

Aboriginal Peoples and the Environment

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Contemporary Aboriginal communities in Canada face numerous environmental issues. In response to a Canada-wide needs assessment of First Nations communities, the Centre for Indigenous Environmental Resources (CIER) located in Winnipeg created the First Nations Environmental Education and Training Program. This unique program is based on both Indigenous and western environmental knowledge and uses these knowledge systems to assess, monitor, and audit the environment from Indigenous perspectives. This article reports a qualitative research project that used a participatory/collaborative research design to evaluate a community-based course taught in this program from the perspective of the students and one course instructor. The article also discusses some issues in hands-on learning in First Nations communities, community-based research, and Aboriginal adult education.

In contemporary times Aboriginal communities within the boundaries of Canada face numerous environmental issues resulting from large-scale resource development projects affecting the lands we have for centuries relied on to support our livelihood.

Ideally, First Nations communities should rely on their local expertise and the knowledge of their Elders to deal with these problems. However, with the complexities of new provincial, territorial and federal environmental legislation, compensation negotiations, and environmental impact assessments, community leaders are increasingly forced to rely on the scientific and technical skills of outside experts in order to identify, document, analyze, and plan to protect our lands and resources (Centre for Indigenous Environmental Resources [CIER], 1997, p. 1). The results of these endeavors are usually satisfactory from a western scientific point of view, but often undermine the rights and knowledge of Aboriginal peoples. To this end, national and regional Aboriginal organizations are beginning to undertake research, development projects, and educational initiatives in the field of environmental protection in order to satisfy the needs of our communities appropriately.¹ One of these initiatives is the creation of the Centre for Indigenous Environmental Resources (CIER) in Winnipeg, Manitoba.

The CIER was created in 1994 under the direction of First Nations' leaders from across Canada, and its purpose is to

build capacity in First Nations by providing technical expertise and advice, particularly in the environmental assessment and remediation fields; To initiate, promote and increase First Nations' input in all environmental issues, and without exception, those that affect their lands which is of critical importance to the long-term health of their communities; and To develop and enhance the links between all First Nations in Canada and Indigenous peoples throughout the world, and to ensure our significant contribution in international environmental manners. (CIER, 1997)

A core initiative of the CIER has been the development of the National Environmental Education and Training Program (NEETP). The 18-month interdisciplinary program consists of 15 months of formal study and a three-month practicum. The objective of the program is to "introduce [the student] to both Indigenous and western environmental knowledge ... and [prepare the student] to work in both perspectives, drawing on the wealth of knowledge created by both Aboriginal and western teachers and scientists" (CIER, 1997, n.p.). This program is the first of its kind in Canada and consists of several courses covering such topics as First Nations culture; environmental auditing, monitoring and ethics; research issues; policy, history, laws, and impact; project design and a series of environmental impact assessment (EIA) modules.

The Biophysical/Environmental Impact Assessment (B/EIA) course was part of the EIA modules and ran from July 29 to August 14, 1997. The course was taught by a scientist, an Elder, and myself, an Anishinaabe doctoral candidate from the University of Manitoba. The topic of the course was biophysical and environmental impact assessment taught from both the western scientific and Aboriginal points of view. The first week of the course focused on classroom instruction, and the second week involved traveling to a local First Nation community to conduct a hands-on, holistic EIA that incorporated the views and culture of the community. The final week of the course was spent writing reports based on the community research, which were marked and returned to the Chief and Council of the community.

The purpose of this article is to document, analyze, and evaluate the experiences of CIER's National Environmental Education and Training Program's students in the B/EIA course using a qualitative research approach and participatory research methods. This article focuses on the students' experiences in the course and does not discuss the impact on or benefit of this course to the community. The information I present is based on my experiences with the course and on nine student interviews conducted from September 1997 to November 1997. Interviews, transcriptions, synthesis, and analysis were reviewed by the student participants in the research.

