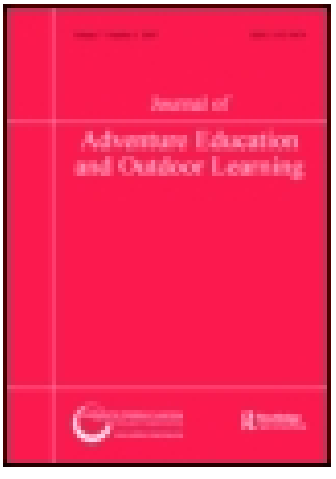

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Students' experiences with/in integrated Environmental Studies Programs in Ontario

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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 three case studies of Ontario ESPs indicate that program participation has 'real world' applications and creates a safe space for genuine dialogue and critical reflection, and that students experienced changes in environmental attitudes and behaviors as a result of program participation. These findings offer further documentation of the benefits of integrated ESPs, including increased student engagement, learning experiences that are practical and relevant to students' lives, experiential learning that is memorable and opportunities for development of social and interpersonal skills.

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

Introduction

The late 1990s and early 2000s were challenging times for environmental education in the Canadian province of Ontario given the back-to-basics approach taken by the government (Elrick, 2000; Puk & Behm, 2003). The current provincial government has been reversing this trend and placing more emphasis on environmental education and social justice issues (Environmental Education Ontario, 2003; Ontario College of Teachers, 2009). Even in challenging times, however, several noteworthy environmental education initiatives continued to flourish. One of these initiatives has been the integrated Environmental Studies Programs (ESPs), wherein environmental topics are integrated into a holistic and interdisciplinary curriculum model taught at the secondary school level to students who register for a 'package' of courses and spend the full semester with one to two teachers and a single student cohort (Horwood, 2002; Russell & Burton, 2000). While there has been some research on these programs, much remains to be done in order to evaluate their short-term and long-term impact on students.

This paper is based on the results of three case studies of Ontario integrated ESPs and is part of a larger longitudinal research project that began in September 2007. Two of these programs are well established and one was launched in 2008. The purpose of this present study is to analyze the impact of ESP participation on student learning about the environment and the impact of ESP participation on students' attitudes to and relationships with and to the environment and how that relationship informs social and environmental actions.

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Background

Research on environmental education in secondary schools generally suggests that environmental education can enhance students' curricular learning through direct experience (Dillon et al., 2006; Lieberman & Hoody, 1998; Rickinson et al., 2004), can help students improve their interpersonal skills (Russell & Burton, 2000) and can provide opportunities for kinesthetic, affective and sensory learning (Lieberman & Hoody, 1998). One means by which environmental education entered the modern-day K–12 school system was through outdoor/adventure education (Breunig, 2008). The purpose of outdoor/adventure education is to bring about an awareness of positive changes in individuals through an outdoor or adventure activity (Priest, 1999). Activities may include hiking, rope courses, rock-climbing, skiing, snowshoeing and camping. The organized camping movement served as a model for the development of many K–12 school programs. Within the camping movement, educators began teaching using expeditions, camping and challenge activities in North America as early as 1861 (Raiola & O'Keefe, 1999). YMCA Camp Pinecrest, near Toronto, is one of the oldest youth camps in North America. Pinecrest was established in the early 1900s with a focus on outdoor living skills, environmental education, cultural diversity and leadership development. The central mission of the camp was to offer opportunities for personal growth and service to others (Hirsch, 1999).

Integrated ESPs in Canada developed out of this model. There are currently over 100 of these programs in Ontario (Foster & Linney, 2007). The full-day cohort structure of ESPs provides for environmentally related experiential learning opportunities such as extended outdoor field trips or field study camps, volunteering, cooperative educational placements and service learning with environmental organizations, and investigations of local environmental issues and processes (Russell, Bell, & Fawcett, 2000). Each of the sites involved in this study included components of all of the above. The intent of integrated ESPs—that learning should be grounded in authentic 'real world' experiences and provide students with opportunities for critical and holistic thinking—is a good example of a socially critical approach to environmental education. Preliminary research on ESPs suggests that these programs are a successful model for the enactment of environmental education in schools in Ontario and other jurisdictions (Comishin, Dyment, Potter, & Russell, 2004; Foster & Linney, 2007; Russell & Burton, 2000; Sharpe & Breunig, 2009).

