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**THE ROLE OF CRITICAL
EDUCATION IN AN
ENVIRONMENTAL ASSESSMENT
THAT INCLUDES HEARINGS**

by

Patricia Fitzpatrick

A thesis submitted in partial fulfillment of
the requirements for the degree of

**Master of Natural Resources
Management**

**Natural Resources Institute
University of Manitoba
Winnipeg, Manitoba**

2001



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ASSESSMENT THAT INCLUDES HEARINGS**

BY

PATRICIA FITZPATRICK

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of
Manitoba in partial fulfillment of the requirement of the degree
of
MASTER OF NATURAL RESOURCE MANAGEMENT**

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ABSTRACT

How does education and learning occur through an environmental assessment that includes panel review? This was my central research question for a recent study of the Sable Gas Panel Review that applied the philosophy of critical education and the theory of transformative learning to activities and participants involved in the panel review. The Sable Gas Panel Review was an environmental assessment of a natural gas project situated in the Maritimes. This project, a joint venture among Mobil Oil Canada, Shell Canada Limited and three partners, was designed to extract six offshore reserves, and transport natural gas to a processing plant, to be built near Goldboro, Nova Scotia. Gas would then be transported to markets in the United States through a pipeline constructed through Nova Scotia and New Brunswick by the Maritimes and Northeast Pipeline Company.

Primary data collection emphasized the use of semi-structured interviews to record the experientially-based observations of panel participants. This information was supported by a review of material submitted by hearing participants for consideration by the panel, and complemented with literature related to environmental assessment, environmental education, and transformational learning theories.

Findings of this study contribute to a larger body of literature related to the role of transformative learning in environmental assessment. Results illustrate the types of educational opportunities, such as a class on how to participate in a quasi-judicial hearing, that can arise out of the panel review process, and explore the learning outcomes of participants, such as a new understanding of the implications of heating residential homes with natural gas. A discussion of the findings suggests that with increased input into EA, opportunities for critical learning about the proposal and potential project impacts may improve public participants' perceptions of the hearings process. Critical education and transformative learning serve as frameworks for considering the design and implementation of adult learning within the existing hearings process. Recommendations for improving public perception of EA by addressing the components of transformational learning include both minor modifications to the

existing assessment process, and long-term normative and strategic changes to government policy and planning.

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INTRODUCTION

1.1 Background

Environmental assessment (EA) is a proactive planning tool that allows developers, regulatory authorities, scientists, and the public to identify, evaluate, and mitigate, where possible, the potential changes to an environment from a proposed initiative before development is undertaken. Similar to cost-benefit analysis, which evaluates the economic viability of an undertaking, environmental assessment identifies relevant social, cultural, economic, and environmental criteria to measure the costs and benefits (or positive, negative and neutral impacts) of a proposal on the local and regional ecosystem (Connelly and Smith 1999). The design of the project could then be altered to curb, in as much as possible, the negative repercussions of the development. Where impacts cannot be avoided, the assessment process requires that mitigation of the negative effects be provided to those people most affected. If impacts are judged significant, the project may be deemed to be not justifiable, and not allowed to proceed (Sadar 1996: p.2).

EA is regarded as a tool of or mechanism for achieving sustainable development (Connelly and Smith 1999). In Canada, the federal EA process, the *Canadian Environmental Assessment Act* (CEAA), is founded on the principles of sustainable development (see the Preamble of the Act). The colloquial definition of sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987).

This ecological-economic paradigm suggests that economic expansion must be reconciled with known and potential impacts to existing ecological, social, cultural, and economic environments. To this end, EA serves as a method through which the checks and balances of sustainable development - the ecological, social, cultural and economic impacts - can be identified and weighed.

The systematic consideration of economic, ecological and human impacts of development initiatives provides the impetus for the inclusion of public involvement in EA. Providing members of the public an opportunity to participate in the assessment process serves to fulfill the principles of democracy. It also enriches outcomes of the assessment process through incorporating varied knowledge and opinions with the information base.

Public involvement is recognized as an important component of EA. All assessment legislation in Canada, both at provincial and federal levels, includes some provision for the incorporation of public comments. CEAA professes an explicit commitment to public involvement in the assessment process (see the Preamble). In light of this commitment, the Act establishes different mechanisms for engaging the public in each of the four processes, or tracks, for analyzing the potential impacts of a development initiative (screening, comprehensive study, panel review, and mediation). Sections 18(3), 19(2), 21(2), 35(3), and 55 of CEAA establish varied requirements for public hearings and notices within each of the four assessment processes.

Training and education are important to public involvement. In terms of environmental assessment, non-formal education creates “an awareness of the process and facilitates an understanding of substantive environmental, economic and social issues” (Diduck and Sinclair 1997a: 295-6). This awareness would center on providing

members of the public a foundation for effective participation in consultation initiatives by ensuring the public knows how to participate in an environmental assessment, and that participants have a basic comprehension of the complex issues related to the specific project under review. As such, education becomes both a precondition for, and an outcome of, fair and effective consultation of stakeholders.

Although CEAA provides some criteria for consultation in the Act, and to a greater extent through companion guides to the Act, including the Responsible Authorities Guide, assessment processes do not require education programs for participants beyond basic elements of information dissemination (Section 55). While there is no explicit commitment to education in the Act, facilitators of the assessment process often serve as educators of EA participants. Non-formal education is provided in terms of training programs hosted or funded by the Canadian Environmental Assessment Agency. Training programs are directed at teaching the public how to participate in the different components of EA process. Beyond structured courses, however, agency personnel promote learning through the course of each EA. Informal education becomes a byproduct of communication tools employed to inform the public about the assessment process, or about specific projects. These varied educational opportunities can, in turn, promote learning by assessment participants.

When exploring opportunities to facilitate learning by participants in environmental- based programming, it is important to consider the application of educational theory. In this regard, promoters of environmental education support the utilization of transformational theory. Grounded in the ideologies of critical pedagogy (Freire 1973), transformational learning theories focus on cognitive processes of learning, and how students construct meaning from experiences (Merriam and Caffarella

1999). Learning is a vehicle for change, “dramatic, fundamental change in the way we see ourselves and the world in which we live” (Merriam and Caffarella 1999: 318).

Discourse surrounding transformational theory centers on how to encourage learning so an individual’s perceptions and consciousness can be altered as that person is critically engaged (Merriam and Caffarella 1999). Education is the process through which the socialization of existing power relationships is perpetuated or transformed. It is “one place where the individual and society are constructed; a social action which can either empower or domesticate students” (Shor 1993: 25).

Two important theoreticians of transformational learning are Paulo Freire (1973) and Jack Mezirow (1995). The writings of Freire are adapted into a set of principles about how programs of education should be implemented to promote social change. Referred to as critical education, this philosophy encourages ensuring that the classroom is a democratic setting where everyone feels a responsibility to contribute to the learning agenda (hooks 1994). Mezirow approaches transformational theory from a learner-centred perspective. Transformational learning theory “is about how adults interpret their life experiences, how they make meaning,” (Merriam and Caffarella 1999: 319). As individuals work to change their meaning experiences, social change becomes possible (Clark 1993).

With an emphasis on behavior and social change, transformational theory is regarded as an important process through which a sustainable society can be promoted and secured (Orr 1994; Usang 1992; Clover 1995; 1996). Education becomes the mechanism through which more environmentally responsible behavior is developed and encouraged. According to Diduck (1999: 87), “[t]he essence of critical education is education and learning that facilitates public involvement in resource management, and,

thereby, empowers local communities to take greater control of resource use decisions that directly affect them.” This objective is developed through an education curriculum that reflects the relationship between the environment and the individuals within the program; fosters opportunities for individual praxis about the learning agenda; and, meets the learning needs and desires of the participants.

Critical education can also be applied to education surrounding EA. As with environmental education, critical education is regarded a process through which learners gather data and contemplate the substance of that information. Recognizing that both internal forces (individual experience) and external factors (community experiences) influence individuals (Palmer 1998), critical “EA” education includes learning about environmental assessment and learning through environmental assessment (Diduck and Sinclair 1997a: 305). Critical EA education should result in citizen empowerment and social action (Diduck and Sinclair 1997a: 305).

The evaluation of the success of critical education programs ultimately rests with the learner. Conscious design of information programs that promote individual and community empowerment is the first step; the strengths and weaknesses of program delivery must be undertaken from the perspective of participants. To this end, Mezirow’s theory of transformative learning provides a framework through which to understand the the nature of learning outcomes.

1.2 Purpose and Objectives

This research explored opportunities for critical EA education through environmental assessment. An examination of the opportunities for public participation in the Sable Island Panel Review documented what participants learned through their experiences, how that learning was facilitated, and what the impact of this learning

experience was on the subsequent actions and behaviors of participants. It also provided data through which the opportunities for critical education were identified and evaluated.

The central research question was: What opportunities for non-formal and informal education develop and are implemented throughout the course of an environmental assessment by Panel Review? This question was divided into the following sub questions:

- ✦ What are the characteristics and motives of EA participants? (Who are the learners? Why are they participating in the process? How are they participating in the process?);
- ✦ What are the dimensions of adult education in a panel review? (What types of programs are offered? Who is offering these programs? What is being taught?); and
- ✦ What are the dimensions of the learning experiences of EA participants? (What do participants learn? How do they learn this information? What are the impacts of this knowledge, if any, on the lives of learners?)

1.3 Case Setting: The Sable Gas Panel Review

Following the discovery of natural gas off the shore of Sable Island, a proposal to exploit the reserve triggered an environmental assessment including panel hearings. The Sable Island Panel Review was an environmental assessment of a proposed natural gas project situated in the Maritimes (FEARO 1983), carried out under the terms of the the Canada-Nova Scotia Agreement on Offshore Oil and Gas Management, and the federal Environmental Assessment and Review Process, in 1982. In December 1983, the panel recommended that the project could proceed, subject to thirty recommendations; despite these findings, the gas reserve was not developed at that time.

The development was under consideration again in 1995, as noted when the Daily Gleaner ran a story entitled "Sable gas study welcomed" (Newswire 1995). The project was a joint venture among Mobil Oil Canada, Shell Canada Limited, Imperial Oil

Resources, Limited, and Nova Scotia Resources Limited to extract six offshore reserves, and transport natural gas to a processing plant, to be built near Goldboro, Nova Scotia. The offshore component included “gas wells, platforms and sub-sea gathering pipelines, a main sub-sea pipeline for transporting gas and liquids to the mainland at Isaacs Harbour, a gas processing plant near Goldboro, and a subsurface natural gas liquids pipeline from the gas plant to a handling and shipping facility at Point Tupper,” (Sears 1997: 1). Gas would then be transported to markets in the United States through a pipeline constructed through Nova Scotia and New Brunswick by Maritimes and Northeast Pipeline Company [See Figure 1].

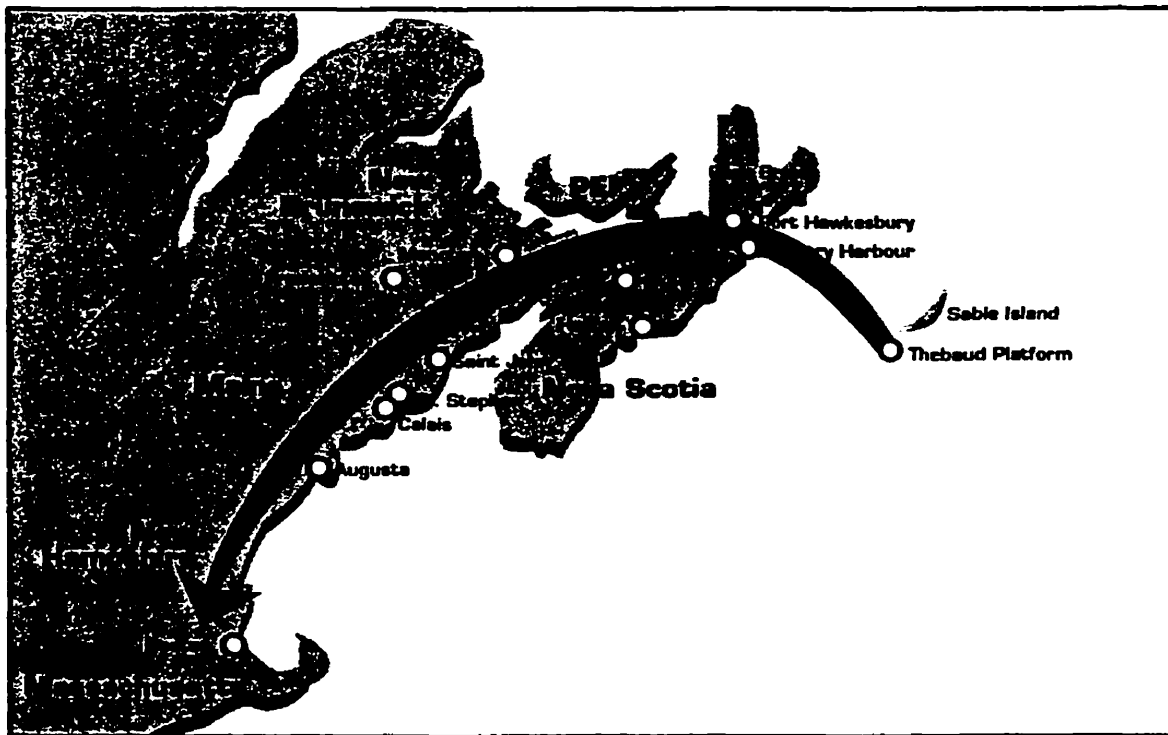


Figure 1: Map of development (MNPP 2001)

The proposal was subject to numerous regulatory regimes, and as such, triggered reviews under five different jurisdictions: the National Energy Board; the Nova Scotia – Canada Offshore Petroleum Board; the Province of Nova Scotia (the Nova Scotia Environment Act); the Province of New Brunswick; and the Canadian Environmental Assessment Act. The *Agreement For A Joint Public Review of the Proposed Sable Gas Panel Reviews* (hereafter “*Agreement*”) coordinated the requirements of each legislative regime.

