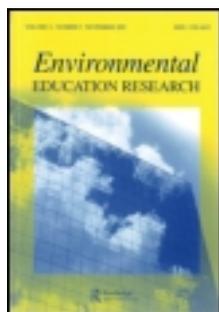


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### The impact of integrated environmental studies programs: are students motivated to act pro-environmentally?

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## The impact of integrated environmental studies programs: are students motivated to act pro-environmentally?

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In Canada, there exists a noteworthy educational initiative referred to as Environmental Studies Programs (ESPs). These secondary school programs are interdisciplinary, helping to link subject matter and encouraging student responsibility. The results of two case studies of Ontario ESPs that analyze the impact of ESP participation on students' attitudes to, and relationships with, the environment and the extent to which program participation informs domestic pro-environmental behaviors and/or emancipatory social and environmental actions are presented. The results from the focus group sessions indicate that students believe that they can effect environmental change but that they struggle with ways to meaningfully enact that change in light of 'real world' constraints.

**Keywords:** environmental education; Ontario secondary schools; case study research

### Introduction and literature review

A growing awareness of environmental issues and impacts of people's actions on the environment are topics that cut across every level of discussion from the popular media to the highest levels of government and into educational discourses. As we pass the midpoint of the United Nations Decade of Education for Sustainable Development (2005–2014), governments across Canada have introduced a variety of environmental education initiatives into school settings. These include Manitoba's Guide for Sustainable Schools, which provides step-by-step instructions for building stewardship into school curriculums, governance, human resources, and operations (IISD and Manitoba Education 2012); and Nova Scotia's SENSE project, funded by Environment Canada, which aims to upgrade educational facilities with community and school gardening programs (Nova Scotia Environmental Network 2012). In British Columbia, there exists an interdisciplinary guide for teachers, which promotes facilitating environmental education learning across subjects (rather than isolating it) and modeling for students how the environment is connected to their daily lives and relationships within their communities (Ministry of Education, British Columbia 2007).

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In Ontario, the late 1990s and early 2000s were challenging times for environmental education given the back-to-basics approach taken by the government at that time (Elrick 2000; Puk and Behm 2003). The current government in Ontario, similar to those in Nova Scotia, Manitoba, and British Columbia has been reversing this trend and placing more emphasis on environmental education and social justice education with the integrated Environmental Studies Program (ESPs) being one example (Breunig and O'Connell 2008; OCT 2007; Sharpe and Breunig 2009).

This Ontario environmental education initiative is particularly noteworthy for having flourished not only recently but even during challenging times (Russell and Burton 2000; Sharpe and Breunig 2009). ESPs are a type of 'Integrated Curriculum Program' whose intent is to ground learning in authentic 'real world' experiences, helping to link subject matter and encouraging student responsibility (Breunig and O'Connell 2008). ICPs group subjects together to make a four-credit package and have been organized around various themes such as biotechnology, design, hospitality management, and the environment (Ministry of Education 2002). Most environmental ICPs (ESPs) combine English, drama, physical education, leadership, civics, environmental science, or geography as components of a four-credit package (Russell, Bell, and Fawcett 2000). ICPs also often offer one or two credits of 'co-operative education' where secondary students teach elementary students about local environmental issues (Russell, Bell, and Fawcett 2000). Taught in a format that is different from the typical rotation of isolated secondary school courses, ESP participants form a cohort of typically between 20 and 25 students that spend an entire term with one to two teachers taking courses offered in a 'package' that allows content to be taught in a holistic and interdisciplinary way (Horwood 2002; Russell and Burton 2000). These programs emphasize experiential learning and often involve field trips (e.g. hiking and canoe camping) as one component of the experience.

There has been some preliminary research on these ESP programs, primarily focused on the challenges associated with implementation, on teacher and administrator perspectives, and on students' perspectives about program participation (Sharpe and Breunig 2009). Many research questions remain, however, particularly related to the ways in which environmental education in Ontario impacts students' attitudes to and relationships with the environment and how that relationship informs social and environmental actions and choices about professional pathways.

The purpose of this paper is to present post-program participation student reports from two case studies where we investigated how ESP participation impacts secondary students' attitudes about the environment and their willingness to act pro-environmentally. These case study results comprise one part of a larger longitudinal research project that began in September 2007.