'Significant Life Experiences' research continues to be an area of growing interest as scholars investigate the formative educational experiences that lead many environmental educators and activists to adopt pro-environmental lifestyles in adulthood (Chawla, 1998; Hart, 2003; Palmer et al., 1998; Thomashow, 1995). This research, however, is open to criticism by those who question the generational relevance of these life experiences. As Gough suggests:

> If our goal is the achievement of environmentally literate youth through outdoor/environmental education, and, if we are going to use significant life experience research at all, then we need to be investigating the experiences which have been significant to youth at the end of the 20th century, not the experiences of those who were youths decades ago. (1999, p. 383)

As such, research that investigates the contemporary experiences of students and tracking their attitudes and behaviors longitudinally will help fill this gap. Another compelling area of research in environmental education focuses on 'minding the gap' between experience, knowledge, attitudes and actions (e.g., Jensen, 2002; Kollmuss & Agyeman, 2002; O'Donoghue & Lotz-Sisitka, 2002). The attitude–behavior relationship is increasingly

being recognized as highly complex (Cottrell & Graefe, 1997; Culen & Volk, 2000). 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, & Whistance, 1995, p. 177). Dillon et al. suggest that environmental education researchers should 'sound a note of caution about making too many assumptions about the relative permanency of attitudinal changes' (2006, p. 108), and Jensen and Schnack (1997) also question the association between action and long-term behavioral change.

Given these questions, case-study research provides the opportunity to investigate, in rich detail, examples that will shed light on the complex interplay of experience, knowledge, attitudes, action and behavior on behalf of environmental and social justice education. The primary focus of most of the research on ESPs to date has examined the successes and particularly the challenges to ESP implementation. One primary shortcoming of this research is that there has been little focus on how environmental actions or behaviors are influenced as a result of student participation in these programs, and how, if at all, students' attitudes about environmental issues and their actions are sustained beyond the semester-long duration of the program. These case studies and the larger research project of which they are part help fill this gap.

Methods

Choices about methodological design not only depend upon the questions being asked, but also on one's epistemological and ontological leanings (Denzin & Lincoln, 2000; Guba & Lincoln, 1994; Schram, 2003). We favor inquiry that is field based, is sensitive to context and calls attention to particulars. We also acknowledge the tension of 'doing' environmental education research and the challenge inherent in attempting to understand real-world, authentic experiences. Pivnick (2003, p. 146) aptly refers to this tension as the 'interpretive and humane bent' when reporting results based on participant reports and when researchers do so from an ecological perspective. Pivnick queries how the researcher describes the procedures in a systematic way and makes decisions that are academically legitimate in light of this. It is our goal in this section to provide an explication of our methods and to structure the study and explicitly acknowledge some of the study limitations as a means to address these tensions.

To attain a rich, in-depth understanding of educational practices and student learning, three case studies are being conducted. Purposive sampling (Berg, 2004) was employed in choosing the three study sites. The case studies 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). Case studies are necessarily limited in their generalizability (Merriam, 1998); focusing on only three cases limits the scope of this project, but provides the depth of understanding that is being sought. Further, each school site is situated in varying social, economic and geographical contexts, and differences based on those factors have been acknowledged and analyzed.

Data were collected at three school sites from three cohorts of Grade 10 and Grade 11 secondary school students and their respective primary teachers in early summer 2008 (two long-standing programs; 45 students total in those two programs) or early summer 2009 (new program, in its second year when data were collected; 19 students in that program). The process of data collection consisted of both a teacher interview and two student focus group sessions at each site during the final week of the ESP. Teacher