The *Agreement* established the terms for the appointment of five panel members: two representatives of the NEB; one panel chair, to become a temporary member of the NEB, selected by parties to the agreement; one member appointed by Environment Ministers and the Canadian Offshore Petroleum Board; and one member appointed by the Environment Ministers (Section 5, CEA Agency 1997a: 115). In addition to outlining panel composition, the *Agreement* specified the terms of reference for the EA, the fundamental operating procedures for the Panel (so as to meet the needs of each EA regime), and the administrative matters related to Panel business. This *Agreement* provided the foundation for the assessment process, as outlined in Table 1.

**Table 1: Timelines of events in the panel review of the Sable Gas Panel Review
(developed from CEA Agency 1997a; Sears 1997)**

		Company Initiatives (Meeting with Landowners, Environmental Groups, Government, etc.)
June 1996	ENVIRONMENTAL ASSESSMENT	Application to the National Energy Board by the Sable Offshore Energy Project (SOEP)
July		"Agreement for a Joint Public Review" finalized. Includes Panel Terms of Reference and Draft Guidelines for the Environmental Assessment
August		Panel Chair Appointed
September		Panel Appointed
		Scoping Meetings (Offshore Project)
October		Application to the National Energy Board by Maritimes and Northeast Pipeline Company
		Scoping Meetings (On-shore (Pipeline) Project)
December		Directions on Proceedings Issued by Panel [Combining the two energy projects into one hearings process]
March 1997		National Energy Board hosts "How to be an Intervenor"
April		Hearings Commence
July	Hearings End	
October	Panel Decision	
		Regulatory Regime (Cabinet Decision, National Energy Board Lateral Hearings, etc.)

1.4 Significance of the Study

The findings of this study identify the strengths and weaknesses of public involvement programs as advanced by participants in a panel review process under CEAA. This critique could serve as a basis for ensuring that participants have a working understanding of the environmental assessment under review and the nuances of the formal hearings process. These findings may contribute to the development of future public involvement and education programs, as undertaken by the Canadian Environmental Assessment Agency.

The results of this study contribute to the evolving literature regarding the role of critical education in EA and environmental management. Understanding the existing scope of critical education within a panel review will provide the foundation for identifying opportunities for expanding the capacity of the existing EA process to facilitate learning by participants.

This research also applies the framework of transformative learning to the process of EA. The potential for and application of transformative learning in environmental assessment is currently being explored through the work of Sinclair (1998) and Diduck (2001). This research will advance our understanding of the opportunities for transformative learning in environmental assessment through the application of this theory in a specific case that includes an assessment by panel review.

1.5 Precepts

Before returning to university in 1999, I worked for the Department of Indian Affairs and Northern Development (DIAND) as Project Secretariat for the Comprehensive Study of the Diavik Diamond Project. Additional work experience related to environmental assessment includes the completion of an analysis of the role of

the DIAND in the BHP NWT Diamond's Project Panel Review. My undergraduate thesis, *The Role of Traditional Knowledge in Environmental Assessment*, was completed in 1998 in the Department of Anthropology, University of Waterloo. While these experiences guided the research design, they also serve as a measure for the potential perspective transformation experienced by the researcher.

This study is based on three assumptions surrounding the nature of EA and critical education. The first assumption establishes that EA is an effective tool for sustainable development. Following the work of Jacobs and Sadler (1990:171; as cited in Meredith 1997), environmental assessment is a necessary but not necessarily sufficient process for achieving sustainable development. As suggested by Meredith, environmental assessment provides industry, government and the public the opportunity for a “sober, second thought” about the true environmental, social, cultural and economic costs of a development initiative and an opportunity to minimize those cost before the project is undertaken. The negative impacts are, in theory, weighed against the perceived opportunity for future generations to meet their needs.

Secondly, it is accepted that public participation is a critical component of the EA process. In all democratic processes, members of the public have a voice in decision making (Zimmerman 1986). The degree of influence by any member of the public is subjective. Participation by interested parties allows for more robust data in the consideration of the impacts of the proposed project. Accessibility, in terms of public participation, may result in more transparent and public-friendly processes, which in turn may increase public acceptance of the assessment decision. Influencing the outcome through broad-based participation results in empowerment of participants. Given the

benefits of public engagement in decision making, this research supports increased public involvement in environmental assessment.

Finally, this research is based on the idea that critical education of stakeholders is both a precondition for and an outcome of effective consultation. To participate in democratic endeavors effectively, people must have knowledge of the issues surrounding the debate. The public must be cognizant of baseline information, and be able to reflect critically on the baseline data to eliminate, inasmuch as possible, the biases inherent in all data. A well informed and educated participant can contribute more effectively in the environmental assessment process.

1.6 Definition of Key Concepts

DECISION MAKING: Traditionally, when used in documentation related to EA that includes hearings, this term refers to the carefully selected action promoted by the Cabinet on whether a project can be developed (subject to specific terms and conditions). Panel members do not have the authority to make a “decision” about a project, they make recommendations to the government. *However, throughout this document, decision making refers to the process through which a panel comes to develop their recommendations.*

PUBLIC: Public refers to members of society who do not have an interest in a development as a result of their employment with the proponent, related industries or regulatory authorities. Thus unless otherwise stated, this term includes representatives of non-governmental organizations, and members of the community at large, who do not represent a specific interest group.

STAKEHOLDERS: The term stakeholders refers to individuals who were involved with the Sable Gas Project EA, including members of industry, the panel representatives of government, and the public.

1.7 Organization of Thesis

This thesis is arranged in seven chapters. Chapter 2 provides background information about the federal EA process, and introduces literature related to public engagement, critical education and transformative learning. Chapter 3 establishes the methodological framework and the specific methods employed in this study.

Chapter 4 explores the role of public engagement within the context of decision making in the Sable Gas project. This analysis forms the foundation for a discussion of how the public was engaged in this EA. What level of control did participants exercise over decision making in this process?

Chapter 5 discusses the role of critical education in an assessment that includes panel hearings. This chapter explores how public engagement programs can be designed to promote informed decision making by participants. Operational criteria through which these opportunities for critical education can be evaluated within the context of EA are introduced. These operational criteria are applied to the public engagement program utilized in the Sable Gas Panel Review. Did opportunities for public participation in the Sable Gas Panel Review promote critical education among participants? Chapter 6 examines the role of transformative learning through participation in the Sable Gas Project. While critical education focuses on the program of education, transformative learning theory emphasizes the individual learning outcomes of participants. The process and conditions through which transformative learning can develop are introduced and situated within the context of the assessment

process. The resulting criteria form the foundation through which the opportunity for transformative learning through the Sable Gas Panel Review is evaluated.

Chapter 7 examines the implication of these findings for the EA process. How does the analysis of public engagement, critical education and transformative learning contribute to a long-term agenda for implementing changes to the assessment process? Does the analysis of each of these concepts contribute to short- and long-term normative and strategic policy objectives for change? A summary of the findings of this research ensues. How can the assessment process continue engaging the public in assessment decision making, and, in kind, foster critical learning through EA? Complementing this summary is a brief examination of the process through which I, as the researcher, underwent perspective transformations with respect to my understanding of EA and the roles and responsibilities of EA participants in that process. Does this research contribute to a revised understanding of the assessment process from the perspective of a former government employee?

Chapter 2

REVIEW OF RELEVANT LITERATURE

This chapter introduces the three concepts – public engagement, critical education and transformative learning - which guided the analysis of the role of critical education in the Sable Gas Project. A brief summary of how federal EA is undertaken in Canada leads to an examination of discourse surrounding the assessment process. This examination is then refined to focus on opportunities for engaging the public in EA. Centered in the political framework of participatory democracy, public engagement is an important component of the EA process. Consideration of the breadth of participation and the relationship between education and effective participation provides a context for a review of the nature of public involvement in the Sable Gas Panel Review panel.

Cognitive educational theory provides the framework through which education and learning opportunities develop during the course of an assessment that includes hearings. Critical pedagogy (Freire 1973) contextualizes the examination of the structure of educational experiences, in terms of human differences (i.e. differences of race, class, and gender). Linked with the social-transformational philosophy of critical pedagogy, Mezirow's theory of transformative learning approaches understanding how and what people learn from a learner-centered, cognitive base. A discussion of this theory and related learning processes serves as a basis to move from an examination of the opportunities for critical education through EA to documenting the learning outcomes of participants.

2.1 Environmental Assessment

In Canada, EA is designed and implemented under the force of government legislation. Under certain conditions, established in environmental assessment acts, the government must ensure that EA is undertaken before a project is developed. Federal and provincial regulatory regimes facilitate different jurisdictional EA processes. The division of power between the provinces and the federal government in the Canadian Constitution does not provide absolute control over environmental issues to either level of government (Harrison 1996). As such, the application, scope, and requirements of an EA vary throughout the country, based on the location and the constitutional jurisdiction of the initiative.

2.1.1 The Canadian Environmental Assessment Act

The federal EA process is currently enacted under the terms of CEAA. At the present time, the federal EA process is triggered when federal government departments are proponents of, provide land to, contribute funding for, or issue leases or licenses for a project, as defined by the Act (Government of Canada 1995, section 5). The development of the current regulatory regime reflects the political, academic and social discourse over the thirty years since the implementation of the first assessment process.¹ Government discussion about this assessment process suggests that CEAA provide for (CEA Agency 1994)

- ✦ an early application of the EA process in project development;
- ✦ a planning process in pursuit of sustainable development through consideration of potential impacts before beginning an undertaking;

¹ The National Environmental Protection Act, the EA process utilised at the federal level in the United States, was passed in 1969 (Eccleston 1998). The first EA process in Canada was initiated four years later, in 1973.

- ✦ tiered assessment processes whereby projects associated with more complex impacts be subject to a more rigorous and comprehensive assessment;
- ✦ self-directed assessments that include, at a minimum, consideration of environmental effects of a project, including cumulative effects, evaluation of the significance of the impacts, and the application of technical and economically feasible mitigative measures; and
- ✦ public participation in large-scale EAs.

CEAA has been operational since 1995. To date, over 25 000 assessments have been completed under the Act (CEA Agency 1999). This figure includes fifty-two comprehensive studies (thirty-four completed) and eleven panel reviews (six completed). Numerous complexities have been associated with the implementation of this Act. These complexities are illustrated through the development of fourteen guides designed specifically to instruct government, industry, and the public about how to implement the Act, and numerous court challenges and judicial reviews of decisions² associated with EAs carried out under the terms of CEAA.

The effectiveness of the EA process as outlined by CEAA is an important consideration in environmental discourse. “Critical analysis of how well EA works is a pervasive, recurring theme in the literature of the field, present in one form or another in most contributions” (Sadler 1998: 30). Discourse surrounding federal EA can be divided into two categories: theoretical foundations, and practical applications. Discussion surrounding the theoretical framework includes:

- ✦ the history of EA (Estrin and Swaigen 1993; Hessing and Howlett 1997; Harrison 1996; Boardman 1992; Hazell 1999);
- ✦ the value of EA in the planning process (ESSA 1995; Sadar 1996);

² Examples of decisions reviewed by the Canadian court system include the Cheviot Mine, Sunpine and Diavik Diamonds Project.

- ✦ the purpose and general methodology of EA (Beanlands and Duinker 1983; Sadar 1996);
- ✦ the scope of the EA process (biophysical, social, cultural and economic) (Interorganizational Committee on Guidelines and Principles 1995; Westman 1985) and,
- ✦ the role of public participation in EA (Bush 1990; Parenteau 1988; Petts 1999).

Discourse related to application discusses the aforementioned theoretical concepts and includes a review of:

- ✦ the need for post hoc evaluation of the effectiveness of EA as a tool for encouraging sustainable development (Saddler 1998; Sadar 1999);
- ✦ the role of EA in the governmental decision making process (Meredith 1995);
- ✦ opportunities for public participation in EA (Bush 1990; Parenteau 1988; Petts 1999);
- ✦ methods for undertaking consultation (Sinclair and Diduck 1995; Diduck and Sinclair 1997a; 1997b) and,
- ✦ the role of critical education in EA (Sinclair and Diduck 1995; Diduck and Sinclair 1997a; 1997b; Diduck 1999).

Of primary importance to this research is discussion surrounding the nature of public participation in EA. This discourse is founded on a significant body of literature related to the principles and implications of participatory democracy.

2.2 Participatory Democracy

The premise of participatory democracy, active citizenship, has been recognized since ancient times, as Aristotle “placed greater faith in the collective wisdom of citizens than in the sanctity of any individual,” (Zimmerman 1986:1). Benefits of increased public involvement include increased baseline information (as government decisions may not adequately identify or resolve the problems of the populous); a greater acceptance of the project as more people become involved in the decision making; and a greater ability for the public to hold elected officials accountable as private citizens become more

informed about issues (Zimmerman 1986: 3). These benefits, however, weigh against the perceived costs of public engagement. Public involvement is associated with increased time in decision making processes and increased costs. Financial implications of public involvement also include increased costs associated with efforts required to educate the public about detailed plans, funds required to address demands of citizens for increased studies, and costs required to implement citizen initiatives which may be poorly drafted. Criticisms also suggest that the public is concerned only with local issues (i.e. their "backyard"), not reflective of regional or national issues. As such, self-identified participants may not be representative of the entire population, but only local interests related to an activity. Furthermore, some have suggested that the active public is representative of only select interests (i.e. industry, environmental), rather than the attitudes of the general public (Mitchell 1997).

According to Zimmerman (1986:1) "[w]hile there is agreement that citizens should play an informed and active role in the governance system, there is wide disagreement as to the forms and extents that citizen participation should take." The concept of citizen participation in governance is manifest in activities as diverse as voting for a representative on a particular level of government every four years, soliciting written comments from members of the public on a particular issue, and delegating management power of a resource to a co-management board established in conjunction with non-governmental organizations.