Participatory Research, Adult Education, and Aboriginal Peoples

Growing out of attempts to empower disenfranchised people, particularly in the developing world, participatory research is based on the principle that the best way to undertake research among disadvantaged people is to build on the strengths of all those directly involved, from defining the problem through designing the research, to interpreting results.

The practice of participatory research is rooted in the transformation movements of international development, community development, feminist critiques of research and in the field of education; the origin of participatory research in the context of education lies in the writings of a number of adult educators (Tandon, 1988; Hall, 1979, 1981; Freire, 1970). In the early 1970s these adult educators, began to challenge traditional research methodologies that excluded the participants in the study, or research "subjects" from the decision-making processes that governed the study. This was in direct conflict with the philosophy of adult education that placed learners in the center and focused on the learners' control

over their learning process (Tandon, 1988). If adult educators truly believed that all people had knowledge and were capable of transforming the world, why were educators using research methods that placed the researcher in a dominant position, and the research "subjects" as mindless "objects of manipulation in the research process" (p. 5)?

As adult educators and both international and community developers began to face these contradictions, research processes that involved people as thinking contributors or co-researchers emerged. Participatory research is built on the premise that experiential knowledge is valid, that people best know their own situations, and can best solve their own problems. Colorado (1988), an Aboriginal academic, explains further.

Participatory research views oppression as a problem. It assumes that there is no neutral or objective science and that the dominant hypothetical, deductive positivists won't give up their power. It validates popular knowledge, asserts that knowledge is power and advances the idea that theory must lead to social action. (p. 63)

Hall (1981), an adult educator, first characterized participatory research in the following way.

The problem originates in the community itself and the people involved or the community are in control of the entire research process; the ultimate goal of the research is the improvement of the lives of the people involved, the beneficiaries of the research are the people concerned; the outside researcher is a committed participant and learner throughout the process and is both a co-researcher and co-learner; and central to participatory research is the role of strengthening the awareness of the people in their own abilities. (p. 7)

More recent reiterations of this characterization hold true to these fundamental principles (Phillips, 1997; Johnson, & Ruttan, 1993; Ryan & Robinson, 1990).

The literature regarding participatory research is heavily influenced by researchers' experiences with these methodologies in the developing world (Phillips, 1997; De Souza, 1988; Tandon, 1988; Hall, 1981), Europe (Mellor, 1988; Orefice, 1988) and the United States (Maguire, 1987; Gaventa, 1988). Far less has been written concerning the Canadian experience (Ryan & Robinson, 1990) or the experience of Aboriginal peoples with these methods, although those who have used participatory research methods with Aboriginal peoples in Canada report great success (Johnson, & Ruttan, 1993; Hoare, Levy, & Robinson, 1993; Kurelek, 1992; St. Denis, 1992; Ryan & Robinson, 1990; Castellano, 1986).

Participatory research is particularly well suited to adult Aboriginal educational initiatives, for experiential learning has long been one of the principal methods Aboriginal people have used to understand the world around them (Colorado, 1988). Sharing knowledge, making decisions by consensus, respecting the expertise of others, and working together are fundamental to the Aboriginal way of learning and knowing. A large part of the NEETP's educational philosophy focuses on hands-on learning; empowering young Aboriginal people; building capacity in First Nation communities to face environmental issues; and using Aboriginal teaching methods, philosophies, and knowledge throughout the program. In this particular context these principles coexist nicely with the characteristics of participatory research.

Because participatory research is both experiential and an educative process, these methods seemed appropriate to evaluate our experiences in the community as researchers. The students were at a second-year university level, and for many of them their participation in this evaluation project was their first experience with research. The students had learned about orthodox social science research methods, community-based research, participatory, and collaborative research approaches. This was a chance for them to experience the participatory research process.