interviews and 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 long-standing and emerging concern to us and for making comparisons across cases (Seidman, 1998; Tierney & Dilley, 2001). Teacher interviews consisted of questions about program mission, vision and goals; curricular content; curricular enactment; perceptions about program influence on students' social and environmental attitudes, knowledge and actions; and program successes and challenges. Student 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 examining 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 (Berg, 2004), 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 interviews and focus group sessions were coded for conceptual themes, topics and subtopics using deductive analysis and the constant-comparative method (Gubrium & Holstein, 2001; McMillan & Schumacher, 2001; Patton, 2002) with the help of the qualitative software package, Atlas.ti. Analysis thus began with a deductive process through which data were analyzed according to an existing framework (Patton, 2002). Both the review of relevant literature and the study's purpose alongside the research questions themselves provided this framework. A set of initial codes were thus identified and articulated; using Atlas.ti, data were then coded by selecting certain passages from participant interviews and attaching these to one of the codes on the list. If a certain passage did not attach to one of the pre-existing codes, then a new code was created. In this sense, the process of analysis was both deductive and inductive, with certain codes emerging as a result of a particular participant response (Patton, 2002). As coding and reviewing of transcripts continued, certain codes were merged and categories that combined several codes into a 'super code' were added. Six major categories relevant to the student focus group sessions emerged as a result of this process of analysis. Four major categories relevant to the teacher interviews emerged as a result of this process.

Results

Student focus group sessions

There were a total of three focus group sessions that each took place at a different ESP site during the final week of the program semester. The six major categories or themes that emerged as a result of an analysis of all three sessions included: learning is relevant and has 'real world' applications; experiential learning is memorable; benefits to ESP participation are primarily related to a sense of belonging and working together towards a shared goal or interest; the program created a safe space for genuine dialogue and critical reflection; changes in environmental attitudes and behaviors occurred in students and also influenced family and friends; and outside perceptions about the program incited critical thinking rather than dampened ESP participants' experiences. Each of these themes will be discussed in some detail in this next section. Unless otherwise noted, these themes emerged from focus groups conducted at all three case-study sites. We have selected representative quotes in each section.

Learning is relevant and has 'real world' applications

Students reported that what they learned through an ESP was different from traditional courses in that it seemed relevant to their local community and useful in terms of skills they could use and apply outside the program. Students from all three programs talked about how refreshing it is to learn skills that they feel are useful to them in the present day and potentially will be later in life. One student reflects on and compares his learning from an ESP with his other classes in high school:

> Although my friends have been complaining, 'Why would I want to learn this I'm never going to use this?' and there's that feeling in high school that we're learning all of these things that aren't going to be used in life. But for whatever reason it is here, whether it's the environment or the actual content or like the way that it's presented, the way that we discuss it, it feels like they're things that I believe, that the things that we're learning here will come in use when, as we proceed through life . . .

A number of students reflected on how their outdoor experiences in the program also have taught them the practical skills to navigate the outdoors with confidence and have encouraged them to interact with their local environment more closely than their peers:

> I think we're more interested in the natural environment . . . like, the winter trip is, like, all of this inner learning and community [focus] . . . It's also the fact that you're out in the woods with, in a tent for a few nights so sort of more like concretely, like, it's being confident in the outdoors.

Experiential learning is memorable

Learning that was perceived as practical and relevant to life in a local context was memorable because it was 'hands on' and associated with a particular experience such as a trip, a talk with a community member or a group study session. One student discussed the relevance of a group project on the local water system, stating:

> We were studying local issues about a month ago and I learned that, um like, we were studying a watershed, like, our own watershed so we learned, like, not to pollute it because it will actually come back to you in, like, through the water system so that's how I learned it by studying it ourselves.

Another student reported that what she learned on an ESP field trip was easily recalled and integrated into the content of a geography class, stating 'It helped us to learn, like, remember things a lot easier.'

Sense of community

The students from the first two ESPs talked much about the group bonding that took place and a sense of community that developed throughout the year. Students attributed a strong sense of community to the experience of being in one classroom for an entire semester and also to the experience of field trips that provided opportunities for greater intimacy and for working together as a group towards a common goal. Students reported feeling that they were very close-knit with their peers due to the amount of time that they spent together and the team-building projects and activities that they engaged in:

> One thing that I find is um it's like you have this, 'cause we're so close, we have only 17 people in this class, and you see them every day for five days a week and you get to do all of these group-building activities and things that are really like it's emotionally demanding. And then you come out of that and you go back to pretty much your school and sometimes you'll encounter your friends and you don't, you feel a major difference.