2.2.1 Public Participation in EA

The need for public participation in EA decision making is well established both in theoretical and applied assessment literature (Parenteau 1988; Webler 1995). In

addition to contributing to the general goal of individual empowerment, public participation improves the effectiveness of the EA process. Public involvement in EA decision making actualizes the principles of democracy (Gelhorn 1971; Fox 1979; Zimmerman 1986; Shepard and Bolwer 1997; Diduck 1999). It ensures that the project meets the needs of the public, in terms of both purpose and design (Pearce et al. 1979; Forester 1989; Tauxe 1995; Shepard and Bolwer 1997). Public involvement assigns legitimacy to a project because the assessment process appears to be transparent and provide avenues for conflict resolution for stakeholders (Chapin & Deneau 1978; Susskind & Cruikshank 1987; Shepard and Bolwer 1997; Diduck 1999). Public involvement provides a forum for the submission and inclusion of local knowledge in the EA decision. Finally, public participation provides for a more comprehensive consideration of factors on which decisions are based (Parenteau 1988; Webler et al. 1995; Shepard and Bolwer 1997).

The opportunities for stakeholders to influence project development is established and codified within the procedural requirements of specific EA processes. Ultimately, the scope of public involvement in an EA is based on the requirements of the legislative framework under which the initiative is developed. Despite this regional diversity, it has been observed that public involvement in EA decision making is nominal (Smith 1982; Shepard and Bolwer 1997). Rather than contributing to discussion surrounding if a project should be undertaken, an open forum through which the public may voice its opinions about development is frequently provided following the outcome of substantive decision making.

Smith makes a distinction between decision making authority and project-level input. "The predominant conception in the literature is one of participation as a means

to enhance and/or influence decision making, wherein the emphasis has been upon the direct involvement of persons affected by proposals, especially through the use of public hearings” (Smith 1982: 561). He suggests that the first problem with the public involvement process is that input is encouraged on a project-by-project basis. Little influence is put on the strategic planning or operational level of policy development (Smith 1982:561). Input is solicited at a nominative level, but stakeholders’ interests include the desire to influence overall policy direction. As a result, “the absence of early public involvement at the normative and strategic levels in planning has led to a tendency for public hearings at the operational level to become greatly expanded in scope and to develop into protracted debates over a wide variety of issues” (Smith 1982:562). Time allocated for the consultative process is utilized for debate surrounding broad-based policy issues, to the detriment of project concerns.

At the operational level of environmental assessment, opportunities for public involvement are frequently underutilized. Within a project cycle, the timing for public input related to an initiative is frequently ineffective. Provisions for including public comments into project design occur “too late in the decision making process to influence the selection of alternatives or key project variables” (Shepard and Bolwer 1997). At the assessment phase, the proponent has invested significant resources into project design; any significant changes to the overall proposal that could result in delays in the development timeline are unlikely to be implemented. Furthermore, the obligation for public consultation is restricted to one stage of the overall project cycle. For the most part consultation is situated within the context of project approval.

The timing of this public participation results in the preclusion of public input into the project design. Engineering plans are drafted and revised to mitigate potential

environmental impacts before the submission of the environmental impact statement. “There is insufficient public consultation and at too late a stage in the process,” (Centre for Longterm Environmental Action in Newfoundland 1999). The period during which a proponent is obligated to consult with stakeholders restricts the capacity of the public to influence project design.

Within the EA, the objectives of public involvement may vary depending on the stage of the assessment process (Petts 1999). The purpose and benefits of participating in the assessment also vary depending on the stage. For example, an objective of public engagement during the review of the environmental impact statement (EIS) includes the opportunity to discuss errors and/or omissions in the report – an activity that would be impossible to undertake before the development of the EIS. Table 2 identifies a variety of participation objectives at different stages of the EA.

Table 2: Survey of participation objectives at different stages of the assessment process (modified from Petts 1999: 155)

Stage	Objectives
Pre- Assessment	Public review about EA track. Alert potential stakeholders about possible development. Identify potential stakeholders.
Scoping	Identify potential stakeholders. Learn about other people’s interests and values. Inform stakeholders about the project proposal. Identify potential significant impact areas (valued ecosystem components) that must be addressed through the assessment process. Solicit opinions about timing of the assessment
Review	Provide for critical technical review of EIS. Identify errors and/or omissions in the assessment. Solicit public views as input to the decision
Decision	Final resolution of conflicts Solicit feedback on final decisions Optimize opportunities to enhance confidence in decision

As the purposes and benefits of public engagement differ in relation to the stage of the assessment, specific techniques or mechanisms employed in an engagement strategy foster varied degrees of influence over the decision making process by the participating public. Each mechanism has different implications in terms of individual and community empowerment in the assessment process (Arnstein 1969; Rocha 1997).

2.2.2 Degree of Participation

Arnstein (1969) recorded the hierarchical nature of public involvement in policy processes. In her now famous eight-rung ladder of citizen participation, Arnstein categorized different potential outcomes of citizen participation, and hence citizen power, in policy-making decisions in a hierarchical fashion. The eight classifications range from manipulation to citizen control; differentiation between categories is established through levels of citizen control over policy outcomes. The highest level of public empowerment through participation, “citizen control” is described as “the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future.” As noted by Petts (1999: 147), the stages of Arnstein’s ladder were not mutually exclusive. The ladder illustrated a “graded transition from knowledge to influence.” The first layers serve as a foundation for more engaged levels of participation.

Arnstein’s typology of citizen power has been applied to the concept of empowerment. In response to a growing body of literature promoting the ideals of empowerment, Rocha (1997) observed that while this term is well-used, it is frequently ill-defined. Rocha recognized that power experiences are motivated through different influential forces. As such, the principles of empowerment are described using a two by

two matrix; denotation is expressed through the source of power (self, others) and the object of power (self, others). These definitions are manifest in a ladder of empowerment, where rungs are distinguished by factors that include loci, goals, processes and power experiences (Rocha 1997: 34). The hierarchy of possibilities for citizen participation focuses on the emphasis of the power situation – lower rungs include individual or self-empowerment, while higher rungs embody community (political) empowerment. According to this literature, public participation in government initiatives provides an important vehicle for both personal and socio-political empowerment (Rocha 1997; Guevara 1996). This outcome, however, is tempered against the recognition that public consultation cannot be equated with empowerment. “Not all participation is empowering” (Guevara 1996). Empowerment evolves out of the ability of a group or individual to influence an outcome.

As expressed by Petts (1999), effective public involvement strategies are marked by a myriad of objectives, from education to joint planning. As such, a variety of techniques are employed to meet the different operational goals of involvement programs. To this end, public involvement research includes an examination of the strengths and weakness of tools commonly used to engage the public (i.e. advertising, workshops, etc.).

Praxis (1988) reviewed the function of fifty-three involvement techniques in terms of distributing information (Public Information), soliciting comments (Information Feedback), developing two-way communication (Consultation), providing an opportunity for a voice in decision making (Extended Involvement), and providing opportunities for joint decision making (Joint Planning). In the report’s discussion of advantages and disadvantages of mechanisms, Praxis acknowledged that one tool can

serve many operational functions. For example, interviews can provide an opportunity for the public to provide comments about an initiative and develop two-way communication between the proponent and the public. Mechanisms are ultimately classified according to “the approach which the technique most typically falls within,” (Praxis 1988: 57).

Mitchell (1989; 1997) evaluated the effectiveness of mechanisms for engaging the public in terms of representativeness, information in, information out, continuous exchange and ability to make decisions. Representativeness considers the ability of the method to engage a cross-section of interested and affected parties. The last four criteria echo the categories outlined by Praxis. Information in is comparable to public information, information out is tantamount to information feedback, continuous exchange is equivalent to consultation, and ability to make decisions includes extended involvement and joint planning. Tools are evaluated using a relative scale; for each criterion “poor”, “fair” or “good” is assigned.

My research combined the techniques promoted by Praxis (1988) and Mitchell (1989; 1997). It employed the Praxis method for classifying the function of the mechanism, but included consideration of the representative nature of the mechanism. Table 3 classifies consultation techniques by function, or degree of public influence, and indicates the representative nature of the mechanisms.

Table 3: Public involvement techniques classified by function (Praxis 1988: 59-60), or degree of public influence, indicating the representative nature of the mechanisms (derived from Mitchell 1989; 1997).

	Public Information	Information Feedback	Consultation	Extended Involvement	Joint Planning	Representativeness
Public Information						
Advertising	X					Fair
Brochures	X					Poor - Fair
Citizen Training Programs	X					Poor
Direct Mail	X					Good
Exhibits/Displays	X					Poor - Fair
Newsletters	X					Fair
News releases	X					Fair
Position Papers	X					Poor
Publications	X					Poor-Fair
Reports	X					Poor
Public Information Feedback						
Interviews		X	X			Poor-Fair
Polls		X				Good
Questionnaires		X				Good
Surveys		X				Good
Written Submission		X				Poor
Consultation						
Delphi		X	X			Poor
Dialogues			X			Poor- Good
Field Offices	X	X	X			Good
Large Meetings			X			Fair-Good
Open Houses	X	X	X			Fair-Good
Panels	X	X	X			Fair-Good
Phone Lines	X	X	X			Fair-Good
Public Meetings	X	X	X			Fair-Good
Technical Assistance	X	X	X	X		Poor
Town Meetings		X	X			Poor
Workshops			X	X	X	Poor-Fair
Extended Involvement						
Advisory Committees			X	X		Poor-Good
Task Forces			X	X		Poor
Joint Planning						
Arbitration				X	X	Poor-Fair
Mediation				X	X	Poor-Fair

Dialogue about the effectiveness, efficiency and fairness of public involvement in EA becomes more specific as the focus shifts to specific assessment tracks. As described above, the federal EA regime provides for tiered assessments. Along with providing additional consideration for larger, more controversial projects, the tiered approach provides for varied levels of public participation in the assessment process³.

Public involvement is at the discretion of the Responsible Authority for those projects subject to an environmental screening (s. 18(3)). Comprehensive studies require notification of the assessment, and the opportunity for public comment by letter about the review (s. 21(1)). Panel reviews make public involvement a mandatory component of the assessment process (s. 34(b)); this type of assessment is the focus of this research.

2.3 Critical Pedagogy

Critical education is a theory of teaching grounded in the philosophy of critical pedagogy. Introduced to the world by Paulo Freire in his seminal work, *Pedagogy of the Oppressed*, critical pedagogy is described as a “secular liberation theology” (Aronowitz 1993: 12). Working in the oppressive political environment of 1960s Brazil, Freire noted that power relations encoded in the cultural systems were perpetuated through educational processes. Students were treated as banks, where information was deposited, without opportunity for critical review. The banking method of education perpetuates oppressive ideologies by not encouraging critical analysis of ideas. “Projecting an absolute ignorance onto others, a characteristic of the ideology of oppression, negates education and knowledge as the process of inquiry.” (Freire 1973: 53). As education, according to Freire, is political in nature (Shor 1993: 27); traditional

³ CEAA establishes the minimum levels of public involvement but the Responsible Authority may endeavor to undertake consultation beyond these base requirements on its own initiative.

methods, through which discourse is indoctrinated within the student, promote hegemonic ideologies.

Critical pedagogy responds to this oppression by encouraging a form of education in which the teacher and students are critical co-investigators in learning. Through a process of action, critical reflection and action, called praxis, a learner can work to overcome the political power relationships manifest in traditional teaching techniques. Education becomes a venue for emancipation or empowerment of both the student and educator when the praxis of identities, theories and teaching methods are encouraged. "This pedagogy makes oppression and its causes objects of reflection by the oppressed, and from that reflection comes the necessary engagement in the struggle for their liberation" (Freire 1973: 33). Critical pedagogy encourages – even requires – conscious consideration of traditional power structures implicit in the content and mechanisms of traditional educational systems.

Transformational learning theories apply the ideologies of critical pedagogy to designing, implementing and understanding the process of directed and experiential learning. These theories support three precepts: "a view of human beings as free and responsible, an understanding of knowledge as a personal and social construction, and a belief in a liberal democratic vision of society" (Clark 1993: 55). The goal of adult learning is *conscientization*, a change in consciousness brought about through critical reflection on the nature of our assumptions (Merriam and Caffarella 1999). Critical consciousness develops through the act of praxis. "Transformative learning posits experience as its starting point and as its content for reflection. Engaging the life experience in a critically reflective manner is a necessary condition for transformation," (Merriam and Caffarella 1999:332). Experience is the starting point for learning;

reflection about that experience provides an opportunity for a critical assessment of assumptions. The magnitude of *conscientization* is significant. “[T]ransformational learning *shapes* people; they are different afterward, in ways both they and others can recognize,” (Clark 1993: 47). Learning, therefore, serves as a vehicle for personal (Mezirow) and social (Freire) change.

Although critical pedagogy was developed in the context of non-formal adult literacy classes, experiences related to any learning opportunity may serve as a catalyst for personal praxis, and lead to *conscientization*. “Freire has opened a frontier of liberating education which we will have to develop in our own places, on our own terms, in our own words,” (Shor 1993: 35). Given the emphasis on experience, transformational learning can influence the development and implementation of *formal, non-formal* and *informal* educational opportunities. Human interaction in the global environment extends opportunities for learning outside academic institutions (Merriam and Caffarella 1999:21). *Formal* learning takes place within an institutional setting (i.e. university, college, etc), in a process which generally leads to the conferment of some form of recognition for participation. *Non-formal* learning concerns learning through participation in a structured class, outside a formal academic environment. *Informal learning* arises from everyday experiences of life.