The students themselves came up with the motivation to investigate their experiences further. During the field trip to the community, students talked about some of the issues they were concerned about regarding hands-on education in a community setting. These discussions formed the research questions for this study. I asked the students a few months later if they would like to explore some of these ideas formally in the forum of a participatory evaluation of their experiences on the trip. The class as a whole agreed; they also agreed that a qualitative research approach would best present the students' voices. Meeting on their lunch hour, we developed an interview questionnaire, I interviewed a number of students, and the group participated in the analysis of the results drawing a list of recommendations for the NEETP.

Methodological Issues

Initially the students and I agreed on a participatory-type evaluation of the course, which involved them in all stages of my research, from developing the research questions through to analyzing results and writing the final recommendations. This is, however, an extremely time-consuming process (Maguire, 1988). We quickly realized full participation in all aspects of this process was impossible in the short time frame of this study and the amount of time students were able to commit to the project. Students were involved in full-time study and would be able to participate in the research only during their lunch hour, as they had family and home work commitments during the evenings and classes all day long. The students participated in designing the research questions, choosing the methodology, developing the framework for interviews, and they reviewed the results. Given their time restraints, they did not participate in the project as interviewers, and the initial analysis of the results was also my responsibility. As the academic person working on the project, I was responsible for ensuring that our procedure was acceptable from a participatory research perspective, for coordinating the project, and for writing the findings. The students were responsible for ensuring that the study accurately represented their voices.

We chose to conduct informal interviews with as many students as possible. I felt that this was appropriate because of the original approach the instructors had taken in teaching the course. Each student had experienced the course in a personalized and individualized way. Questionnaires or a rigid interviewing style would not have accurately addressed this diversity in experience. I anticipated that the students might have to "dig up" this information because three months had passed since the course had ended, and they had completed the last two courses in the EIA section of the program. I wanted to focus specifically on their experiences in the biophysical course because it was the only course in the EIA module that I

had personally experienced. I consulted the students and we developed a series of questions that I used to prompt the students' memories. In some interviews we stuck rigidly to this list. In others, we did not refer to it at all. In either case it served as a rough framework to guide the discussion.

The interviews were conducted on a voluntary basis, individually at the CIER office over the lunch hour, lasting from 20 minutes to an hour. I took notes throughout the interviews, immediately transcribing my notes into the computer, and also recorded my thoughts on the process in a personal journal. I interviewed nine of the 14 students who participated in the field portion of the course (two students were absent from the field portion), which constituted 60% of the women and 67% of the men who participated in the course. The students were informed of the intent of the research and signed consent forms. I stressed that I would not be returning to the CIER to teach their class again and that their comments would remain anonymous. Consent forms were stored in a different location than the transcripts of the interviews, and the interviews were identified by numbers.

The students appeared to be relaxed and answered the questions honestly and thoroughly. A few had approached me during the course with suggestions on how they thought the course could be improved, and I was sure to interview these students. At first I was worried that too much time had passed from finishing the course to the interviews, but this time lapse proved to be an asset, as many students had used the time to reflect on their experience individually and were now ready to talk. I had known the students for seven months and my relationships with many of them enhanced the interviews. I was also aware that my role as an instructor in the course, a position that holds power, could influence how the students responded to my questions in my role as a researcher. This did not appear to be a problem throughout the course of the interviews, perhaps because in the community setting the instructors and students were all learners. The teachers were the Elders and the community experts who shared their knowledge with us. This research project passed through the Department of Anthropology's ethics review process and was endorsed by the Executive Director of CIER. Student participants signed informed consent forms, and the results of the research were reviewed by the students and the CIER. I also received permission from the CIER and the students to write and publish the results of the study.