In another example, four students explained how overnight trips showed participants that they were dependent on each other to make the trip successful and that the group dynamic thus had become very inclusive and accepting:

Craig: Well, 'cause, like, on the trip it was everybody's lives, like kind of like, with each other, like
Dayna: Dependent on each other
Bob: Yeah, like, you're on a big canoe trip right and the water, like, people could drown and, like, everything you do affects everything else
Dave: We have to work together.

Safe spaces for open dialogue

Students also talked about how a greater sense of community and an increased comfort level with classmates in the program also produced a safe space for open dialogue and discussion. Participants reported that they felt free to express their opinions, debate social and environmental issues and critically reflect on their own values and behaviors in front of others. Some students talked about how the program has helped them develop increased self-confidence. Students also talked about how they felt comfortable bringing up sensitive issues that they felt needed to be discussed and said that an open environment helped to eliminate gossip or interpersonal conflict between participants:

> One of the things that came up in the last meeting was being able to express your opinion without—this was about the Wal-mart thing—without feeling like you're going to be attacked or shunned for it.

Environmental attitude and behavior change

Students talked about how ESP projects that link environmental issues with everyday activities and local contexts have influenced their own everyday behavior, encouraging them to be more environmentally conscious. A number of students from all three schools identified a host of changes in their behavior, including an increase in recycling, reduced energy and water use, a shift towards the consumption of locally grown food and decreased consumption of packaged or mass-produced products. When asked whether the program had prompted changes in their behavior, they responded:

Sharon: I can no longer throw a plastic water bottle in the garbage.
All: Yeah!
Dayna: And the lights, I'm, like, always turning them off, I'm always unplugging stuff.
Sharon: Yeah, I can't drink pop.
Dave: I turn off the water when I'm brushing.
Dayna: Always turning off your tap water.

Dave: My showers are shorter.
Craig: Eating locally, well, trying to.
Dave: Eating less packaged food.
Craig: Farm fresh eggs.

In some cases, students reported not always being able to make changes such as always buying local or organic food but that they now pause and reflect regularly on the environmental impact of the choices they make. One student reflected on how she now weighs her options and makes her choices more carefully based on environmental costs:

> I would say one, one of the biggest focuses of this course is local, eating locally and sort of living locally and it's something that when I go to the grocery now it's, it's something that even if I don't necessarily only buy local organic food . . . something that I notice and I pay attention to it and I'm aware of . . . the fact that in order to make a nice tasty Caesar salad that I'm getting things from, like, halfway across the globe that had to be transported here.

According to students, changes in environmental behavior were not limited to ESP students but also extended to the behavior of some family members and peers outside the program. Students from all three schools said that they had successfully convinced family members and friends to make changes in their consumption habits. One girl reported: 'I, like, got them to change their dishwasher detergent to phosphate free now.'

In some cases, students talked about how they would begin to point out and correct environmentally unfriendly practices that they witnessed. Two students recall an instance where ESP students encouraged pro-environmental behavior in their peers:

Bob: Some students have witnessed the other students putting recycling in the garbage or
Sharon: Yeah, like, this one kid he, like, totally missed the garbage can and she just yelled like, 'Um, excuse me, I think you missed the garbage can!' Like, he just turned around and he, like, kind of looked at her, like, hesitating to go get it and everything, and then he came back and got it and everything.

Negative perceptions of ESPs from others incited critical thinking in students

Students did report hearing negative feedback about the ESP from other teachers and students in their school and used this as an opportunity to critically reflect on the misconception that experiential learning is not 'real work' or is in some way not as valuable as traditional classroom settings:

Sharon: They don't think we do any work, like, they're always in the hall, like, 'Oh, you working hard today?' And I'm, like, 'Yeah, actually I'm busting my ass.'
Sarah: And we'll be in the hall like carrying canoe packs and stuff and like draggin' dirt down the hall. . .
Bob: They definitely don't appreciate it.
Craig: Someone should tell them to take the course 'cause they have no idea.

Another student talked about her mother's negative perception of ESP as not being 'real work' and also the negative stereotype of environmentalists as deviant and lazy; she

asserted, however, that her experience in the ESP has helped to challenge her mother's perception.