### ***Environmental education***

There are many approaches to environmental education research, each reflecting particular contexts and ideological predispositions (Sauvé 1996). We favor a socially critical and holistic approach. Educators working from this position aim to encourage critical reflection on human/nature relations and nurture healthy relationships both among humans and between humans and other life, while working concurrently toward social and environmental justice (e.g. Fawcett, Bell, and Russell 2002; Gough 1997; O'Sullivan 1999).

Research on environmental education programs in school settings suggests that environmental education can enhance students' curricular learning through direct experience (Dillon et al. 2006; Lieberman and Hoody 1998; Rickinson et al. 2004); helps students improve their interpersonal skills (Russell and Burton 2000); and provides opportunities for kinaesthetic, affective, and sensory learning (Lieberman and Hoody 1998). According to Mobley, Vagias, and DeWard (2010), both knowledge and sensitivity are important prerequisites for environmentally responsible behavior. A compelling area of research in environmental education focuses on 'minding the gap' between experience, knowledge, attitudes, and actions (e.g. Jensen 2002; Kolmuss and Agyeman 2002; O'Donoghue and Lotz-Sisitka 2002). The attitude-behavior relationship is increasingly being recognized as highly complex (Cottrell and Graefe 1997; Cullen and Volk 2000) and provides further context for our study.

### ***Integrated ESPs***

Throughout Canada, the current educational climate has been moving away from innovation and change and toward greater accountability, fiscal efficiency, standardization, a 'back-to-basics' curriculum, and a conservative educational ideology that emphasizes scripted instruction (Sattler 2012). That said, the integrated ESPs in Ontario have continued to flourish and new ones continue to be created. In this paper, we present the results from two case studies of Ontario integrated ESPs, the most recently developed program and the longest-standing one with a view toward the ways in which program participation impacts students' environmental behaviors. It is our hope that the results presented here, as well as those stemming from the larger longitudinal study, will further support ESP curriculum development; will provide outcomes-based evidence to the Ministry of Education regarding the value (and challenges) of program implementation; and will further encourage new program development.

### **Methodology**

Choices about methodological design not only depend upon the questions being asked, but also on one's epistemological and ontological leanings (Denzin and Lincoln 2000; Schram 2003). As previously mentioned, we favor a socially critical and holistic approach. Educators working from this position aim to work concurrently toward social and environmental justice (Gough 1997; O'Sullivan 1999). Issues of social and environmental justice are thus intimately intertwined and environmental pedagogy is one means to work toward these forms of justice (Breunig 2005; Itin 1999). Inquiry holds several key qualities, in our view. It is field-based, sensitive to context, and calls attention to particulars, thus 'fitting' with case study as the chosen methodology. To attain a rich, in-depth understanding of educational practices and student learning in ESPs, we are currently in the midst of a longitudinal study consisting of multiple case studies where data have been collected through student focus group sessions; interviews with students, teachers, and administrators; document analysis; and photovoice. In this paper, we are zeroing in on results from focus groups held in two of those study sites. Purposive sampling has been employed in choosing the study sites for the broader study, ensuring that we investigate both newer and longer standing programs, settings that are both rural and

urban, and programs taught by teachers of both genders with a range of years of experience and disciplinary backgrounds. The case study reports are descriptive (offering rich accounts), interpretive (analyzing data in light of theory), and evaluative (determining educational outcomes and identifying educational potential and challenges) (Merriam 1998).

### *Study sites and participants*

The results from this study will focus on two rural sites, rural schools in Ontario being underrepresented in previous research. We are also intrigued with these two sites for cross-comparative purposes (Yin 2009), given that one program is the newest in Ontario and the other represents the longest-standing ESP program. Pseudonyms are used hereafter for both the schools and student comments. One school, the Hart School, has a population of 600 students and holds a mix of Caucasian, Metis, and Native Canadian students. The four-credit curricular package at Hart consists of the following Ontario Ministry of Education courses: English; Cooperative Education; and Geography, with an environmental focus. Cooperative education is a planned learning experience which integrates classroom theory and learning experiences at a workplace to enable students to apply and refine their knowledge and skills experientially (Ontario Ministry of Education 2013). According to the Hart program website description, the program offers students the opportunity to receive these credits through a combination of traditional academic studies and practical outdoor skills, promoting community-building in the classroom and offering students an alternative perspective and format of learning. Throughout the program, students examine local and global environmental issues and develop a personal environmental ethic. Clare is the primary teacher of the program and has five years of teaching experience, two of those with the ESP program which she developed upon her arrival at the School. Clare self identifies as a young white woman, and as a passionate teacher whose pedagogy and program are still 'in progress.'