Our Analysis

Initially I went through the nine transcribed interviews and identified common themes or categories that the students mentioned during their interviews. Categories were created following the method outlined in Ristock and Pennel (1996), and were based on what research participants had to say. The creation of categories entailed seven steps:

1. listening closely to what the research participants were saying;
2. comparing their statements;
3. noticing interesting or recurring themes;
4. giving a name to each of them (categorizing it);
5. checking each category against more statements;
6. clarifying each category against other categories being developed;
7. reshaping categories to fit participants statements. (p. 86)

I continued adding more items to each category in order to determine the number of interviewees expressing a certain view (Ristock & Pennel, 1996), and therefore chose not to use the standard saturated approach of categorial analysis (Kirby & McKenna, 1988; Strauss & Corbin, 1990). The categories that emerged from the statements of the participants were: Time frame and relationship with community members; The module approach; Introduction/closure; Impacts of research on community; Identity; and Hands-on learning. I further broke down the category of Impacts of research on community into Usefulness, Validation, Catalyst, and Negative Impacts. I started out with a slightly different list of categories, then went through the interviews several times placing the students' comments into these categories and modifying the categories to fit the participants' statements. Finally, I went back through the interviews noting issues that did not fit into categories but did affect the process or the outcome of the course. I then identified links between the categories.

The initial categories emerged strongly from the student interviews, with nearly all the students mentioning the issue during the interview. The students' points of view differed when we discussed the impacts of the course on the community. Most of the students (seven out of nine) felt that either the research process or the final reports were beneficial to the community. The other two students felt we had failed to address the needs of the community. I went back through the interviews looking for alternative explanations for this point.

On December 9, 1997 I met with the students I had interviewed as a group and asked for their help. I outlined my process of analysis and presented them with my categories that represented ideas, themes, and common properties that had emerged from the interviews. We identified the links between these themes and the patterns that had emerged, and developed a rough outline of recommendations. I compiled the results of the research and drew the final recommendations. The students felt that these categories accurately represented their ideas, and together we drafted a list of group recommendations.

Emerging Issues from the Student Interviews

The students² who were interviewed suggested several alterations to the current B/EIA course module; if implemented the recommendations would ensure the productive use of the time we spent in the field, facilitate the students' and instructors' introduction to the members of the community and ensure that the research the students conducted was firmly grounded in the community members' needs. Most students who participated in the interviews found the hands-on approach to community-based research a satisfying and worthwhile experience, although they suggested the time frame for the collection of community-based data be lengthened to at least two weeks. They also felt that minor changes to the course procedure, such as staying with community members throughout the field work, partaking in a proper introduction to community members, and presenting the reports back to the community members in oral presentations would in turn enhance the research we collected for the community, as well as the students' learning experiences. These issues, as well as other issues raised by the students who were interviewed, are discussed in greater detail below. The article concludes with a series of recommendations based on these interviews.

The Benefits of the Hands-On Approach From the Perspectives of the Students Interviewed

The knowledge systems of Aboriginal peoples have long employed the principles of experiential and holistic learning to teach younger members of the community (Wolfe, Bechard, Cizek, & Cole, 1992). The *Report of the Royal Commission on Aboriginal Peoples* (1996) states that,

In [the] Aboriginal educational tradition, the individual is viewed as a whole person with intellectual, spiritual, emotional and physical dimensions. Each of these aspects must be addressed in the learning process. Holistic education is the term used to describe the kind of education traditionally used by Aboriginal peoples. Such education is organized to develop all aspects of the individual. (vol. 5, p. 30)

This is at least in part why the CIER ensured that the instruction of the courses would employ Aboriginal methodologies and hands-on learning techniques. Over the last seven months nearly all the students in the program at one time or another have told me how much they have enjoyed the hands-on approach and how much they have learned from these techniques. Nearly all the students interviewed mentioned how much they appreciated the experiential approach of the NEETP and of the B/EA course, and reported that they learned more from their hands-on experiences in the community than they would have if we had stayed in the classroom in Winnipeg. Some students said they gained a different kind of knowledge from participating in a research endeavor including "personality traits and how to deal with people" (Student Interview, 7 November, 1997), and "lots of stories from the Elders" (Student Interview, 18 November, 1997). In the classroom they felt they learned factual information. In the community many felt their learning was more holistic, including research skills, interpersonal skills, how it felt to be in the community, how it felt to be a researcher, and how to develop relationships with the people they were interviewing. The situations the students faced in the community were no different from what they will face in other communities on graduation, including unrealistic time frames, the legacy of past researchers, constraints on equipment and lab access, and concerns about the impact of the research on the community. This experience may prove useful when the students find themselves in similar situations during their practicum, job placement, or in future employment.