Program challenges for students

At the two older program sites, students described their experiences of the ESPs as very positive and rewarding, whereas the students at the new site reported a mix of positive and negative experiences. The infancy of this particular ESP differentiates it from the other two programs that have been running for more than a decade and the 'newness' of this program probably factored into the results, including some of the students' negative responses. Data analysis based on this third focus group session revealed additional themes including: program challenges for students; strained relationships and a lack of communication; and participants' experience of the ESP as either negative or positive corresponding with participants' reports on environmental learning, attitudes and behavior change.

At the new ESP site, some students reported that they felt overwhelmed by the amount of work and felt frustrated with schedule and content changes. Some students reported that they thought the coursework was repetitive and that they did not see the connection between class content and environmental issues. Some students expressed that it was difficult to juggle the demands of the course with outside commitments such as an additional class outside ESP or part-time jobs:

Beth: Well, along with the hecticness especially outside of school, having a job 'cuz you'd have you'd go and leave for trips and you couldn't work that week and then you'd go and you'd have a whole bunch of homework to do but you have to work only in an allotted time that you have to do all the stuff that is required of you, and it's very, very, a little hectic.

Laura: I actually had to quit my job because they wouldn't give me the time off.

Other students responded more positively to the challenge of being busy and having to manage their time to get schoolwork completed on time.

Relationship and dialogue challenges

Many students in all three focus groups talked about the value of spending large amounts of time with their peers in different situations where they had to work together. However, some students at the third site reported that group bonding was not always an easy process and resulted in strained relationships between participants as well as between participants and teachers. Some students stated that group experiences such as trips did not help build relationships, while others reported that trips provided learning experiences where interpersonal conflicts had to be managed. Two students discussed what they learned about resolving conflict on overnight trips:

Jane: That relationship thing though, I also think that it helps you like deal with things and yourself and how you act in this situation.

Tara: It would probably be really hard if you were an only child out there, like, I'm used to fighting with my siblings and

Jane: Yeah, it teaches you how to approach situations.

Impact of program experience on environmental learning and behavior

Students in all three focus groups reported new learning about the environment and changes in environmental attitudes and behavior as a result of that learning. In the third focus group, the students who reported feeling disappointed and frustrated with course-work and a lack of dialogue also reported little new learning and change in their environmental attitudes and behavior. In this example, one student explains that she felt helpless in the face of explicit environmental problems and then also failed to understand a connection between social studies and environmental issues, stating:

> It's the same thing we'd do in a regular program but I'm sorry I don't see what native oppression has to do with us as well as tar sands in Alberta or forestry and clear cutting and like we can't really do anything about it really, we're only students right now and it's nice that we're being aware of it and we're being taught, like, to maybe pursue a career in that but it just doesn't make sense . . . Like. I don't see how native oppression has to do with conserving water or, like, I don't know.

Another student who had been very vocal about his frustration over communication with the teacher and his lack of interest in the course content also expressed that he felt overwhelmed by environmental problems:

> I mean I learned a lot of things but all the problems we learned about just seemed like out of my capacity to be able to solve, so I, like, just didn't even wanna, like, I don't care about climate change or anything just because I don't know you can't really do anything. It just, it kind of makes me, I don't know, it's, there's so many problems and I'd just rather be rich and drive an SUV.

Teacher interviews

The four major categories or themes that emerged as a result of an analysis of the three teacher interviews included: challenges to program enactment; program support; concepts taught; and program successes. Each of these themes will be discussed in some detail in this section. It is important to note that the responses of the 'new' program teacher (Kathy) were distinct in many ways from those of the two well-established program teachers (Bill and Bert). The 'new' program teacher focused more on challenges than the other two teachers, which intuitively makes sense given she had less experience on which to draw.

Challenges

Teachers reported challenges they faced as ESP teachers more so than they spoke about any other factor related to the ESP. All three teachers, when speaking about the challenges they faced, talked about how time-consuming it was to teach an ESP. Time was reported as the greatest challenge. For example, Bert said:

> Um, most nights and up to 12:30, one o'clock, working on marking, marking is the curse of the course . . . I try to take Fridays off in the evening and then Saturday I'm, like, last weekend I was cleaning canoes, um, loading canoe trailers, picking canoes up, picking kayaks up. Marking in the evening, tons of telephone calls, networking, tons of emails back and forth so, you know you're pretty, well, you live it.

