I started the school year with the new guide, I did not consider the resistance that many students would have to engaging and being evaluated on criteria related to critical environmental thought. Students wanted to know what content they were being marked on, or what was it that they needed to know in order to get a certain grade. It was difficult for many students to grasp that they were being evaluated according to an ecological literacy that could draw connections between their assumptions and the human relation to environmental issues. Students also tended to move towards identifying prescriptive solutions to environmental issues. It seemed as though high school had done an amazing job at creating a predisposition towards prescriptive approaches to the world that would allow them to technologically deal with environmental issues while marginalizing their relation to broader social questions.

As the year approached an end and these difficulties continued, I began to lose my own perspective on whether the guide was effective in fostering critical environmental thought. I was too close to the material and the students, and as such was having difficulty finding that space to see things from outside the discord between my expectations and experience. Fortunately, we had planned for Traci to return to the class towards the end of the year to engage the students in a critical thinking exercise that also doubled as an assessment of the *Tutorial Guide's* critical environmental pedagogy.

Traci's Exploration of Creative Disruptions

It was nearly the end of the academic year, and it was time for me to informally interview Tim's two tutorial groups to get a sense of how the *Tutorial Guide* was working from a student perspective. I was in a good position to act as an informed outsider; I felt a strong investment in the guide from the year before, but had been removed from its current implementation. I expected to be able to facilitate a candid conversation with the students since I would not be evaluating their participation in terms of a grade for the course, and I made it clear on the informed consent document that our discussion would not be shared with Tim until after their final grades had been submitted and the course was officially completed.

It had been almost a year since I last facilitated a tutorial, and this time was different since I also had a research objective to fulfill. I had given a guest lecture in the course a month earlier on Donna Haraway's (1991) "A Cyborg Manifesto" and Tess Williams' (2000) "Me, Hydra," and designed the tutorial's research discussion around these readings. We chose these readings to ground the discussion because they use creatively disruptive metaphors that interconnect with critical environmental thought. Haraway's cyborg metaphor disrupts notions of human purity by recognizing the hybrid nature

of bodies as assemblages of biology, culture, and technology (e.g., eye glasses, pacemakers, cell phones). Meanwhile, Williams explodes the dualistic extremes of biological and technological determinism.

Employing the substantive basis of these readings in relation to creative disruptions, I focused the research discussion on another of the guide's pedagogical tools: switching teaching assistants halfway through the course. Our experiences of practicing it in the previous year signaled the potential importance of this particular disruption exercise, and we were keen to compare the results. During the first year when Tim and I had suddenly walked into each other's classroom and announced that we would now be taking over for the second half of the course, we experienced a generally negative response. However, when the year drew to a close and students had tangibly experienced both of our approaches and had time to reflect critically upon their reactions, we found that many students came to recognize how the exercise actively demonstrated course themes and prompted them to put their critical thinking skills into practice. I can distinctly recall the response of one student who approached me on the last day of class. She had been in my tutorial in the first term, and candidly told me that she was very upset at first, but that her disappointment and resistance to the switch had encouraged her to examine why she was reacting that way. Ultimately, she admitted that her introspection led her back to the course themes of exploring multiple perspectives, negotiating assumptions, and finding the positive potential of disrupting givens, ideas, and practices often taken for granted and left unexamined. Her testimony, coupled with similar feedback from other students, motivated us to try the switch again the following year, with an enhanced design that encouraged students to critically reflect upon this disruption after its experience.

After conducting the first session of the research, I was delighted to find that several of the students in the current class had similar, critically reflective responses to the switch between Tim and Jackie, the other teaching assistant. For example, one student admitted she was very nervous about it because she had heard rumours that "Tim was a very hard marker." Another student felt hurt by the way the switch was done because it was so abrupt and without any closure. She had wanted a chance to say "goodbye" and felt that we must not care because they are "just students." In time, she reflected that the jarring nature of the switch did make her think critically about it, and that she thought it was an effective tactic. The students also reflected on their group dynamic as a result of the switch, and related some possible effects on the class due to the different gender of the teaching assistants and the developing cohesion amongst the class members. Similar revelations implied that the switch had indeed met some of the guide's objectives, as students from this tutorial seemed to take more responsibility for the important roles they play in the classroom through contributing to the discussion, coming prepared to class, and setting up a participatory dynamic.