2.3.1 Critical Education

Critical education is the manifestation of the philosophy of critical pedagogy in terms of opportunities for *formal* and *non-formal* education. While recognizing the scope of critical pedagogy as a philosophy, working to implement the tenets of this paradigm in terms of the delivery of programs of education is important. Shor (1993) provides

guidance in the form of ten descriptors of critical pedagogy, listed in Table 4. Described as an agenda of values, this list serves to refine the concept of critical pedagogy, and guide educators on how to develop programs that subscribe to this theory. The ten descriptors espouse the principles behind critical pedagogy, and detail mechanisms through which an individual's consciousness may develop. Methods promoting this theoretical framework reflect these ideals through an interactive and co-operative development of an educational curriculum (Shor 1993: 33).

Table 4: Descriptors of Critical Pedagogy (adapted from Shor 1993).

Term	Applied Description
Participatory Situated	Education is interactive and cooperative in nature Information and education reflect the social environment of the students.
Critical Democratic	Self-reflection and social analysis should be promoted in all discussion. Educators and learners should work together to develop the learning agenda.
Dialogic Desocialization	Learning methods should emphasize discussion. Education should encourage active participation in education, thereby desocializing a student of passive educational techniques.
Multicultural	According to Shor (1993: 34), the educational curriculum should be "balanced for gender, class and race."
Research- Oriented Activist Affective	The teacher studies the identity of student; and students are encouraged to participate in similar lines of inquiry that relate to their lives. The classroom encourages both active and passive learning. The discussion focuses on the holistic development of identity, including individualistic feelings and socially constructed mechanisms for the management of those emotions.

The application of the tenets of critical education to the design and implementation of formal and non-formal education is extensive. Many authors who work on adult educational theory cite Freire as a guiding force in their research activities. Indeed discourse related to critical (e.g. Brookfield (1987), Knowles(1970)), feminist (hooks 1994) and postmodern education theory (e.g. Aronowitz and Giroux (1990),

McLaren and Giarelli (1995)) draw on a number of philosophies, but recognize indebtedness to Freire (Merriam and Caffarella 1999: 341).

In addition to implications for educational discourse, critical education has interdisciplinary implications. Researchers working in the field of environmental education frequently adopt this theory to guide their pedagogical endeavors. Environmental education often involves pedagogical discourse designed to affect behavioral change in individuals so as to promote sustainable livelihoods. This strategy links:

man's interaction with the biophysical environment and his ability to resolve biophysical environmental problems. Thus an environmental educator must have not only a basic understanding of the environment, but also a basic understanding of man (Swan 1974: 25).

Theories related to environmental education arise from the fusion of ecological and social bodies of knowledge. Environmental education programs are premised on the idea that "information, knowledge, concerns, and awareness – all of which can be fostered by educational efforts – will lead to behavior change" (Finger 1994:141-2). Therefore, education is a technique for facilitating discussion surrounding the fragility of the ecological environment, so as to encourage ecological responsible actions within society. Education becomes "a practice that helps create a deeper understanding of the inter-connectedness of all life, supports human nature inter-reaction as a critical component of the learning process, recognizes that 'the way education occurs is as important as its content'" (Orr 1992: 91).

Finger (1994) raises questions regarding the success of environmental education in terms of promoting environmentally responsible behavior. He suggests that whereas in traditional environmental educational models, an absence of action following learning

is rationalized through the notion of social dilemma⁴, in practice, apathy is the prevalent outcome of education. The more people know about environmental degradation, the less they do to prevent it. His research notes that on a global scale, concern about environmental issues is high; however, socially responsible behavior is low. Finger promotes a model of environmental education that recognizes that an individual is situated within a worldview. Actualization of sustainable development, therefore, cannot be based solely on learning, but must also affect an individual's experience.

Finger's observations about educational experience reflect the principles of critical educational theory. Critical education promotes the process of dialogue as a mechanism for social transformation.

Within the word [dialogue] we find two dimensions, reflection and action, in such radical interaction that if one is sacrificed – even in part – the other immediately suffers. There is no true word that is not at the same time a praxis. Thus to speak a true word is to transform the world (Freire 1973: 68).

According to Freire, to sacrifice the process of action results in an exercise in verbalism; similarly, to sacrifice the process of reflection results in an exercise of activism. Only through praxis (action, reflection) does a change of consciousness develop. Thus, as Finger (1994) suggests experience is an essential component for modifications in an individual's behaviors, so too does critical education recognize the importance of action.

The concepts explored through critical education are explored in theories of environmental education centered in the critical tradition. According to Palmer (1998: 14), promoters of a socially critical basis for environmental education suggest

⁴ According to Finger (1994: 142), a "social dilemma" suggests that "because the individual understands that his or her individual pro-environmental behavior is not going to make a difference unless a majority of fellow individual behave similarly" that person chooses not to modify his or her actions.

[e]nvironmental education should ideally involve students, teachers and community agencies in collaborative investigations of real environmental issues in their local environments. These investigations... seek to uncover and make explicit values and vested interests of the individuals and groups who adopt positions with respect to the issue.

Models for planning environmental education are based on a framework of teaching *about* the environment, *from* the environment, and *for* the environment, and include knowledge about human activities that are cause for *concern* about the human relationship with the environment. This *concern* leads to individual *experiences* with the environment and the development of personal *action* to modify environmentally destructive behavior (see Figure 2).

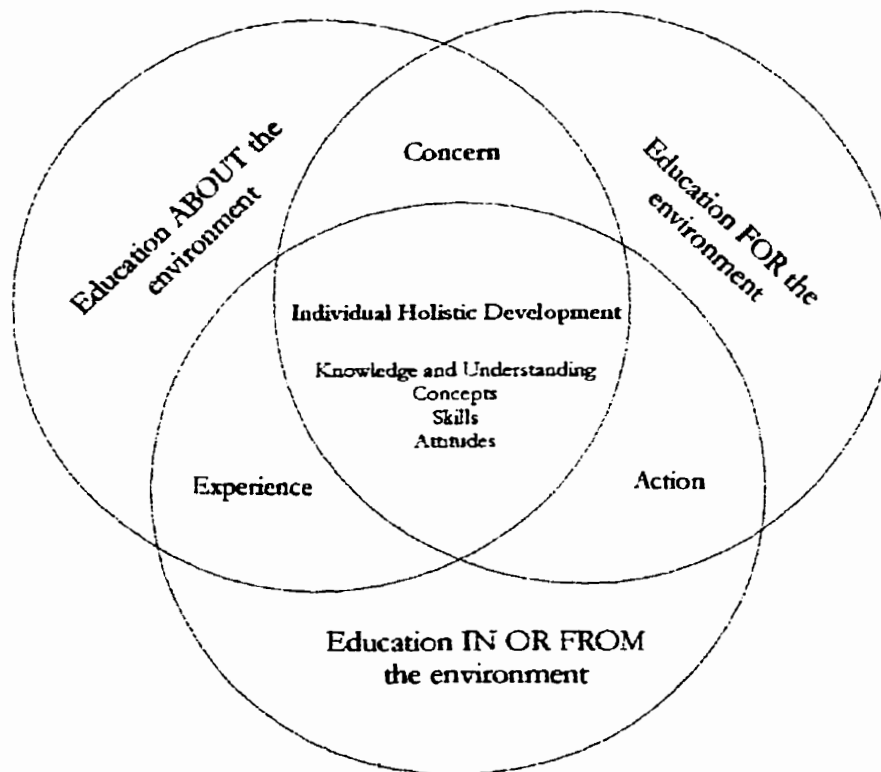


Figure 2: Model for teaching and learning about environmental education (Palmer 1998: 145).

As critical education has a role in environmental education, so does critical education have a role in environmental management. “[Critical EA Education] is an

attempt to apply selected concepts from environmental education (along with ideas from transformative learning and participatory democracy) in a new context, namely public involvement in resource and environmental management” (Diduck 1999:3). In this context, critical EA education works to facilitate public participation in EA through the provision of information about the assessment process, and about the specific project. This tool encourages a transformation in the consciousness of individuals by promoting critical self reflection of EA material. Working to empower individual and communities, critical EA education provides an impetus for social change.

The curriculum of critical EA education reflects these broad concepts. To this end, Diduck and Sinclair (1997a: 305) crafted a working definition of critical EA education.

Critical environmental assessment education should encompass both ‘education about environmental assessment’ and ‘education through environmental assessment’ and should result in citizen empowerment and social action

The adoption and implementation of critical EA education is the focus of research by Sinclair and Diduck (1995; Diduck and Sinclair 1997a; 1997b; Diduck 1999). Their research looks at the capacity for, and the implementation of critical EA education under CEAA. Absent from this discourse, however, is an examination of the role for critical EA education in the Panel Review process. This research, therefore, reviewed the capacity for and implementation of critical EA education in a panel review.

Critical education and transformative learning work as complementary theories in promoting critical adult learning (see Figure 3). In terms of historical development, transformative learning was both influenced by and complements Freire’s philosophy of critical education. Both theories work to develop cognitive models of learning that foster a critical understanding of the nature of information, identified as an essential

component for promoting broad scale change in the learner. To achieve this objective, both frameworks identify conditions, or circumstances of a critical learning environment⁵.

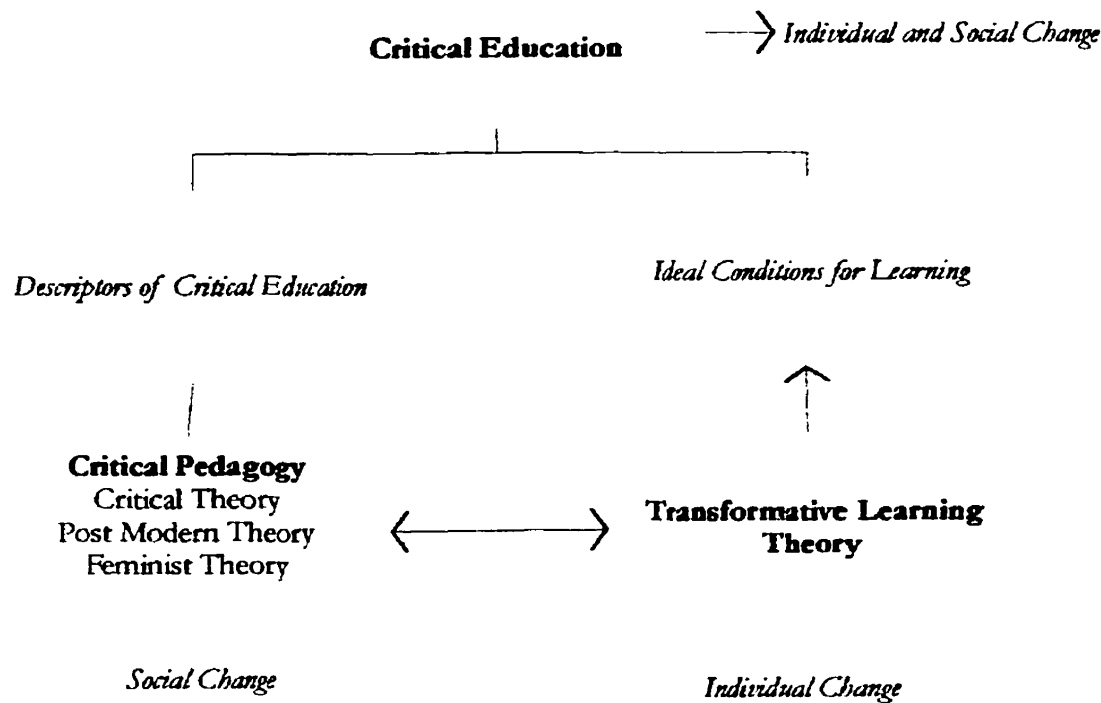


Figure 3: Understanding the relationship between learning theories.

Critical education and transformative learning theories differ in terms of focus. Freire’s philosophy is education centered; critical education focuses on the design and implementation of the learning program. Transformative learning theory is individual-centred; Mezirow focuses on the process through which perspective transformations develop. Transformative learning recognizes the context through which learning must

⁵ Descriptors of critical education are detailed in Chapters 5 and 6. “Ideal” conditions for transformative learning are described below.

develop, but gives greater consideration to the individual cognitive experience (MacDonald et. al 1999).

These different approaches to learning are complementary. Critical education can be used to evaluate the program design, however, the success of the program in terms of promoting change rests with the learner. As such, transformative learning theory provides a framework for understanding the impact on the learner, of participation in an EA.

2.4 Transformative Learning Theory

According to Cranton (1997), transformative learning, as developed by Mezirow, is a theory of adult development and a derivative concept of adult education. This theory examines how adults interact within the context of their surrounding social conditions, and from this postulates how these interactions relate to adult learning. In the course of daily life, adults engage in activities that must be *understood* in order to ensure appropriate and effective action. In the act of providing a coherent framework through which to understand our experiences, one gives that experience meaning. “Meaning is an interpretation, and to make meaning is to construe or interpret experience – in other words, to give it coherence,” (Mezirow 1991: 4). Meaning, the interpretation of different events, is developed through each individual’s frame of reference (Sinclair and Diduck 2001). This cognitive context comprises two dimensions: meaning perspectives (broad, generalized, orienting predispositions) and meaning schemes (specific beliefs, meanings, attitudes, and value judgments) (Mezirow 1996: 163; as cited in Merriam and Caffarella 1999:319).

Learning is the “process of using a prior interpretation to construe a new or a revised interpretation of one’s experience in order to guide future actions,” (Mezirow

1996: 162; as cited in Merriam and Caffarella 1999: 319). Learning includes revisions or reconstructions to an individual's meaning schemes and/or meaning perspectives.

Adjustments to the latter cognitive context, an individual's assumptions and beliefs, are labeled perspective transformations. Through a process that includes experience, critical reflection, discourse and action, learning serves as the tool through which individuals change meaning schemes, and meaning perspectives, and perhaps experience a perspective transformation.