Gabe is a white male and the primary teacher of the Grant School ESP program. He has been teaching for 20 years, 16 of those in the ESP program, which he started. Gabe self-identifies as somewhat of an elder within the ESP community and as a bit of a lone wolf at his school given the non-traditional nature of the ESP. The program offers students the opportunity to earn credit for Outdoor Physical Education, Interdisciplinary Studies, Environmental Science and Cooperative Education. The program blends traditional academic studies with practical outdoor skills with an emphasis on educating students about the complex and dynamic world in which they live. Students spend approximately 75% of the regular school day out of the classroom learning first hand about the environment. The program is geographically situated in a small farming community. There are 950 students that attend the Grant School and the majority of those are Caucasian with a small number of those self-identifying as Native Canadian.

Neither program explicitly focuses on teaching sustainability practices. That said, however, 'the environment' lies at the heart of the program, literally (given the time spent in the outdoor environment) and figuratively (given the curricular content). The full-day cohort structure of ESPs, under the tutelage of one primary teacher for the entire semester, provides for environmentally related experiential learning opportunities such as extended outdoor field trips or field study camps;

volunteering; cooperative education placements and service learning with environmental organizations; investigations of local environmental issues and processes; guest lectures on topics of local environmental issues; 'traditional' style lectures; and a variety of assessments, ranging from traditional assessments (i.e. writing an English paper) to less traditional assessments (i.e. campcraft skills). At both schools, students generally learn about the program through 'word of mouth' and as a result, self-select into the program through an application process.

### **Methods**

Data were collected at the two schools pre- and post-program during the 2010–2011 academic year. In this paper, we report the results from student focus group sessions post-program. Each session was one hour in duration. The Grant School focus group sessions involved 13 students (8 male and 5 female), representing a year when enrollment for the program was particularly low (Gabe reported his belief that this was a result of both waning support from the Principal and his having been on sabbatical the previous year). We thus conducted only one post-focus group session at that school given those lower student numbers. There were two post-focus group sessions at the Hart School, involving 20 students (9 boys and 11 girls split evenly throughout the sessions). Student focus group sessions were semi-structured and based on a list of guiding questions tied to the research objectives with room for general conversation. This allowed for the collection of data on issues of both longstanding and emerging concern to us and to make comparisons across cases (Tierney and Dilley 2001; Yin 2009). Focus group sessions consisted of questions about how students' participation influenced their attitudes, knowledge, and actions regarding issues of social and environmental justice, as well as examined the transition to and from the ESP and the traditional school system. Because meanings and answers arising from focus group interviews are socially rather than individually constructed, focus group sessions provided students with a forum to collectively reflect upon and articulate their experiences, and we argue resulted in responses that were particularly generative and sapient (Morgan 2001).

Data from these focus group sessions were coded for conceptual themes, topics, and subtopics using the constant-comparative method (Patton 2002; Yin 2009) with the help of the qualitative software package, Atlas.ti. These data were triangulated with interview data and document analysis to confirm accuracy. The study underwent university, school board, and secondary school ethical review.

### **Results**

The results from the focus group sessions at the two study sites include two major (though contrasting) themes: (1) students believe that they can effect environmental change; and (2) students struggle with ways to meaningfully enact that change in light of 'real world' constraints. The next section will provide select quotes from student focus group sessions that highlight these two themes. While there were some student remarks from each school that addressed each of these two themes, it is noteworthy in general that for this particular year of data collection, students at the Hart School reported that students could make a difference in effecting environmental change and the predominant theme at the Grant School contrastingly were reports of individual environmental actions not effecting meaningful change.

Other than contrasting remarks from students at each of the two school sites, there were no noteworthy demographic differences that arose out of the analysis (e.g. differences between male and female students or between white and Native Canadian students).