Kathy asserted, 'I mean one of the things that I'll say is that integrated programs need to have two teachers; you can't have one teacher doing everything.' Bill, one of the teachers

of an older program, said that once he got another teacher involved with teaching one of the credits and facilitating the field trips regularly with him, it became much more manageable. For Bill, some of the ongoing challenges relate to program sustainability, including financial considerations and changing Ministry of Education policies. Bert said: 'And then the certifications is huge, 'cause with the OPHEA [Ontario Physical Health and Education Association] guidelines they want people to have all of these qualifications and it's hard to get them. So they changed that all the time.' Despite various policy changes, according to Bert, some of the Ministry of Education initiatives are in fact supportive of ESPs, including the new High Skills Major.

Support

According to ESP teachers, program support comes in many forms, including ministry and board support, support from the school principal and colleagues, and parental and community involvement in the program. The value of networking with colleagues from similar programs also emerged as a theme. In reference to Board support, Bill reported that:

> The Board has been very supportive of, I'm going to call us an innovative program and innovative ideas. And I work very hard at preparing the groundwork for that and worked very hard when we did get it to make sure it ran properly and that we were accountable for the kinds of work we did, the education we did, but yeah, the Board has been very supportive.

Bill went on to say that:

> [The ESP] just started from my Principal and in some ways that's also where it finished because one of the big revelations was that you didn't really need Board approval to start these programs, you weren't teaching courses that were different, and um, but obviously a different format, so my Principal said, 'Yup, I'll support this' and he said I had to then lobby the four departments that were going to be involved. And that's still [the way it is] today.

Kathy talked about the involvement of the parents helping to support some of the local field trips and about the local conservationists who worked with the kids on community service-learning projects but also came in as guest speakers. She reported that, 'some of the partnerships that have come up that the students might be, um, feel differently about it. I feel like the [local] marsh offered them an amazing opportunity.' Bert finished his interview by saying that 'Networking [is key], you can't do it all on your own, so you have to network with other schools that are doing [ESPs].'

Concepts taught

Bert said that teaching about the environment can be tricky and that his program is often misunderstood. He told me that:

> We're not making Earth First or Greenpeace recruits here, you gotta look at both sides, everything is both sides of the issue. I'm not going to tell you if that's right or that's wrong to cut down trees, 'cause we all like wood products but to do it sustainably and responsibly and to see, you know, we're in the bush and to come across beautiful old-growth forests. But if you step a little further you're going to step into a clear-cut, so you know you've got to balance.

Bert said that a big part of his teaching focused on developing students' critical thinking skills and their own capacities for critical assessment of not only matters related to the environment but also issues related to decision-making and judgment. Bill said that:

> Ultimately the goal in the grade 10 is for them to form a relationship with the natural world and to build skills of community and we think of the grade 12 level, we're learning about um, sustainability, sort of those possibilities of living a sustainable lifestyle on this planet, if you want that sort of little one or two sentence. And then I can go further with the mission, I mean it's obviously to bring kids forward into communities, to feel like they have the skills to go back to their schools, to go back to their communities with new stories and new skills to then utilize, not to exist in isolation.

Kathy said that teaching them English was of course important, particularly for students on the university track who need adequate preparation, but, as much as she did, the central focus of the program overall always went back to an emphasis on 'getting across environmental [knowledge], getting them to look at their own environmental ethic and determine what their own environmental ethic is.'

Program successes

Success was articulated in many ways by each of the teachers, including students learning new knowledge, teachers observing changes in students' environmental behaviors, students completing the program with high marks and having addressed the ministry requirements related to the subject matter being taught, as well as students, colleagues and parents all better understanding the value of this form of experiential learning. For Bill:

> I think probably the greatest [sign of] success is the fact that kids keep signing up for it, you know, that probably is our biggest affirmation and you know we've spawned two other [similar programs] in our board and now another one in [this town] in a separate board, so, I know we helped them get started so those are [indicators of] successes.

Kathy said that:

> I think it's been successful in terms of getting them to look at their own environmental ethic and determine what their own environmental ethic is, they learn a lot about that, in terms of bringing in partners, and giving them lots of different experiences.