2.4.1 Perspective Transformation

While all learning is important, perspective transformation, or changes to an individual's meaning perspectives, is a focal part of the transformative learning theory. Whereas changes to an individual's meaning scheme are an almost daily occurrence, as, for example, one discovers how to correctly pronounce a foreign leader's name, or learns to use a new computer program, changes to a meaning perspective involve a more concentrated effort. Perspective transformations involves a process that includes an extensive period of self-reflection. As we are faced with new events, we first attempt to construe meaning from these activities in our existing epistemological framework; as these paradigms fail to provide a sufficient basis through which to understand an event, we can deny or postpone understanding the problem, or can address our inadequate paradigms (Merriam and Caffarella 1999). According to Mezirow (1991: 167),

[p]erspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand and feel about our world; changing these structures of habitual expectation to make a more inclusive, discriminating, and integrative perspective; and finally, making choices or otherwise acting upon these new understandings.

Perspective transformation is a critical component of adult development. The revised meaning schemes that result from this process of critical reflection are “more integrative of life experience and is more discriminating, inclusive, and permeable than the replaced meaning perspectives,” (MacDonald et. al 1999:6). Individuals become emancipated from ideologies that have constrained their learning experience, and in an outcome similar to Freire’s critical pedagogy, become more actively engaged in the learning experience.

2.4.2 Learning Process

Mezirow outlines a process through which learning develops, in the context of changes to an individual’s meaning perspective (see Figure 4). This seven stage process is initiated through a *disorienting dilemma*, requiring *self-examination* by the individual, who then undertakes a *critical assessment* of his or her assumptions. As the learner comes to recognize that *other people* have gone through a similar process, they explore *alternative meaning perspectives*. The learner then develops a *strategy for change*, which is *implemented*. Although these stages are outlined in a cyclical order learners may experience these stages in a non-sequential order.

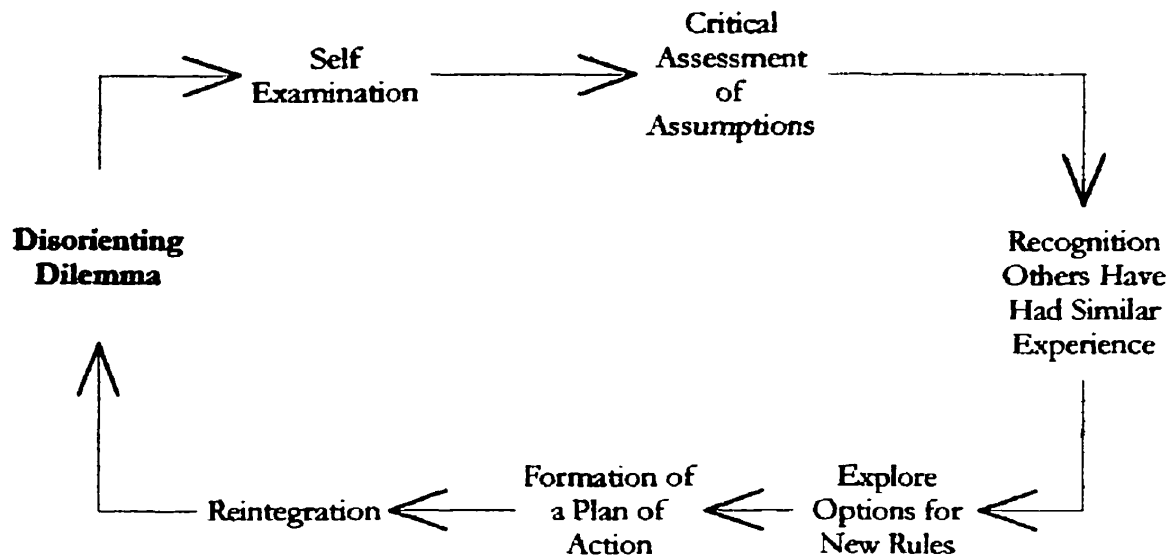


Figure 4: Mezirow's (1995) process of transformative learning.

Beyond thesis dissertations, to date, Mezirow's process of transformative learning has not been *extensively* empirically corroborated (Taylor 1997; Cranton 1997; MacDonald et al 1999). One study which explores the process through which individuals experience perspective transformation was undertaken by Macdonald et. al (1999). Examining the process through which individuals made the decision to become vegan for ethical reasons, Macdonald et. al. (1999: 11) determined "transformative learning is more a journey and less of a decision at one point in time.... Transformative learning is shown to be a process." The learning process experienced by participants of this research rely not on a disorienting dilemma, as promoted by Mezirow, but rather on a continuous, critical assessment of self-awareness which participants struggle to implement through behavioral change (see Figure 5).

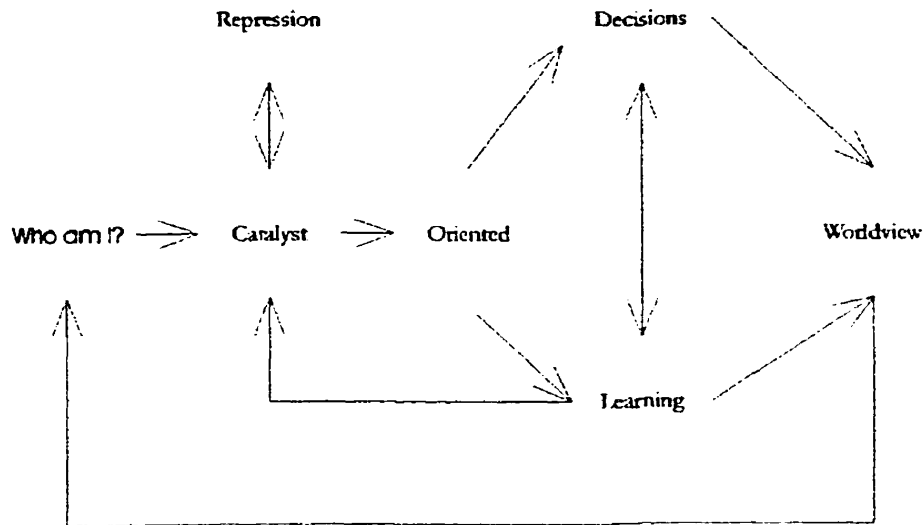


Figure 5: MacDonald et. al's (1999) reconceptualization of Transformative Learning..

2.4.3 Conditions for Learning

As with all transformational learning theories, the context of the learning experience is critical to the individual's learning outcome. To this end, Mezirow's theory of transformative learning promotes six 'ideal' conditions for fostering perspective transformation:

- ✦ Accurate and complete information
- ✦ Freedom from coercion
- ✦ Openness to alternative perspectives
- ✦ Opportunity to critically reflect upon presuppositions
- ✦ Equal opportunity to participate; and,
- ✦ Opportunity to have arguments evaluated in a systematic fashion.

Similarities may be drawn between these 'ideal' conditions for learning, and the descriptors of critical education, explored above. Table 5 links the ideal conditions for learning with comparable descriptors of critical education. Both set of criteria postulate factors of programs design conducive to the cognitive learning of students. While

program design marks the end of the analysis of opportunities for critical education in an assessment that includes hearings, this point serves as the start of the discussion of understanding opportunities for transformative learning.

Table 5: Relationship between "Ideal" conditions for learning and descriptors of critical education.

"Ideal" Condition	Descriptor of Critical Education
Accurate and complete information	Situated (Information and education reflect the social environment of the students)
Freedom from coercion	Democratic (Educators and learners should work together to develop the learning agenda.) Critical (Self-reflection and social analysis should be promoted in all discussion)
Openness to alternative perspectives	Democratic Dialogic (Learning methods should emphasize discussion.)
Equal opportunity to participate	Desocializing (Education should encourage active participation in education, thereby desocializing a student of passive educational techniques.)
Opportunity to have arguments evaluated in a systematic fashion	Desocializing

2.5 Conceptual Relationship

Each of the three concepts examined in this study offer independent bodies of knowledge. A specific framework for analysis is developed within the context of each model, and the Sable Gas Panel Review public involvement program is evaluated in terms of opportunities for public engagement, critical education and transformative learning, respectively. Traditionally, studies that focus on public engagement through EA do not *have* to explore opportunities for critical education or transformative learning. Likewise, examining the opportunities for transformative learning did not require an extensive analysis of critical education or public engagement

However, these three theories are explored in this research because they represent a continuum for considering the development of programs of public

involvement in decision making. As the public has increased control over issues addressed through the EA process, opportunities for participants to become more critically informed about assessment issues must be developed to ensure increased effective participation. Critical education and transformative learning consider the design and implementation of adult learning in formal, informal and non-formal settings. Within these different contexts, transformational theories of education promote the empowerment of students with respect to scope and design of learning programs. Therefore, for critical education and transformative learning to be actualized within the assessment process, participants must have more control over decision making about the nature of the assessment process.

2.6 Summary

The chapter began with a review of the literature related to the purpose of EA and how this process is implemented in the federal context. A discussion of the ideals of participatory democracy and how this political belief is enshrined in EA emphasized the inclusion of requirements for public participation in certain assessment processes. Conceptual frameworks related to the nature of public participation explored varying degrees of powers ascribed to the general public in the decision-making process, both in terms of when public engagement is initiated and the tools used to solicit public comments about a project. The timing of public involvement and specific tools that may be used to engage the public during an assessment that includes hearings were profiled.

Following a discussion of public engagement, the philosophy of critical pedagogy, as promoted by Paulo Freire was reviewed. Descriptors, useful for the application of this theory to the development and implementation of learning programs

were described. Complementing the theory of critical pedagogy, transformative learning focuses on the individual learning process through which changes to one's meaning perspective develop.

As discussed above, critical education and transformative learning originate within discourse surrounding education (see Freire 1973; Mezirow 1991; 1995; and Merriam and Caffarella 1999). Recent cross-disciplinary research promotes consideration of cognitive learning strategies in the design, implementation and review of environmental education (see Palmer 1998; Orr 1992; Clover 1995; 1996), public involvement related to environmental policy (Alexander 1999) and, of specific importance to this research, environmental assessment (Diduck 1995; 2001; Diduck and Sinclair 1997a; 1997b; Sinclair and Diduck 1995; 2001). The literature does not, however, explore operational frameworks for the qualitative analysis of opportunities for critical education in any hearings process.

As a result, my research contributes to the discussion of methodological considerations of cognitive learning theories within EA through the development of indicators of critical education specific to the federal panel review process. It also contributes to a growing body of empirical studies aimed at evaluating the role of cognitive learning in EA.

Chapter 3

METHODOLOGY

As discussed in Chapter 1, the purpose of this research was to explore the opportunities for critical EA education through participation in an environmental assessment by panel. The broad theoretical basis of this research reflects the ideological concepts of a qualitative analysis. A qualitative study "is defined as an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants and conducted in a natural setting" (Creswell 1994:1-2). Analysis, therefore, is based on a search for common experiences, indicated by patterns within the data (Bernard 1994: 360).

Primary data collection emphasized the use of semi-structured interviews to record the experiential observations of panel participants. This form of survey was selected because it allows participants to express themselves in their own terms about the specific research topic, yet control of the interview process, in terms of lists of topics that must be reviewed, is maintained by the researcher (Bernard 1994:209). This information was complemented with a document review of case files related to the Sable Gas Project, and a review of literature related to environmental assessment, environmental education, participatory democracy, critical education, and transformative learning.

3.1 Case Selection

At the time this research was initiated, five panel reviews had been completed under the auspices of CEAA. A brief description of each of these panel review processes is provided in Table 6. Six criteria were identified for selecting an appropriate panel review process for this study. The factors considered in case selection included:

- ✦ the type of legislation under which the panel was convened, with the preeminence of the Canadian Environmental Assessment Act being considered more favourably;
- ✦ the accessibility of data related to the panel review, with data available on the internet being considered advantageous;
- ✦ the scope of participation in the panel review, with greater interest by a broad public representation being regarded more desirable;
- ✦ the language of the environmental assessment documents and participants, with a predominance of English being regarded essential;
- ✦ the accessibility of participants, where fewer hearing locations (and by extension, access to participants of those hearings) being considered more favourably; and,
- ✦ the date of the panel review, with more recent cases being considered more favourably.

The application of these criteria to panel reviews identified three potential case studies. The Red Hill Creek Expressway Panel Review, the Little Bow Panel Review, and the Sable Island Panel Review ranked first, second and third, respectively, of six potential cases. The Red Hill Creek Expressway Panel Review was soon eliminated from consideration, as this assessment process has been halted due to litigation before the hearing stage of the process. The public hearings constitute a pivotal function in the assessment process for engaging the public in a dialogue about the development initiative. As such, this stage of the environmental assessment is of great significance in understanding the role of critical education in the panel review process.

Table 6: The purposes of the five panel reviews completed under CEAA

Express Pipeline Project	An assessment of the impacts of the construction and operation of an oil transmission pipeline in southern Alberta.
Sable Gas Panel Review	An assessment of the impacts of the construction and operation of an offshore natural gas development and offshore and onshore pipeline through Nova Scotia and New Brunswick.
Terra Nova Project	An assessment of the impacts of the construction and operation of an offshore gas development and marine transportation to markets.
Little Bow Project	An assessment of the impacts of the construction and operation of a water management project to convey and store water primarily diverted from the Highwood River.
Voisey's Bay Project	An assessment of the impacts of the construction and operation of a nickel-cobalt-copper mine and mill.

Corroboration of information concerning case selection was sought following identification of the two potential cases (Little Bow Panel Review and the Sable Island Panel Review). Interviews with personnel from the Canadian Environmental Assessment Agency familiar with the potential cases were undertaken. The purpose of these interviews was three-fold, namely, to confirm the choice of an appropriate case for studying the role of critical education in environmental assessment; to identify opportunities for public education in the assessment process, in particular the review hearings; and to determine what role education played in the specific Panel Reviews. Based on these discussions, the Sable Island Panel Review was selected as the most appropriate case. When I approached individuals at the Agency regarding the nature of the interviewing I wanted to do, or the nature of my study, the overwhelming choice was Sable Island as a case study. Three important factors were identified to justify this decision, namely, the nature of the assessment process, the regional context, and the nature of the development initiative.