### *Students making a difference – environmental change*

The majority of students from the Hart School and a minority from the Grant School reported significantly new learning and increase in environmental knowledge that led to individual everyday behavior changes, including water usage, recycling bottles and cans, and turning off lights when leaving a room. Over two-third of the students at the Hart School talked not only about how their personal habits had changed dramatically but how their increase in environmental knowledge armed them with information to influence others' behaviors; only two or three at the Grant school reported this. Ethan (Hart School) explained,

I've definitely noticed that my environmental ethics at my home, school and my personal life have all changed dramatically ... now I'm very conscious about using energy, I hardly watch any TV anymore which is a huge surprise for me now. Even lately I've been spending more of my time outside.

Carrie reported, 'I have a shower in 5–10 min now instead of like thirty-five or forty minutes,' also stating, 'I won't turn on my lights unless I absolutely need them for something' (Carrie, Hart).

Other students at the Hart School explained that an exercise in calculating their ecological footprint had compelled them to reconsider some of their environmental behaviors at home. Kurt talked excitedly about how much the course had influenced his behaviors in terms of reducing his energy use at home and consumption of resources in general. He was also happy to report that he had influenced changes in the behavior of his family members, even though they were sometimes annoyed with his persistence. Overall, he felt very positive about the impact that his own behavior could have on the environment and the impact the course could have on future students, reporting:

I learned a whole bunch of stuff about everything, and my environmentalism. I never ever leave a light on in the house and I pretty much changed my family around turning off lights around them. And the windows are closed when the A/C is on, and when I buy food and they ask me if it's 'to go,' I say yes but I don't ask for the bag that comes along with that because I know that I can deal without it. It's just more garbage. It's affected me in a lot of ways. I still have a car and I still drive it, but I only drive it when necessary and it's just huge actually ... I think as a single person I will make a change because all the little things count. And if lights are left on all night while everyone is sleeping that's a pretty big deal but when they are all off, I don't know, everything counts and I think this class should be mandatory in high school so our environment has a chance.

About half of the Hart School students reported being engaged in environmentally friendly behaviors before the ESP program began but explained that the new knowledge they learned in the program helped them to discuss these issues with others in more depth. Like Kurt above mentioned, they also reported that their increase in environmental knowledge encouraged them to influence the behaviors of

others around them. Emily (Hart) highlighted a unit on Aboriginal knowledge and environmental issues as particularly helpful as she discussed individual actions and the impacts that they can have with her family and friends:

This course has equipped me with so much more environmental knowledge. So now I can talk to my friends and my family, about how their choices affect their family and the environment. I think that the most stuff that I learned was from our first unit ... there was a lot of just interesting information that we got to keep. Like we got to learn about global commons and traditional ecological knowledge, so that's when, um, so that's like knowledge that Aboriginal people have of the environment or just the environmental systems and it actually stands true and that is controversial with Western Science and why that is.

Another student from the Hart School, Laura, stated that she already considered herself to be concerned and interested in protecting the environment but talked about how the course had allowed her to further refine her environmental ethic. She credited the course providing her with new knowledge that she would use to 'tackle the world' and that she now felt more confident speaking with others about environmental issues. Laura explained how new knowledge about food production, in particular, had provided her with a 'visual of what actually happens and we've talked about it in class and how our choices affect the world. I've actually been able to tell the world about our food, and about corporations and things like that.'

At the Grant School, the majority of students in this particular cohort year did not self-identify as environmentally aware or environmentally conscious pre-program and reported only small changes to their behaviors post-program. A number of students reported that they had reduced how much they littered. For example, Ben and Tyler explained that 'yah I don't litter out my car window now' and 'I don't litter out of my truck window as much.'

The majority of students at the Grant School talked about how new learning from the program made them reflect on their behaviors and choices, but that it had not necessarily instigated real change. Two students at the Grant School did talk about how knowledge gained from the program impacted their food choices. Amy explained that she 'started to think about where food comes like whenever I go to buy eggs I always think where did they come from, after we saw that video on factory farming' (Grant School). During the pre-program focus group session, Bob (Grant School) reported that he bought food locally and reported post-program that he was doing so even more often now. He explained, 'there are a lot of local organic farmers and health food stores, it's a little bit more expensive but I think it just tastes better.' Another student at the Grant School talked about how she felt that students already knew about environmental problems to the point that they were desensitized to them.