Time Frame

All the students who were interviewed indicated that the time frame for the course and for the collection of the community-based data was too short. They felt that the insufficient amount of time spent in the community affected the validity of the data we collected, how useful the reports were to the community, and the impact of the course on the community. Our time frame also influenced the students' learning; some felt that they needed more time to learn and reflect on their new role as researchers.

Wolfe et al. (1992) describe data creation or gathering in Indigenous knowledge systems in Aboriginal world views as "slow and inclusive," as opposed to data creation in western scientific knowledge, which they describe as "fast and selective." One of the greatest challenges educational programs face when attempting

to work in both knowledge systems is to balance the time requirements of Indigenous knowledge systems and Aboriginal world views, with those of western science, all within the context of an academic program. Further, methods used to collect knowledge and information in Aboriginal communities that have proven to be successful are usually participatory, collaborative, or community-based. They require the participation of community members throughout the research process, and the control of the project is firmly rooted in the community, although the level of participation of the community differs between the methods. Projects employing such methods require large segments of time compared with their positivist counterparts. Maguire (1986), writing concerning feminist approaches to participatory research explains: "One time consuming aspect of participatory research is establishing the community contacts and relationships necessary to link up with a group for the project or to be requested to do research by a community group" (p. 46).

Students were aware from previous courses and the in-class portion of the B/EI course of the requirements of community-based research. They were convinced, and rightly so, that "good research" from an Aboriginal perspective required substantial community input, and that obtaining community input required the outsiders to develop a relationship of trust with community members. Given the short time frame of the course it was nearly impossible to develop relationships with the community contacts before students entered the community for the first time. Save for a few phone calls between the Chief, his wife, a band councillor and the instructors of the course, contact was limited. The roles and agendas of the students, instructors, and community members were never clearly stated or negotiated, and this left the expectations of the community members and leaders unstated.

Time limitations continued to influence our work when the students and instructors arrived in the community for three days of data collection. All nine of the students interviewed expressed frustration with our approach in relationship to time

We need[ed] a lot more time. This is very important to establish relationships between the researchers and the community. We needed time to have mutual respect, for some community members to get over their apprehension, so they could get to know us. We needed time to do social things with them. Maybe a campfire or something. (Student Interview, 18 November, 1997)

These insights are similar to those of other outside researchers who are sensitive to the needs of Aboriginal communities engaging in participatory or collaborative research projects. Writing about their entrance into a community, Fordham et al. (1982) explain, "Our first task, therefore, was not to do anything, but spend six months listening to local people, talking with them, finding out what might be possible and deciding on the things to which people might respond" (p. 133). Further, Aboriginal communities are still reeling from the days when outside "experts" investigated their communities without any thought of involving their "subjects" in the decision-making processes that governed the work. As the members of the Research Advisory Committee of the Royal Commission on Aboriginal Peoples (1996) recently put it,

In the past, research concerning Aboriginal peoples has usually been initiated outside the Aboriginal community and carried out by non-Aboriginal personnel. Aboriginal people have had almost no opportunity to correct misinformation or to challenge ethnocentric and racist interpretations. (vol. 5, p. 325)

The problem is all the more serious considering that the disrespect engendered by the exclusionary approach has resulted in increasingly strained relationships between Aboriginal peoples, communities, and governments, and the academic community (Simpson & Driben, 1997; LaDuke, 1994; Wheatley, 1994).