3.1.1 The Nature of the Assessment Process

The nature of the assessment process addresses the standard procedures utilized by the panel to undertake the EA decision. Although the purpose of EA is uniform and consistent across Canada, the methods through which the assessment is undertaken vary by jurisdiction (CEA Agency 1994). The scope of the assessment, the nature of public participation, the degree of legalistic administration of the public hearings, et cetera, differ process by process. While all EAs subject to CEAA must fulfill the legislated criteria of the Act, the methods through which these criteria are met remain flexible (s. 14). For example, in the case of a panel review, section 34(b) of CEAA states a public hearing must be conducted but the nature of the hearings process – informal, quasi-judicial or judicial – may be negotiated in the development of harmonization agreements (s. 40-42).

In terms of case selection, the nature of the assessment process favoured the Sable Island Panel Review. As noted by study participants, the Little Bow hearings reflected the requirements of the *Alberta Environmental Protection and Enhancement Act*:

Little Bow was largely driven by the Alberta environmental assessment process. The Agency was part of the joint environmental assessment, but didn't influence much of the process (John).

The assessment process for Little Bow was subsumed by the harmonization agreement. This agreement enshrined the Alberta Assessment process (Nancy).

Research participants felt that the Sable Island Panel Review, although a hybrid process based on the requirements of four assessment regimes (the Canadian Environmental Assessment Act, the National Energy Board, the Canada Nova-Scotia Offshore Petroleum Board and the Province of Nova Scotia), was more reflective of the spirit and process of the Canadian Environmental Assessment Act. The Little Bow

Panel Review, although meeting all the critical CEAA requirements, for all intents and purposes followed the process of the Alberta Government.

3.1.2 The Regional Context

Understanding the regional context of the environmental assessment was identified as an important consideration when considering which panel review to study. According to one participant, case selection should consider the location of the environmental assessment (geographical location in Canada), and the implication to the historic federal-provincial relations .

The political atmosphere in the Maritimes was described as casual, more relaxed. This attitude both contributed to a “good” EA process and will likely mean that participants are more willing to participate in my study.

3.1.3 The Nature of the Development Initiative

The nature of the development initiative deals with the type of project that was proposed within the context of the development history of the area. Unusual project proposals, for example, one that uses a new technology or has never been undertaken in the cultural or physical region, generally sparks more interest than those with known technologies or impacts. This interest often translates into increased public participation, and in turn, increased learning opportunities for participants, particularly those who have not previously participated in an environmental assessment process.

The Sable Panel was the first large-scale assessment of oil and gas in the Maritimes. As such, this panel may have had a more notable impact on participants.

I would advise you to select Sable as a case study. Sable Island involved the development of a new energy source for the Maritimes. It was a major development project; it involved extensive changes to the existing

socio-economic environment of the region. This project had a big impact. When this assessment began, the public didn't understand the project, or the assessment process.... There was a broad base of participation by the public. Their knowledge of the environmental assessment process at the outset of the review was minimal - the EA provided a greater learning opportunity in this respect (John).

The Little Bow panel review, conversely, dealt with a continuum of dam and diversion projects in the West.

Interest in the Little Bow Panel review was very localized. Public interest wasn't as broad as the Sable Panel Review (John).

The impact of this assessment process in terms of learning by participants may not have been as transparent.

3.2 Data Collection

The theoretical framework for this research centred in two disciplines, Environmental Science and Education. Within these disciplines, a review of literature focused on environmental assessment, environmental education, participatory democracy, critical education, and transformative learning. The results of this literature review are provided in Chapter 2. Empirical research related specifically to the case study. Sources of information included the Sable Gas project public registry, and semi-structured interviews with participants of the hearings, as described below.

3.2.1 Public Registry

Information about the Sable Island Panel Review was housed in various locales across the country. The Canadian Environmental Assessment Agency in Ottawa maintained the Panel Hearing Transcripts in the public registry. The National Energy Board Library in Calgary stored all the evidence submitted to the Panel during the hearings process, including the Environmental Impact Statement, documents related to

the Environmental Assessment Process (i.e. minutes of the Scoping meetings), and intervenor evidence. Finally, individual members of the public and local institutions in the affected area held much of the public record regarding the Sable Island Environmental Assessment. Individuals and non-governmental organizations also maintained records of their activities related to the environmental assessment, including press releases, newsletters, workshop minutes, and survey results. In some cases, these records included extensive records of media coverage. Complete records of print media coverage available at different library branches across Nova Scotia, New Brunswick, and Prince Edward Island complimented these private collections⁶.

3.2.2 Survey Design

The research protocol utilized for this study drew on protocols developed for contemporary studies exploring the nature and function of learning through participation in the Canadian EA process (Diduck 2001; Sinclair 2001). Survey designs from earlier studies were modified to reflect my voice and attitude and the purpose of my research study. Since interviews were undertaken in a semi-directed fashion, participants were encouraged to discuss their experiences openly. The protocol was designed to ensure that the researcher recorded robust data in relevant categories. Questions were posed to encourage discussion on certain topics.

Two schedules were developed for use in this research (see Appendix B). One protocol was designed for Panel members, members of the Panel Secretariat and Industry; the second protocol was employed with members of the public. In

⁶ For example, the complete record of the Chronicle Herald was available at the Dartmouth Branch of the Halifax Public Library System, while the complete record of the Daily News was stored at the Spring Garden Branch.

undertaking the survey design, consideration was given to the potential uses of information collected. The relevance of each potential response, as related to my understanding of public participation, critical education, and transformative learning, was considered.

3.2.3 Sample Selection

The identification of research participants was facilitated through the application of six criteria established by Kirby and McKenna (1989:98) for identifying people who have the experience I sought to understand. In terms of *experience*, potential research participants were selected from the list of registered interveners in and facilitators (panel members, members of the Panel Secretariat and government employees) of the Sable Island Panel Review hearings. With respect to *geography*, participants in the Sable Island Panel review were grouped within two spheres, sectoral and regional. Sectoral participants included those whose interest arose from their participation in the energy sector, generally representing industry and governments outside the Maritimes. Regional participants included those whose interest rested on the specific project, and were generally situated within the Maritimes. As the primary focus of this research was to explore the nature of learning by the public within the environmental assessment process, research focused on members of the public and people employed by environmental non-governmental organizations, non-governmental organizations and governments within the regional sphere.

In terms of *contactability*, potential research participants were restricted by the ability of the researcher to locate participants of the panel review process, a challenging task given that the Sable Island Panel Review was completed three years prior to the

commencement of this research initiative. *Responsiveness* established what would be considered a statistically significant sample of participants to ensure that robust data were available for analysis. *Responsiveness* was continually evaluated throughout the field season, as consideration was given to both the scope of data offered by participants and time available to meet with people. With respect to *willingness*, only those who expressed informed consent were included in this study. Potential candidates were, for the most part, informed about the study through letter or electronic correspondence. This initial contact was followed up by a telephone call to establish *willingness* to participate in the study. Finally, *variety* established the need for representative participation from different interest groups, including (Government, Industry, Non-Governmental Organizations, and the public).

3.2.4 Implementation

Informal interviews were conducted with twenty-five participants over a four-week period in November 2000. Participants from a cross-section of interest groups were approached to discuss the Sable Gas Panel Review Panel review. Figure 6 identifies the affiliation of participants in the study. The location of the interviews, selected by participants, predominately consisted of offices and coffee shops in Greater Halifax, Antigonish, Saint John and Fredericton. Meetings lasted between thirty minutes and one hour.

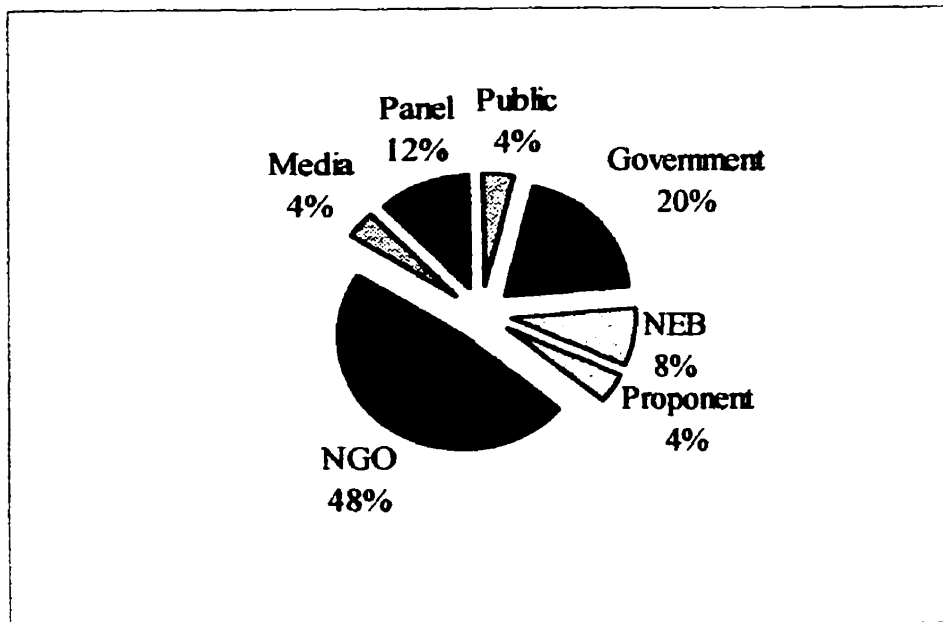


Figure 6: Affiliation of participants in this research.

3.3 Data Analysis

With permission of participants, most of the interviews were recorded on audio-cassette, and transcribed, verbatim. This process was used to ensure a comprehensive record of meetings. Data were then coded by interview question, and entered into a database developed in Microsoft Access. The structure of the database is illustrated in Figure 7. The map provided in this figure illustrates the type of information stored in the database, and the relationship between data tables. For example, as responses to individual questions were provided in confidence to the researcher, each participant in the study was assigned a code name in the Contact Table (ID). This name is used for all subsequent reference to the participant (see Reference number in the Arrangement and Data Tables), both in the database, and throughout this document.

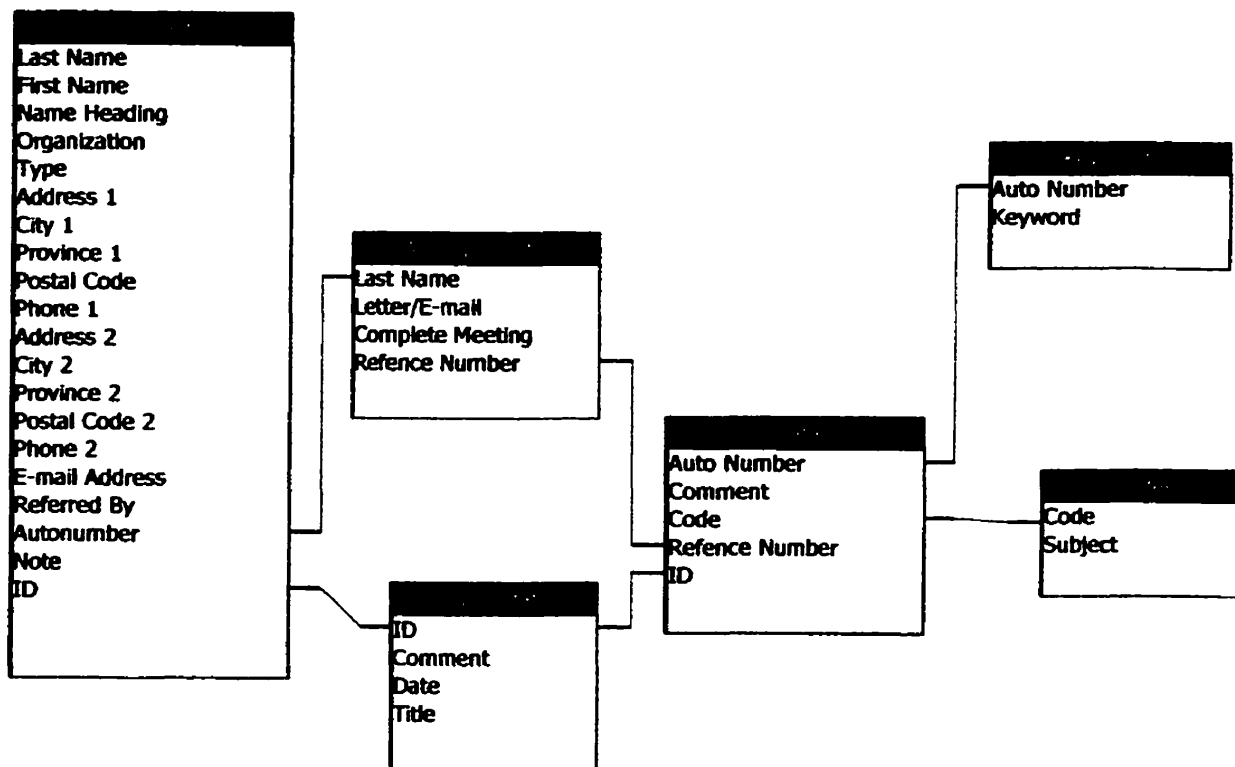


Figure 7: Qualitative information database structure.

Keywords were added to each entry to provide a grouping of like-issues by operational definition. For example, if the interview related to the contribution of participants to the scoping meetings, the key word “Participatory2” was assigned. This layered approach allowed for the grouping of like-ideas, to provide an opportunity to consider emergent themes in the dataset. Although no numerical indication of the frequency of each theme is given, the points of view identified in my study reflect the data. When non-representative views were evident, ideas were included in the discussion.