Bert said that, for him, it is interesting to observe the impact of the program on the students, asserting that 'so they're absorbing it to the point themselves that they're walking down the road and they see someone throw something out and they're like, "Hey, that's not right," whereas before they wouldn't have thought about it.'

Other themes that arose in the three teacher interviews included: students learning about the significance of local issues and local 'sense of place'; the significance of wilderness trips as a component of the experience; the real-world connection for students; and changes in students' environmental behaviors. In addition to the above example, teachers also reported that they observed that many students thought differently about issues of food security and sovereignty, issues of social justice and local issues about land use. Also, Bill asserted, 'not only are we enriching their education but we're pushing them in balance with sort of moving their bodies and brains.'

Kathy said:

> I mean some of the issues around here, like [the dump] issue, this is very close to their hearts. Yeah, like, this is, this isn't just a small deal, this is a big deal, they had speakers coming in crying about getting threats from um the township about their involvement in being activist. And I think that's really beneficial so bringing together not only this environment that we're in such a geographically significant place, historically significant place and culturally significant place.

Bill said that:

> And what I find is that the lecture that I've been giving about energy and when we talk about food production and suddenly we're experiencing a shortage well we just go back to 'peak oil': and that was exactly. This one guy brought in the Globe one day, and you know the headline read 'Globe Food Shortages' and just the week before I'd said, 'Well, China wants to eat more meat, dadada.' And all these things were on the page so I think that I'm laying, I'm giving them the ability to understand that present-day dialogues that are happening in the news and those things concern social justice, economics and so on, and the well-being of each citizen. So but to understand where it's coming from, you have to lecture in the basics of energy and also where we've come from, you know, agriculture, roots of that the green revolution, you know, how did we get here? So if I can give them that foundation then we can talk about social justice issues in the now.

Bert said it is important that students do not all go:

> away with a sense that it's all doom and gloom that [what they are] reading in the papers [is not all doom and gloom], that there are still beacons of hope out there, and here are the tools to try to make sense of that.

Discussion

Our early findings offer further documentation of the benefits of ESPs, including increased student engagement (Athman & Monroe, 2004), learning experiences that are practical and relevant to students' lives, experiential learning that is memorable (Horwood, 2002; Pierre, 2002) and opportunities for development of social and interpersonal skills (Henderson, 2002; Hood, 2002; Horwood, 1994; Russell & Burton, 2000). Students reported that their experiences on field trips and encounters with community members provided meaningful opportunities for learning that was engaging, worthwhile and easily recalled in other contexts and other classes. Students also discussed how they felt that they and their peers were learning more and learning more effectively because of alternative teaching techniques such as hands-on projects and opportunities for discussion and debate. Many students in the older ESPs expressed that the program was a unique educational experience.

Another key finding is the potential connections between an open and supportive environment and the development of critical thinking and reflection in students. Critical thinking and a disposition to critical thinking have been linked with students who participate in environmental education (Ernst & Monroe, 2004). Student testimonies from the older ESPs emphasized their appreciation of participating in a learning environment that they felt was inclusive and accepting of different opinions. A supportive environment allowed open dialogue between peers and teachers on interpersonal issues or group dynamics as well as course content and environmental issues.

Many students attributed open dialogue to the development of critical reflection on their personal lives and relationships, their opinions on social and environmental issues, and their environmental behavior. In the newly developed ESP, students who felt that they could not express their opinions freely reported low levels of new learning and little change to environmental attitudes and behaviors.

That said, this study provides further confirmation that participation in ESPs generally can contribute to new environmental learning and positive changes in environmental attitudes and behavior (Hood, 2002; Jupp, 1995; Kaczmarczyk, 1996). Overall, students felt more hopeful about the ways in which their individual environmental actions could effect environmental change. They also emphasized the ways in which their attitudes and behaviors about the environment were positively impacting those around them, particularly peers, siblings and parents. In consideration of reported behavioral change, however, we are curious to further explore and better understand what we now categorize as participants' reports about changes in 'domestic' environmental behaviors (e.g. water use and recycling) and the far fewer reports about emancipatory behaviors (e.g. consideration given to eating locally and to environmental issues with an explicit social justice bent). In one previous study of observed environmental behavioral changes in university roommates, the researcher examined what he referred to as 'responsible' environmental behavior. The study results showed 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 (Chao & Lam, 2011). These kinds of 'domestic' or 'responsible' behaviors seem to be cited most often in our review of the relevant literature. We wish to turn our eye to what kinds of knowledges and experiences might lead to the kinds of 'emancipatory' impacts that many of us, whether teachers, principals, school boards or researchers, are seeking to understand more fully.