In the era of postpositivism, researchers are recognizing the importance of developing relationships with community members in order to tailor research projects directly to the needs of the community and to overcome the legacy of academe in Aboriginal communities. The students were keenly aware of past relationships between researchers and the academic community; many recounted memories of when researchers had come to their communities to "study them." They did not want to instill similar memories in the community members. The entrance of outsiders into a community is a lengthy process, in part because of the coping mechanisms communities have developed to deal with outsiders. Manuel (Manuel & Posluns, 1974), writing as an Aboriginal community development worker states:

The major defence for any small community against invasion by outsiders its to isolate them. Their size alone prevents any other defence. Indian and non-Indian alike, village-folk have learned through the ages to extend a courteous distrust to an outsider until they are content that his wares are genuine. It is a healthy defence on their part, but something only the most foolish and insensitive outsider could fail to take into account. (p. 137)

Taking into account the isolation an outsider may face in reality requires ample time to work through community barriers. Working past this defence mechanism requires time, but also initiative on the part of the outsider. Spending six months in the community for the purposes of this course was impossible, yet the students found the time frame for collecting Aboriginal knowledge about biophysical community impacts extremely limiting. They were aware that the time frame dictated that they follow their own agendas, the agenda of the course, instead of that of the community. In this way some of the students interviewed felt as if they were behaving in the way that outside researchers had behaved in the past: going into the community, taking information for their own purposes, and then leaving.

From the perspective of the community, I ask: How many more researchers are going to come to my community? How many papers are going to be written without my input? We need to appreciate what they are feeling. We were just another group of people who came into the community with good intentions and did our project and then left. How were we different than the white researchers that come from the anthropology departments at the university? We were able to feel and to understand as Aboriginals, from our own experience, but is that enough? (Student Interview, 7 November, 1997)

Many students who participated in the interviews felt they did not have enough time to do a good job.

The Module Approach

Many students commented on the series of four courses that made up a unit of the program on Environmental Impact Assessment. One problem the students articulated was the repetition of gathering Aboriginal knowledge in the community. Each time the students went into the community, for each course module, they asked the community experts and the Elders the same questions. The data they gathered were analyzed differently, depending on the topic of the particular module, but they were the same data, perhaps because of the holistic nature of Aboriginal knowledge. For instance, when a student would talk to a community Elder about the impact of clearcutting, the Elder might discuss the impact on animals (biophysical), the impact on her family and her community (social and cultural, spiritual), and the impact on trapping and the subsistence economy (economic). Because the students found themselves in the community at three different times with three different research agendas, they found themselves interviewing the same people about the same issues over and over again. They went through the research process three separate times, but during each visit they did not have enough time in the community to gather community-based data properly. When I took the categories and my recommendations back to the students for their input, they suggested that the field work conducted could have been used for all three modules. They also added that the first trip to the community should be for introductions, the second for gathering data, and the third to present the results of the research to the community.

One student suggested that the community leaders should choose a specific current issue for the students, instead of having the students gather data about all the issues that have affected the biophysical environment in the past. Each module could analyze the community-based information from the field work according to the course topic. The students felt that this would have enabled us to use our limited time more efficiently and that our final reports would have been more useful to the community.

Although this approach would allow students to learn the intricacies of the EIA process, it would not give them a broadly based experience of community environmental issues and how they interrelate, particularly from an Indigenous knowledge perspective.

A Proper Anishinaabe Introduction

Our introduction to the community was confined to the Band Office and those people who moseyed in. The wider community did not know who we were when they saw us at the store or on the road. We needed to have a proper introduction. Maybe a feast, where we could have shared food and invite the entire community. (Student Interview, 20 November, 1997)

Many of the NEETP students felt that as outsiders in the community they were never properly introduced to the members of the community. From an Anishinaabe perspective this might have involved a community feast with drumming, or some sort of informal community gathering where food was shared. The purpose of this sort of function would have been for the Chief and Council of the community to introduce the students as a group of student researchers from the

NEETP, which they had brought into the community to gather community information on the environment. This would have shown the community members that the students had the support of the Chief and Council and would have given the students the chance to meet and share experiences with a number of community members. Aboriginal communities are used to having researchers and other workers come to their communities, conduct their studies, and leave without the community ever knowing what they were studying. Many people never knew who the students were or what they were doing in their community.