3.3.1 Trustworthiness

According to Merriam (1998: 198), the trustworthiness of a qualitative study is founded on ethical investigative techniques, and establishing the validity and reliability of the findings. This research was conducted in accordance with the Natural Resources Institute ethics committee at the University of Manitoba. Participation was undertaken on a voluntary basis; respondents could refuse to answer questions, or withdraw from the study at any time. During the process of data collection, participants were, at no time, subject to manipulation. All participants were aware of the research objectives; and, assured of the confidential nature of responses. These circumstances contributed to level power relations between me, the researcher, and participants.

Given the small, non-random sample of participants, the purpose of this research was not to try to generalize much beyond the population that I discuss. What factors may have contributed to the lasting impressions of participants? Is it possible to identify common experiences, or relationships between the assessment events, and learning outcomes? Is it possible to identify any circumstances, that, if changed, would provide an hearing environment more agreeable for all involved, and more conducive to desired learning outcomes?

According to Merriam (1998: 202) “[o]ne of the assumptions underlying qualitative research is that reality is holistic, multidimensional, and ever-changing.” This consideration is of particular importance to my study, given the lapse of time between the completion of the Sable Gas Project and this research. Participants’ recollection of the hearing may have blurred. Individual interpretations of events and related learning experiences may have changed as they were faced with subsequent life experiences. This circumstance would have been a consideration with all potential case studies. The long-

term relationship between learning outcomes and the panel experience identified by study participants offers a view of the learning experience tempered through praxis.

Consideration of research criteria was undertaken through the development of themes based on dialogue with participants. Internal validity of the findings was protected through the use of three strategies:

- ✦ triangulation: multiple sources of data, including the responses of multiple participants, and multiple data sets (interviews, transcripts, hearing exhibits) were utilized in evaluating each criterion;
- ✦ interview reliability: although member checks, the opportunity for participants to review case notes, was not employed, interviews were recorded and transcribed to ensure data reliability. Furthermore, participants had the opportunity to contact the researcher if they had concerns about information provided through the interviews. Indeed, one participant e-mailed the researcher to clarify his response to a question; and,
- ✦ establishment of researcher's bias: section 1.5 establishes the researcher's assumption and theoretical orientation.

Chapter 4

PUBLIC ENGAGEMENT

In this chapter, opportunities for public engagement in the panel process are reviewed. Specific tools employed by different sectors participating in the assessment are examined in terms of the level of dialogue encouraged by each method. This analysis, complemented with a discussion of participant perceptions of public involvement in the EA, provides the foundation for discussing the character of the overarching public involvement program employed in the Sable Gas Panel Review.

4.1 Panel Review Process

As described in Chapter 2, one of the four processes available under the terms of CEAA is an assessment by panel review. If, following the application of mitigation measures, significant residual environmental effects are predicted, or if public concern related to a project is significant, in accordance with section 25 of CEAA, the responsible authority may request the Minister of the Environment refer the project to a panel. This process encourages active engagement of the public throughout the assessment. A unique component of a panel review, however, is the utilization of hearings as a mechanism to engage the public.

Hearings represent a hybrid process combining the mechanisms identified by Praxis as “large meetings” and “panels”. As with large meetings, hearings involve a potentially large number of people from the public, who voice their questions, concerns and opinions about a project. The hearings, therefore, become an avenue to foster discussion about the potential environmental impacts and mitigation tools for the

proposal. However, as with the mechanism identified by Praxis as “panel”, the ultimate authority rests with a group of appointed experts to develop recommendations for consideration by the federal cabinet.

The formality of each hearing is governed by the panel terms of reference. CEAA promotes the use of hearings that involve informal presentations, followed by opportunities for questions and answers. The benefit of this “relaxed” atmosphere is that it encourages members of the general public, perhaps not skilled in presenting formal evidence, to participate. If the process is not adversarial, people could feel less intimidated. The Agency has, however, entered into several harmonization agreements, including the agreement signed for the Sable Gas Panel Review, which necessitate a quasi-judicial process. This procedure outlines how “witnesses” present expert evidence to the panel, under sworn testimony, and are cross-examined by registered stakeholders, called intervenors. The benefit of a formal process is that cross-examination serves as a measure or test of the validity of evidence presented.

In addition to hearings, a panel review undertaken in accordance with CEAA provides five opportunities for public consultation. These opportunities include (modified from CEA Agency 1997)

- ✦ **scoping:** This process is an exercise to identify environmental, social, cultural and economic issues related to the assessment process. Scoping may include public meetings and/or solicitation of written submissions. Where scoping has been undertaken for previous proposals in the region, these meetings may be cancelled.
- ✦ **EA Guidelines:** The public has an opportunity to provide written comments about the draft EA guidelines. This may be facilitated through the scoping process, or through a request for written comments.
- ✦ **environmental impact statement:** The public is encouraged to submit written questions about the environmental impact statement to the Panel.

- ✦ **information meetings:** Meetings about the Environmental Impact Statement are designed to inform the public about the content of the assessment.
- ✦ **submission of Panel Report to the Minister of the Environment:** The public is given the opportunity to provide written comment to the Minister of the Environment following the submission of the panel report.

Numerous stages within the panel review process do not require public involvement. These stages include:

- ✦ **establishing the Panel Review Timelines:** Panel members develop the schedule for the assessment process in compliance with the *Procedures for an Assessment by a Review Panel* (CEAA 1997b), but independent of input from community members.
- ✦ **drafting of the Panel Report:** Although the public may provide comments to the Minister of the Environment regarding the final panel report, there is no provision for public participation in the drafting of this report.

The submission of written material to the panel secretariat, and testimony at public meetings are highlighted by the *Procedures for an Assessment by a Review Panel* (CEA Agency 1997b) as key methods through which public input is solicited. However, numerous tools may be employed to engage public discussion about a project in preparation of and concurrent with the formal assessment process. Sinclair and Diduck (1995) and Diduck and Sinclair (1997a; 1997b) identified fifty-three methods for educating the public about an environmental assessment. Through my research, three techniques have been added to this list. Table 7 illustrates the various mechanisms through which the public may be engaged in the review.

Table 7: Public involvement techniques according to format (from Sinclair and Diduck 1995; Diduck and Sinclair 1997b: 80)

Audio/ Visual/ Electronic	
✦ Computerized participation	✦ Slide Presentations
✦ knowledge based systems	✦ Film Presentations
✦ information retrieval systems	✦ Video Tape
✦ interactive computer software	
Traditional Publishing (printed) (verbal)	
✦ Publications	✦ Brochures
✦ Newspaper Inserts	✦ Notices
✦ Feature Articles	✦ Position Papers
✦ Reports	✦ Newsletters
✦ Information Kits	✦ Central Depositories
✦ Decisions and Reasons	✦ Translation
✦ Plain Language Legislation	✦ Posters
✦ Photonovel	✦ Manuals
Direct / Individualized	
✦ Direct mail	✦ Phone Lines
✦ Field Offices	✦ Technical Assistance
✦ Direct E-mail	
Media	
✦ Public Service Announcements	✦ News Releases
✦ News Conferences	✦ Advertising
✦ Call-in Television	✦ Talk Radio
✦ Coverage of Hearings	✦ Interviews
Public Presentations/ Events	
✦ Workshops	✦ Conferences
✦ Panels	✦ Open Houses
✦ Exhibits/Displays	✦ Contests
✦ Simulation Exercises	✦ Song Contests
✦ Meetings	✦ Town Hall Meetings
✦ Dialogues/ Coffee Klatches	✦ Brainstorming
✦ Speakers Bureau	✦ Special Event Days
✦ Discussion Group Conferencing	
Formal Education	
✦ Integration into Existing Curricula	✦ Discussion in Literacy Program

4.2 Panel Activities

As discussed in Chapter 1, the procedures used to conduct the Sable Gas Panel Review reflected the requirements of four assessment processes. The hybrid process, outlined in the *Agreement*, included the following components:

- ✦ provisions for presentations at scoping meetings and written submissions about the scope of the review and deficiencies in the proponent's application (sections 7 - 9);
- ✦ an obligation to hold information meetings to inform the public how to participate in the hearings process (section 7);
- ✦ prior to the commencement of hearings, a written process whereby intervenors submitted questions to the proponents and other intervenors about evidence on the public registry (section 11); and,
- ✦ requirements for two types of Hearings: *informal hearings* whereby presentations by the public were considered as oral "Letters of Comment" and, *formal hearings*, following the National Energy Board adversarial procedures (section 13).

In addition to activities governed by the harmonization agreement, opportunities for public participation in the Sable Gas Panel Review were provided through various events hosted by the proponents and non-governmental organizations, held in conjunction with the review. A survey of education techniques employed by the Panel Secretariat, the proponents, and the public, classified by format, is provided in Table 8.

Table 8: A survey of activities undertaken by various participants in the Sable Gas Panel Review Panel Review.

Activity	Secretariat	Industry	Public
Public Information			
Advertising	✓	MNEP	Clean Nova Scotia
Brochures	✓	MNEP SOEP	EAC
Coverage of Hearings	✓		EAC Media
Direct E-mail	✓		EAC
Direct Mail	✓	MNEP SOEP	
Exhibits/Displays		SOEP	
Feature Articles			CCNB EAC
Information Kits		SOEP	
Manuals	✓		
News Conferences	✓		
News Releases	✓		
Newsletters	✓		EAC SJCCA
Newspaper Inserts		MNEP	
Notices	✓		Clean Nova Scotia
Position Papers & Research Reports		MNEP SOEP	AEHA Clean Nova Scotia EAC MEAT MPLA SJCCA
Posters			Clean Nova Scotia
Videotape			MEAT
Public Information Feedback			
Central Depositories	✓		EAC Clean Nova Scotia
Computerized Participation			
-electronic publishing	✓	SOEP	EAC
Decisions and Reasons	✓		
Interviews	✓		
Polls / Surveys		SOEP	Clean Nova Scotia MEAT
Written Submission		MNEP SOEP	AEHA ARDC Clean Nova Scotia CREED CCNB EAC HRDC MPLA MEAT Salmon Association SJCCA WWF

Continuous Exchange			
Delphi Process			MEAT
Field Offices	✓	MNEP SOEP	
Meetings	✓	SOEP	Clean Nova Scotia EAC Salmon Association
Open Houses	✓	MNEP SOEP	
Panel	✓		
Phone Lines	✓	SOEP	
Presentations		MNEP SOEP	Clean Nova Scotia
Technical Assistance	✓	MNEP	
Workbooks			Clean Nova Scotia
Workshops	✓		

Acronyms employed in the table are as follows: MNEP (Maritime and Northeast Pipeline); SOEP (Sable Offshore Energy Project); AEHA (Allergy and Environmental Health Association of Nova Scotia); ARDC (Antigonish Regional Development Corporation); CNS (Clean Nova Scotia); CREED (Coalition for Responsible Economic Development); CCNB (Conservation Council of New Brunswick); EAC (Ecology Action Centre); HRDC (Halifax Regional Development Corporation); MMPLA (Maritime Pipeline Landowners Association); MEAT (Millwood High School Environmental Action Team); SJCCA (Saint John Citizens for Clean Air); and WWF (World Wildlife Fund).

4.2.1 Scoping and Information Meetings

Scoping and information meetings in the Sable Gas Panel Review provided interested publics an opportunity to comment on the scope of the environmental impact statement. They permitted the public to identify deficiencies in the National Energy Board application, and learn about how to participate in the review (Panel Secretariat 1996). Two clusters of scoping and information meetings were held. In September, meetings related to the offshore project were held in five communities. The second round of meetings, held between December 3rd and 11th in thirteen locations across Nova Scotia and New Brunswick, related to the onshore pipeline. Separate scoping sessions were undertaken as per the panel's terms of reference. When the panel was first struck, the offshore and onshore components of the pipeline were treated as distinct projects. Although one group of people would form the panel who judged the impacts

of each “project”, all panel activities related to the onshore project were to be undertaken independent of offshore events. Following the scoping meetings, the panel decided to consider the impacts of the gas project in its entirety, holding one set of hearings to consider both on- and off-shore components of the project.

In addition to meetings, written submissions related to the scope of the assessment were accepted by the Panel. Sixteen submissions in total were received – thirteen documents related to the offshore project, and three documents related to the onshore project.

4.2.2 Written Submissions

As discussed above, written submissions were permitted in two forms, letters of comment, and submissions to the panel. Letters of comment included all material submitted by members of the public wishing to voice an opinion about the project. Authors were not registered as participants in the hearing process, and may or may not have attended any or all of the 54 days of hearings. Data submitted in this form were not subject to cross-examination. However, this mechanism provided an essential opportunity for members of the interested public to register their comments about the project in an unprolonged manner.

All registered intervenors submit written documentation related to the evidence they wish to be discussed before the panel. As noted by Praxis (1988), this method of engaging the public is beneficial for encouraging public information feedback. When used as a foundation of testimony at hearings, written submissions become a starting point for continuous exchange as participants negotiate and/or debate contentious issues. These submissions to the panel, however, were more rigorous and subject to

cross-examination at the hearings. For positions to ultimately be acknowledged as valid, the evidence had to be supported by sound research principles. In this context, written evidence, followed by cross-examination, was used to evaluate the strength of the positions of each group. One participant in the hearings highlighted the strengths of this approach:

You do get accountability which I haven't seen in other processes. And that means accountability that the proponents were cross-examined, and the environmentalists were cross-examined, and everybody was cross-examined (Samantha).

As formal submissions were subject to cross-examination, intervenors were required to attend the hearings on the days their areas of interest were to be discussed. This represents a time intensive activity, to which only a select group of individuals could contribute.

4.2.3 Hearings

The primary tool for engaging the public in an EA by panel review is public hearings. This interactive experience can “result in raising new issues, clarifying points and making the views of various interests visible” (Praxis 1988: 100). In the Sable Gas Panel Review, hearings provided an opportunity for the public to hear, discuss, and in some cases debate the merits and impacts of a proposed project in front of a “jury” of technical experts appointed by the government. The panel was then charged with developing suitable mitigation measures to address outstanding concerns related to the project.