That said, however, an increase in knowledge does not necessarily lead to behavior change. In fact, students from the newly developed ESP further confirmed what others have found: that knowledge about the environment does not necessarily translate into environmental action (Hobson, 1996; Jensen & Schnack, 1997; Krnel & Naglic, 2009; Smith, 2008). A number of students from the newly developed program asserted that they felt despair pondering how they could act locally to effect global change. Indeed, they felt paralyzed by their new knowledge. It is also difficult at this stage to know whether the pro-environmental behavior change that does occur in students continues once the program is over. Some students pointed to the difficulty they had in trying to engage in dialogue about social and environmental issues with peers outside the ESP. At the time of data collection, students were still in the ESP and reflecting on, questioning and altering their environmental behavior as a class.

The results from the teacher interviews are noteworthy, particularly in the areas of program successes and challenges and educational policy as a means of support. An earlier, Ontario-based study in 1997 queried six experienced teachers about curriculum-mandated reforms in Ontario. Teachers were asked to reflect on the Common Curriculum Policies and Outcomes for Grade 1–9 students. Study results indicated that teachers identified obstacles to reforms including separation of grades, content coverage issues, collaboration issues, attitudes of staff and colleagues, uncertainty, stress and time. According to teacher reports, aspects that facilitated positive experiences included a favorable attitude towards integration of learning, leadership and support, team teaching, teacher control of change and teacher attitude to change. Sharpe and

Breunig (2009) identified similar findings in their study that explored teacher experiences with teaching ESPs. Four key factors were identified as barriers to ESP implementation: financial self-sufficiency; physical isolation (program separation); visibility of teachers in the school; and support from a broad network of allies (political connection). Developing pedagogical kinships with others teaching these programs was cited as one of the most beneficial aspects of ESP teaching. Results from both of these studies are resonant with our study results. Further exploration of what specific factors are contributing to these challenging and positive aspects of program implementation and longitudinal perspectives of these is thus warranted. The impacts of the aforementioned 'back-to-basics' period in the late 1990s included a reduction of opportunities to study environmental education in schools, fewer environmental education-oriented, teacher-training program initiatives, a decline in membership of professional associations related to outdoor and environmental education, and inadequate funding to environmental education programs (Ministry of Education, 2007). Many of the current policy-oriented community and education initiatives focused on 'greening' current learning environments have been in response to this period of environmental education devaluation. These include association-driven campaigns to develop an environmental education curriculum (Environmental Education Ontario, 2003) and the development of a new Ontario College of Teachers additional qualifications course designed to provide teacher candidates with, 'an opportunity to take coursework specific to integrating outdoor experiential education into the traditional K–12 curricula' (Breunig & O'Connell, 2008, p. 15). Most promising, however, has been the recent formation of a government-supported Working Group directed to develop policy recommendations related to re-integrating environmental education into Ontario schools on a variety of fronts, and led by Roberta Bondar, a high-profile Canadian (Ministry of Education, 2007). In 2009, introduction of The Specialist High Skills Major—The Environment in Ontario schools proposed that curricula specific to environmental education will enable, 'students to build a foundation of sector-focused knowledge and skills before graduating and entering apprenticeship training, college, university, or an entry-level position in the workplace' (Ministry of Education, 2008, p. 3).

It will be interesting to further explore how these initiatives impact teacher experiences with/in integrated ESPs. Perhaps, more importantly this finding highlights a need for further examination of how (and what types of) research impacts educational policy and conversely what types of educational policy impact pedagogical praxis and program success. As Russell and Burton (2000) have suggested, more long-term studies would help to shed light on the impacts or challenges for students after the program is over, and more specifically after they have left a learning environment that is supportive of pro-environmental behavior. A similar exploration of longitudinal impacts on teachers is warranted. Our larger longitudinal study hopes to begin to address these gaps in the literature.

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