Much of the time the students spent in the community was interviewing Elders and other community members about the biophysical impacts different development projects had on the community. Colorado (1988) explains the importance of following protocol when beginning a relationship with an Elder and the importance of the introduction.

The visit is an essential ingredient of Native scientific methodology. The visit includes introductions, establishing the relationship between the Elder and the younger person (i.e., Who is your clan? Who is your family? What is your Indian name?) socializing including humor, and finally raising the purpose of the visit. Through visits a contract is established. Often the contracting process requires several visits, the apprentice will do chores around the Elder's home, listen attentively and follow directions about mundane activities. Through this process, trust is established and a genuine interest in the welfare of the Elder is promoted. This is important—the Elder is about to share knowledge that is powerful, sacred and often of a personal nature—the recipient must be prepared. (p. 57)

Although Colorado is speaking about individuals and about a relationship between an Elder and a younger person, her comments apply to establishing a relationship of trust and caring between an outsider and other members of an Aboriginal community. Establishing this relationship between the outsider and the local people is important because it enables the community members to trust the outsider, his or her expertise, and the intentions of the project. It also allows the outside researcher to develop a strong belief and trust in the local people (Rogers, 1961; Freire, 1970), and nurturing these relationships is also important to the success of development projects.

Staying within the community would have also facilitated establishing this relationship. A Student explains:

We did not have a proper introduction to the whole community. Other people outside the Band Office wouldn't know who we were. We were walking around the reserve and people didn't know who we were. We needed to have an open meeting to mingle around with the community members. We should have stayed in the community, not in the motel. Then more students could have joined in the sweat lodge and feast. (Student Interview, 13 November, 1997)

Another student remembers:

One of the community members said to me, "Where are you guys staying?" When I said in Pine Halls, they said, "Oh. With the traitors, the enemy." They wanted to know why we weren't staying with them. (Student Interview, 18 November, 1997)

The logistics of staying in the community would have required more organization on the part of the instructors and the CIER support staff, but would have been beneficial to the students, the process of doing research with the community, and

ultimately the community. It would also have required a strong commitment from the community contact to assist with selecting appropriate community billets. Perhaps the CIER could plan an introductory workshop, meal, or gathering and invite the members of the community to find out more about the CIER, environmental issues facing First Nations communities in Canada, and meet the student researchers.

Following the proper introduction, many students felt a need for formal closure. Again, sharing food and participating in some social event like drumming and dancing was suggested, but this time with a more formal element. The results of the research needed to be presented to the community in a language they could understand, perhaps in the form of an oral presentation to give the people a chance to ask questions. Students stressed this point; too often in the past community members have participated in research and never seen the results. In this way the reports the students prepared would not just sit on a shelf or be seen only by a few people in the band office.

Identity and Becoming a Researcher

Going into the community as a researcher was hard. You know you are going into ask them questions and will be leaving again. You are only there temporarily. You are there for your benefit and I always had to refocus myself to the community—to the benefits for the community. There were conflicts between this and my own self-interests. (Student Interview, 13 November, 1997)

For many of the NEEPT participants this was their first experience in the role of researcher. They had been exposed to people doing research in their own communities, but had been considered “subjects” in those situations. This time was different, for the roles were reversed. And with this role reversal came deep insights into the roles and responsibilities of being a researcher. With the perspectives of the community in mind, the students were concerned with the community’s needs, how they were being perceived by the members of the community and the benefits the community would enjoy as a result of this research. Working within the bounds of the module approach, this experience would have been more beneficial for the students if the instructors had gone into the community (or if community representatives had come to the class) before the field trip to work out the purpose and objectives of the field work from the community’s perspective and from the perspective of the students and the instructors. One student felt the effects of this afterthought