### ***Students struggling with meaningful change***

A majority of the students from the Grant School reported; (1) felt unmotivated to act pro-environmentally, suggesting that the personal inconvenience is too great and there is little incentive to act pro-environmentally; (2) were suspicious about whether change was even possible; and (3) were frustrated with the attitudes and behaviors of others. These 'negative' reports were more predominant at the Grant

School although there were several of these that emerged in the Hart School student reports as well. As one example, while students at both school sites investigated issues of food security and Laura (Hart) talked above about the positive impact this had on her behaviors, Ben (Grant), explained that despite his new knowledge about food production, ‘I can say safely that I’ve changed nothing about my eating habits.’ At the Grant School, student discussion was focused more on feelings of frustration that generally people do not care about environmental issues and a suspicion that environmentally friendly practices do not make much difference. Many students expressed pessimism about the attitudes and motivation of others as well as their own ability to affect change through the modeling of pro-environmental behaviors or discussion of environmental issues.

Three-fourth of the students at the Grant School spoke about the inconvenience of acting pro-environmentally with the majority of those students identifying carpooling as one such example. Over half of the students said that they could not imagine not driving their own vehicle to and from school each day given the personal inconvenience of trying to coordinate rides and the ensuing lack of freedom. Tyler stated he felt that people needed an incentive in order to change, suggesting ‘it could be money, they could be thinking that they will be healthier later down the road, if people see that it really does benefit them in the long run’ [there is a stronger likelihood to act pro-environmentally]. Ben, Tyler, and Tracey then went on to discuss how money and greed seem to ‘be an effective way to change people’s behaviour’ rather than taking any action that would conserve resources or protect the environment (Grant School).

At the Grant School, one student, Jane, talked about how she became suspicious of how recycled materials were handled at the local dump after a class field trip there. She felt that she had, in fact, lost confidence in how recycling is handled and wondered if it was a worthwhile practice at all. Jane explained:

I kind of felt like growing up that like you throw stuff in the garbage and you go, ‘Oh it goes to the dump’ and you think people at the dump know how to, that its being taken care of. The dump that we went to, first of all the guy didn’t really know what was happening ... and he was confused and I don’t know I just felt this whole time you know you think people have everything under control and they have it all figured out and they have a system that works and then you go there and it’s not as great as you think. They’re not really, they don’t really care.

A majority of other students in this program expressed the same sentiment in response to Jane’s comment, stating that people ‘don’t care’ about environmental issues and that any efforts on their part to inform and motivate others might be ineffective. Those students who did not speak nodded their heads in assent. At the Grant School, Hanna talked about her uncertainty that a local campaign they ran in the school had made any difference in the behavior of students around the school. She explained:

We did a zero waste initiative at the school and people don’t know what can be recycled or how to recycle. In trying to teach how to sort [recyclables] and trying to spread the word and trying to teach people to recycle, [we learned that] they’re going to take [everything] to the dump anyway. I don’t think our project worked.

Another student, Tracey, agreed that she felt her efforts to talk to others about environmental issues were not always welcomed; she added, ‘I find that the main attitude is “who cares?”’ (Grant).

About half of the students at the Hart School lamented that their parents felt that buying local and organically grown food was not reasonable and was too expensive a habit to keep up or maintain. Emily (Hart) talked about how her parents were responding to the information she was bringing home about buying local and making changes to consumption habits, but that it was difficult. She explains:

Yah, my parents try. They’re trying. They’ll get one little thing and they’ll be like, look what I got today! And I’m like [makes a frustrated noise] ... that’s good mum. My mum’s good in theory and she tries and stuff but it is kind of difficult ... money is a major [obstacle].

Laura (Hart) said that she would be more able to make changes to her daily habits once she lived on her own, and that her parents were not so willing to change and sometimes get angry with her for trying to influence them. Sarah talked about returning from a trip that opened her up to the natural world and how that awareness then led to her feeling frustrated with how others treat the environment, stating, ‘the way that other people treat nature is really quite pathetic ... Like it kind of bothers me, like I see people that just totally don’t care ... it’s like they don’t really care about anything’ (Sarah, Hart).