With regard to the effectiveness of the whole *Tutorial Guide*, it was apparent that these students had found the other experiential exercises to be helpful in understanding key concepts and in developing their critical environmental thought. During our animated discussion, the students demonstrated the importance of respecting different perspectives, disrupting dualistic assumptions, and negotiating permeable boundaries that can appear fixed. They talked of the importance of recognizing their own situated perspectives, as well as how the university represents certain hegemonic perspectives that need to be questioned.

I was exposed to quite a different situation in the research discussion with Tim's second tutorial. Getting a discussion started with this group of students proved to be very difficult. I had the same set of questions to catalyze discussion, but the students were very silent and it became apparent that most had not done the readings or were not prepared to participate. There was no clear demonstration of critical thinking, nor any critical reflection upon their specific experiences with the *Tutorial Guide* exercises. The reactions to the switch mainly focused upon their fears of being evaluated differently. The overall impression was that the students saw the switch as more of a personal inconvenience than a teaching tool for critical thought, although one student put a positive spin on it, stating: "it connects to the real world—gotta be able to deal with change... it's good to be flexible and able to adapt."

A couple of weeks after this research, I conducted an informal interview with Tim and Jackie to get their views on the efficacy of the guide. The overwhelming impression I got from both Tim and Jackie was of frustration and fatigue. With only one week remaining in the term, the two of them both admitted mixed feelings of relief and defeat. Jackie emphasized that most of the students never did the readings before the tutorial. Tim reacted even more strongly by confessing: "it's like I've already 'checked out.'" Delving deeper into his response, Tim recognized that his expectations for this year had been very high, due to the success with the spontaneous tutorial exercises from the previous year and coupled with the revising of the entire *Tutorial Guide* for this year.

My research with the students, coupled with these conversations, led us to recognize that no matter how prepared or how much structure is provided, teaching success is always contingent on the willingness of the students themselves to participate. The frustration that Tim and Jackie experienced was a reminder that because teaching is not a one-way process of "transmission and assimilation," success is always contingent on "situated negotiation and renegotiation of meaning in the world" (Lave & Wenger, 1991, pp. 47, 51). In the end, the students taught us that we need to develop better avenues of communication to ensure that kind of reciprocity that we seek to achieve with our critical environmental pedagogy, and to avoid reproducing the banking model. In other words, we learned that the guide was lacking feedback mechanisms early on that could have enabled the students to express their expectations and to open up dialogue for negotiating the

various approaches to education and to environmental issues that everyone had brought to the course.

A Pedagogical Subway

As we sat in Traci's basement discussing and analyzing pedagogical theory, our teaching experiences, and the research, the subway rumbled beneath our feet. We had wanted to come back to our subway dialogues as a metaphor for this critical environmental pedagogy, and suddenly its real vibrations penetrating this basement close to Toronto's Bloor subway line spurred us into a discussion concerning its metaphoric meaning.

The subway was the place where we originally dropped out of the students' sights, evaluated our teaching, connected the course's philosophy with our own research interests, and considered methods for improving the efficacy of pedagogy. But the subway was also a physical place where our beings were "in between," a mode of transportation that interconnected our academic excursions to our everyday realities of living in Toronto. Metaphorically, the subway became, for us, a place of creative disruption for thinking through a critical environmental pedagogy that attempts to connect theory and living via a commute below the surface of everyday assumptions. Its movement allows us to critically design a pedagogy that aims to engage students in dialogues that drew out lateral connections and broader critiques. More generally, it provides an opportunity to interlink human culture and environment within a social rather than prescriptive frame of reference. As such, this subway is not simply a space for designing critical environmental pedagogy, but is a living metaphor that is fuelled by a never-ending and creatively disruptive cycle that constantly asks for a re-adjustment of its practice.

While contemplating how critical environmental thought socially engages lived realities as responses from students and teachers, we both realized that any activity or guide will necessarily be limited because they are secondary tools in a social process that is of primary importance. So what started off as a guide for an *Environment and Culture* course, in fact became a pedagogical process that we could each recycle and transform in the crucible of a new classroom. As well, it has provided a window seat on a subway that can use the descriptive knowledge obtained through the methods of the banking model, as long as this knowledge is engaged in a process of critical environmental thought. While this unceasing movement can seem overwhelming—especially in those living moments when students give unexpected feedback or are non-responsive to the critical goal of the course—it also has a certain energizing quality when there is time and space for entering the subway in a way that can reflect and respond to an ever-changing platform.

Note

- ¹ This exercise is based upon a teaching workshop provided by Mark Davidson at York University in January 2004.

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