We were there under false pretence. When Aboriginal people come into your community, you expect they come and fight for your cause and we didn’t. Those people would feel dejected. We raised the expectations of the community members high, and then we didn’t meet them. (Student Interview, 7 November, 1997)

Neglecting this stage of the community-based research process caused some of the students who were interviewed to feel like they had misled the people of the First Nation community and falsely raised the expectations of community members. Clearly stating the roles and responsibilities of everyone involved in the research process is an important part of any collaboration, and might have helped alleviate these feelings. Providing debriefing sessions for the students during the field work

to talk about these issues might have been beneficial, as one student suggested. Time for personal reflection could easily be built into a longer field session.

The Impact and the Benefits to the Community

We helped them a lot in the time we were there to talk about the damages to the environment. (Student Interview, 6 November, 1997)

Although some students identified some important concerns regarding our trip to the First Nation community, many found the experience extremely beneficial and felt the community had benefited from their visits. Most students felt that they could identify with the community members because we were all Aboriginals, and this was important because the community members felt more at ease in discussing our common experiences. In some ways the students felt this validated the community's concerns about the environment. One student explains:

We were able to validate their experiences. When we shared similar things that were happening in our communities they realized that these problems were common in many First Nations communities and that all us Natives need to do something about it. (Student Interview, 8 November, 1997)

In this way many students described our presence in the community as "a catalyst." They felt we at the least provided some community members with a forum to discuss environmental issues and what to do about them, a discussion that might not have taken place if we had stayed in Winnipeg. Others felt that the final reports were valuable to the leaders of the First Nation because this type of information had not been gathered before. A few students worried that their reports were not good enough (a worry the instructors did not share); that they did not have enough time to do a thorough job; and that access to appropriate scientific equipment and a lab would have enhanced the field work and the reports. The general feeling from the interviews was that the students felt the community had indeed benefited from hosting the NEETP students. One student felt that, in reality, the information we collected would be of little use to the community because it focused on impacts that had already been made, not on the impact of development projects faced by the community. This comment is of value, because had our field work been more focused, as the student suggested—for instance, on a particular issue that was currently occurring in the community—the information we collected might have been of more immediate use.

Summary of Recommendations

The following is a series of recommendations the students and I came up with to further improve the B/EIA course in particular and research in Aboriginal communities in general.

1. The community or the community leaders should choose one current and important community issue for the students to conduct field work and write their reports on. This could be the purpose of the initial visit to the community, in the introductory module.
2. The instructors of the biophysical course should meet before the beginning of the course with the community leaders to work out the purpose and objectives of the field work and to establish the roles and responsibilities of the stu-

- dents and the community, *or* the community leaders should have a one-day meeting with the students and instructors to establish the nature of this relationship.
3. The instructors should inform the students about the expectations of the community, the purpose and objectives of the research, and their role and responsibilities as worked out with the community leaders.
 4. The community leaders should inform the wider community about the students (who they are, when they will be in the community, and why they are there).
 5. The CIER should host an introductory gathering in the community to introduce the community to the CIER and the student researchers.
 6. The students and instructors should stay in the community, with the assistance of a community contact who could assist in finding appropriate billets.
 7. The field work of the course should last at least two weeks. This field work could be used for other modules.
 8. Time should be made available during the field work for students to debrief and reflect on their role as researchers.
 9. The students should present the findings of the research to the community members in an oral presentation, followed by some sort of closure.

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Notes

¹Also see the Assembly of First Nations' Effect on Aboriginals from the Great Lakes Environment (EAGLE) Project and several community initiatives such as, Mohawk Council of Akwesasne's Environment Unit, Wapole Island Heritage Centre's Environmental program, and the Dene Cultural Institute.

²The term *student* in this section refers to the group of nine students that participated in the interview process for this research article, not the entire class of students enrolled in the NEETP.

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