Jennifer told a story about her parents’ response to the ‘earth hour’ initiative where people turn off their electronics and attempt to reduce energy use for one hour at home. She explained her frustration in trying to get her father and mother to participate in a meaningful way, reporting that,

That’s not right! You really have to turn the TV off and he’s [dad] like but I’m watching this. I just think it’s pretty bad when you are supposed to have everything off and he’s still got his laptop on his lap and he’s got the TV on and I was like that is more energy than the light, I was like leave the light on anyways and read instead, or read by candlelight. It’s funny because candles are pretty and decorative my mom’s like, okay! So we have like eight billion candles in my house and some of them have never even been lit and I’m like, well that’s pointless. (Jennifer, Hart)

## Discussion

We are intrigued by participants’ reports about every day behaviors, and what we now refer to as ‘domestic’ environmental behaviors (e.g. water and energy use and recycling), and the far fewer reports about emancipatory behaviors (e.g. environmental issues with an explicit social justice bent or knowledges that are focused on ecological footprint reduction, to name a few).

In one study of observed environmental behavioral changes in university roommates, Chao and Lam (2011) examined what they referred to as ‘responsible’ environmental behavior and described five common types of reported changes including shutting down the computer before leaving for hours, turning off the table lamp before leaving temporarily, avoiding taking stores’ free plastic bags, sorting garbage for recycling, and collecting small plastic bags for reuse. These types of ‘domestic’ behaviors are cited most often in the relevant literature and this resonates

with our study results. We intend to turn our attention in our continuing research into these programs to what kinds of knowledges and experiences might lead to more emancipatory actions and to explore which knowledges are impactful from a life cycle and ecological footprint reduction perspective. The weakness of the link between knowledge and behavior in relation to the environment may be due to the many factors that bear upon environmental behavior (Rodriguez, Boyes, and Stanisstreet 2010).

As previously mentioned, the attitude–behavior relationship is a highly complex one (Cottrell and Graefe 1997; Cullen and Volk 2000; Rodriguez, Boyes, and Stanisstreet 2010). One group of researchers argues that environmental attitudes are fairly well entrenched and that some environmental education activities may only serve to strengthen individual views and ‘perhaps heighten [students] sense of action paralysis’ (Uzzell, Rutland, and Whistance 1995, 177). The results from this study are resonant with that as we consider the Grant School students’ reactions to the local dump site, for example, and their resulting lack of motivation and feelings of paralysis. We also wonder about the complex interplay between knowledge/attitude/behaviors when we consider the predominance of participants’ reports highlighting individual behavioral changes vs. speaking about systemic approaches to responding to environmental issues, which is resonant with Kahn’s (2009) conclusion that thoughts on what constitutes emancipatory action must foster the kind of critical encounters that analyze structural forces.

A study similar to ours conducted in an Australian secondary school identified that there are disincentives to acting in a pro-environmental manner relating to personal inconvenience (Boyes, Skamp, and Stanisstreet 2009). That study employed a 44-item questionnaire, designed to determine 268 secondary students’ views about how useful various actions in reducing global warming might be and their willingness to undertake these various actions concluded that, the extent to which students were prepared to take pro-environmental actions was variable. In our study, numerous students at the Grant School talked about not wanting to be bothered by carpooling and Ben commented on not changing his eating habits despite their knowledges of the merits of public transport and food security. Relevant to our rural study locales, these findings contradict a previous study which concluded that rural residents tend to place a higher priority on the environment and higher participation in recycling and stewardship behaviors (Huddart-Kennedy et al. 2009).

Overall, both in relevance to our study findings and previous studies, there seems to be some trend that there exists a greater willingness to undertake actions involving limited personal effort, many of these being individual, ‘domestic’ behaviors (e.g. switching off the lights) as opposed to actions that might be considered more demanding in terms of cost or convenience, more systemic, or more emancipatory (e.g. using public rather than personal transport) (Boyes and Stanisstreet 2012; Chokker et al. 2011; Rodriguez, Boyes, and Stanisstreet 2010). This results points to what Weick (1984) refers to as a small win, concluding that people who accomplish small wins do not have to confront the key constraints to big change. Kahn (2009) however encourages us to continue to work toward unraveling ‘the systemic causes of the present misery’ (191) as we continue to engage this data and our broader research study.

Still, students at the Grant School did report important new learnings resulting from their visit to the dumpsite. Interestingly, however, for that cohort of students, the increase in knowledge that resulted from that field experience led to feelings of

despair. McKnight (2009) would suggest we be careful in how we interpret these reports, cautioning us to not assume that despair is automatically negative. He argues that despair can provide students with an opportunity to engage in a 'passionate inwardness' that eventually can lead to a more self-directed proactive involvement in the world. Grounding his analysis in the work of Kierkegaard who calls for "fear and trembling," the suffering and despair of suspending one's own security within the community for a moment of "hidden inwardness" (512), McKnight argues that despair can enable people to actually embrace the paradoxes of existence and the limitations of ethical conventions and norms. We take this message to heart and wonder if, in fact, far too much of schooling has become a type of dispassionate engagement in which the answer to any question or problem is oversimplified and too often 'neatly' packaged in a single conclusion, often one of (false) hope (Barrett 2005; Giroux 1983). We want to critically examine the commonly accepted notion that there is more pedagogic value in pedagogies of hope (Freire 1994; Kumashiro 2000) vs. pedagogies of despair (McKnight 2009), and apply these in particular to environmental education research.

What we heard from students in the focus group sessions in both schools is that an emotional reaction and passionate engagement with a particular environmental issue (i.e. local dumpsite) impels some of them to act pro-environmentally while others retreat from pro-action, reporting feelings of being 'too upset to act.' In a similar vein to McKnight's (2009) insights about this matter, Boler (1999) proposes a pedagogy of discomfort that encourages educators to capitalize on student emotions and encourages students to critically examine values and cherished beliefs. Boler urges educators and students alike to recognize how emotions define how and what one chooses to see and conversely, not see. In relevance to our present study, these same values, beliefs, and emotions impel students to define not only how and what they see/experience but more importantly, to what extent they engage in pro-environmental action or not. Without reports from teachers and student/teacher observations, it is hard to know for certain what role the teacher played in impacting students' knowledges and behavioral change. We do know from previous studies and our own experiences that the teacher's attitude toward the program, the longevity of his career, and choices about content and assessment would have all impacted students' reports (Lindblom-Ylänne et al. 2006; Trigwell, Prosser, and Waterhouse 1999).

The results from our study have also led us to want to further examine the emotional aspects of these programs and the influence of emotion in environmental education whose goal is environmental behavior change. The results of a study conducted by Kolmuss and Agyeman (2002) concluded that even if people are experiencing a negative emotional reaction to environmental degradation, they still might not act pro-environmentally. Another study investigated the cognitive and affective bases of environmental attitudes concluding that what people feel and believe about the environment determines their attitudes toward it. The findings suggest that for environmental educators interested in changing environmental attitudes, emotions and beliefs, rather than knowledge, need to be targeted as sources of information on which to base their environmental programs (Pooley and O'Connor 2000).

Kolmuss and Agyeman (2002) refer to this complex interplay of emotional involvement with environmental knowledges and behaviors as an ever-evolving 'environmental conscience.' The development of this environmental conscience

involves an interaction of system and personality traits, internal factors (e.g. motivation, locus of control, emotion, values, and priorities), external factors (e.g. others' reactions, and observed effects of individual pro-environmental actions), and cultural and economic factors. The multiplicity of factors points to the complexity of this area of study and the resultant challenges in 'teasing out' what factors do impact behavior and certainly is resonant with the results of our study. This reality makes definitive conclusions challenging to identify and gaining any absolute measure of attitudes or intentions remains problematic (Chokker et al. 2012; Reid 2006).

Further research should explore those aspects of program content and delivery (e.g. teacher beliefs and epistemology, field trips, course assignments, and student emotions and beliefs alongside environmental knowledge content) that most impact domestic and emancipatory behaviors as well as more individualistic and systemic ones. Working through/with/in these various factors in environmental education research is warranted as we continue to seek to identify outcomes and use these as a deliberate means to inform environmental education pedagogy (i.e. ESP program development) and policy.

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