Before commencing formal hearings, two days of informal hearings were held in Moncton, New Brunswick and Antigonish, Nova Scotia. Informal hearings served to mediate the concerns of the general public related to participating in a quasi-judicial

hearing. These meetings were included in accordance with s. 54 of CEEA which states that harmonization agreements must be consistent with the provisions of the Act. Evidence presented at informal hearings was given the same standing as "letters of comment" under the National Energy Board Rules of Practice and Procedure, and in accordance with the Panel Terms of Reference, individuals were permitted to make representations at either the informal or formal hearings.

Halifax and Fredericton served as the location for thirty-nine and fifteen days of formal hearings. In accordance with the National Energy Board practice, participants in the formal hearings were required to register as intervenors. The National Energy Board Rules of Practice and Procedure (1995) define an intervenor as

- (a) an interested person who establishes an interest in a proceeding pursuant to section 28,
- (b) a person who files an answer to a complaint pursuant to section 19,
- (c) where two or more applications are the subject of a single proceeding, an applicant with respect to each other application in that proceeding, or
- (d) a purchaser of gas who files an objection with the Board pursuant to section 29;

Intervenor status is sought through a written submission that includes the name of the proposed intervenor, the name of the person who will represent the intervenor, and a summary of what interest the individual has in the hearing. In spite of the publicized deadline of January 9, 1996 to register as an intervenor, all individuals or organizations who made a case to the Sable Gas Panel were granted status, regardless of the date of application.

And our hearings had one hundred and twenty-five intervenors. They ranged from individuals, who were individual workmen who really had nothing to say other than to talk about their own particular interests, right on up to big corporations. And so of the 125 intervenors, there were probably 55 or 60 that were regular participants in the hearings, the

others registered, but they were there just simply to act if the need presented itself rather than acting in a regular fashion. And we had a full range. We had NGOs like Ecology Action Centre, World Wildlife Fund... and there were some other coalitions – Clean Air Coalition, Clean Nova Scotia, and so forth. So that we had a wide range of NGOs, we had a wide range of big corporations, we had private citizens and we had other institutions. Also Aboriginals were all represented. So there was a full gamut. To put it to you another way, not a single person who requested intervenor status was denied (Tracy).

Questions and responses filed by intervenors before and during the hearings were recorded in the National Energy Board record of proceedings, and, as such, became part of the formal record of proceeding.

The extensive hearing schedule for the Sable Gas Panel Review represents a record number of days for hearings convened under CEAA. Taking over four months, this mechanism was certainly the most important tool for engaging the public. Preparation for participation in this activity resulted in a flurry of activity by industry and non-governmental organizations to research the impacts of this project.

4.3 Industry and Non-Governmental Activities

Beyond participation in panel-sponsored activities, members of the public may have engaged in activities hosted by the proponents or non-governmental organizations. Information about these activities was collected through reviewing documentation from the case and interviewing participants. It is important to acknowledge that this list of activities may not be comprehensive. Given the time lapse of four years between the completion of the hearings and my research, it was impossible to contact all participants in the environment assessment. Furthermore, the long interval between the assessment and the review may have affected the ability of participants to recall specific details about their daily participation in and perceptions of the hearings. However, a review of panel

records and dialogue with participants indicated that numerous methods were employed throughout the assessment process.

4.3.1 Media Coverage of Hearings

As the Sable Gas Panel Review was the first major development of natural gas in the Maritimes, interest in the assessment was extensive. This interest is illustrated not only in the record number of registered intervenors in the hearings process, but also in an analysis of media coverage of the EA. In two metropolitan newspapers in Nova Scotia - the Chronicle-Herald, and the Daily News – between August 1996 and October 1997, 162 articles about the project were filed. Combined with coverage in the national press and local papers throughout the Maritimes, 372 articles about the Sable Panel were found. Daily coverage of the assessment during the hearings was frequently featured in all metropolitan newspapers.

Media coverage, including print, audio and visual coverage, was an important mechanism for ensuring that the public had knowledge of the assessment process and daily hearing activities.

[M]edia was [the] primary way stakeholders learned about the assessment process, although a lot of these people are plugged into petroleum things, so they knew (Samantha).

The hearings were widely publicized. As I said, at some points, hearings were covered by six media organizations (Brian).

According to Praxis (1988), this device is an effective tool for ensuring that the public is informed about activities. Media coverage is also effective in reaching a wide audience, representing many segments of the population.

Comprehensive media coverage should cover the entire scope of the assessment discussion, and reflect different points of view. According to participants, print media, indeed, did represent a variety of issues.

As the hearing went on, [coverage included] a variety of issues. There were environmental issues, political issues, strict business issues, personality conflicts... the issues kind of really ran the gamut (Brian).

However, an analysis of print media surrounding Sable Gas illustrated that coverage, while touching on each of the areas described by participants, focused primarily on economical and political issues. A breakdown of story topics is illustrated in Figure 8. It is important to acknowledge that although media coverage of the assessment focused primarily on political and economic issues, a few key authors, like Stephen Bornais of the Daily News and Judy Mydren of the Halifax Chronicle Herald, presented articles about environmental concerns, technical issues (i.e. the components of the project) and active participants in the hearings. A sample of headlines focusing on the social and environmental impacts of the project is presented in Table 9.

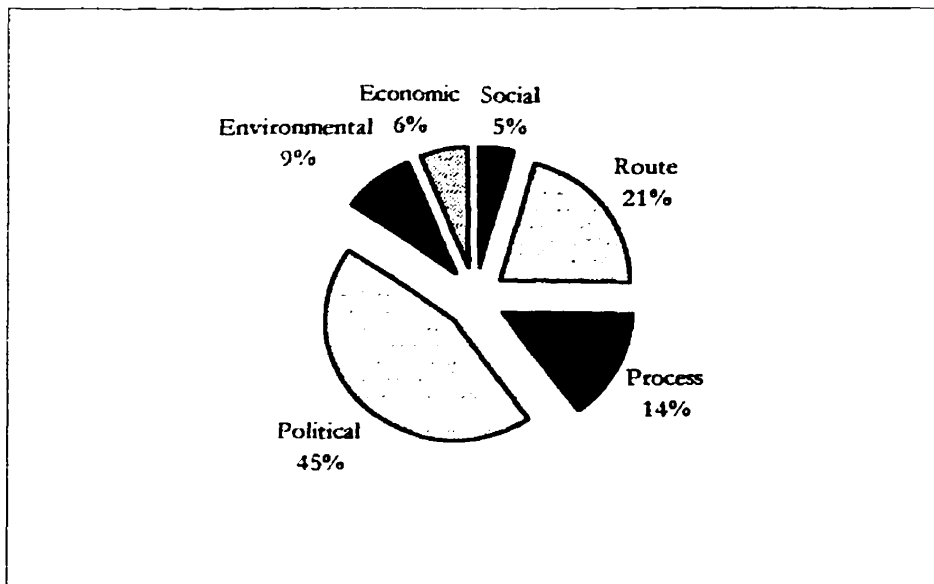


Figure 8: Subject area of media coverage of the Sable Island Panel Review.

Table 9: A sample of headlines for stories covering environmental and social issues related to the Sable Gas Panel Review.

Headline	Author	Paper	Date
Few Sable gas pipeline gains for Nova Scotia greens say (Sable Offshore Energy Project)		Halifax- Chronicle- Herald	970123
The Outsider: David Thompson of Conservation Council says Sable Island gas hearings are alienating and discouraging citizens from learning about how the project could affect them	Giselle Goguen	Telegraph Journal	
Pipeline proposals need more public consultation	Allison Connell	Telegraph Journal	971023
Environmentalists prepare pipeline barrage Worries about project to be aired at regulatory hearings	Daniel Arsenault	The Mail-Star	970405
What about '29 Earthquake? Disaster like last one could wreck pipeline, says lawyer	Stephen Bornais	The Daily News	970415
Public airs concerns about pipeline project Meetings covers issues from jobs to health	Judy Myrden	Halifax- Chronicle- Herald	961204
Public Meeting Slated for gas pipeline project	Steve Harder	Halifax- Chronicle- Herald	961204
Divers worry gas pipeline could hurt historic wreck	Steve MacLeod	Halifax- Chronicle- Herald	961107
Hearing focuses on drill duct	Judy Myrden	Halifax- Chronicle- Herald	970422
WWF Executive wins battle of Gully. Gas project lawyer fails to stop questions in area	Judy Myrden	Halifax- Chronicle- Herald	970423
Noise from Gas exploration could disturb whales -- expert	Judy Myrden	Halifax- Chronicle- Herald	970424
PIEA to salve salmon aired	Judy Myrden	Halifax- Chronicle- Herald	970506

4.4 Analysis of Tools for Fostering Public Engagement

By far the majority of techniques employed by all three groups of organizations focused specifically on dissemination of information. Over fifty percent of the thirty-three tools identified are classified by Praxis (1988) as useful for developing “Public Information”. These tools include advertising, mailings and various media activities. The remaining forty-nine percent of the techniques illustrate an attempt to encourage dialogue between the government and the public. Six techniques are classified as primarily useful for promoting “Public Information Exchange” and ten are classified as encouraging “Continuous Dialogue”. No activities recorded through this research reflect a strong attempt to encourage extended involvement or joint decision making with participants, although the use of technical assistance and workshops can promote these goals.

Figure 9, 10 and 11 illustrate the range of public engagement techniques employed by the government, industry and non-governmental organizations, respectively. Included in these figures are visual representations of the representative nature of each group of engagement tools. While groups may not have selected strategies to educate the public based on Mitchell’s analysis of “Representativeness”, mechanisms employed ensured access to a cross-section of the population in the region.

As illustrated by these figures, extensive effort was made by all groups to engage members of the public in the assessment debate. As noted in Table 8, most methods for educating the public were employed by more than one interest group. This tripartite approach allowed for different points of view to be represented within a variety of venues. For example, residents of Guyborough could attend meetings hosted by the Panel, proponent, or environmental organizations.

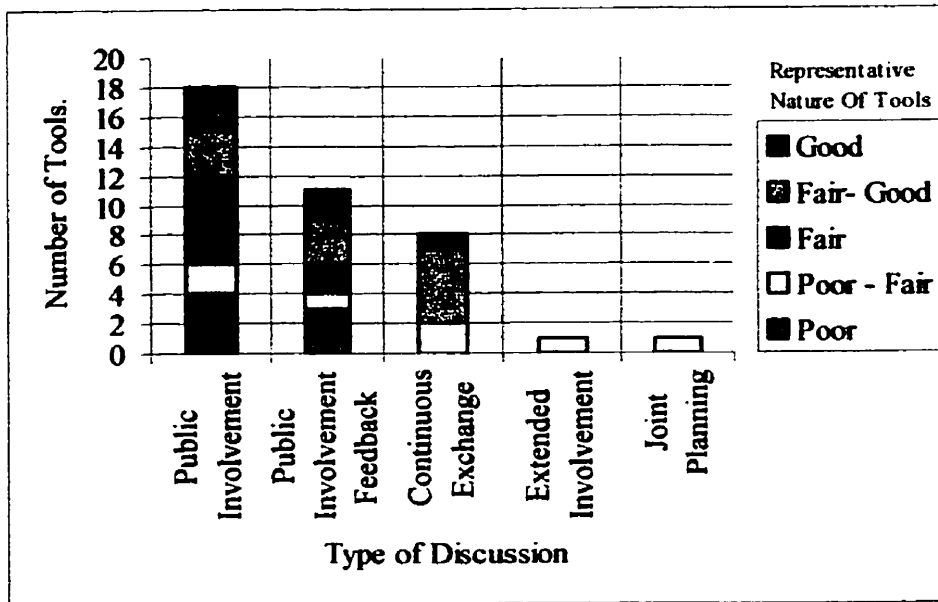


Figure 9: Techniques employed by the panel for engaging the public.

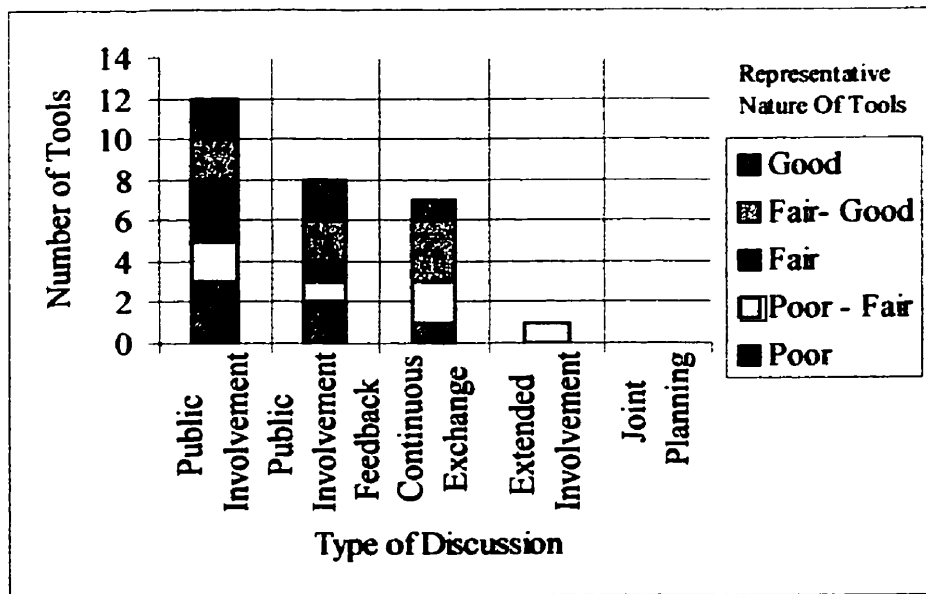


Figure 10: Techniques employed by Industry for engaging the public.

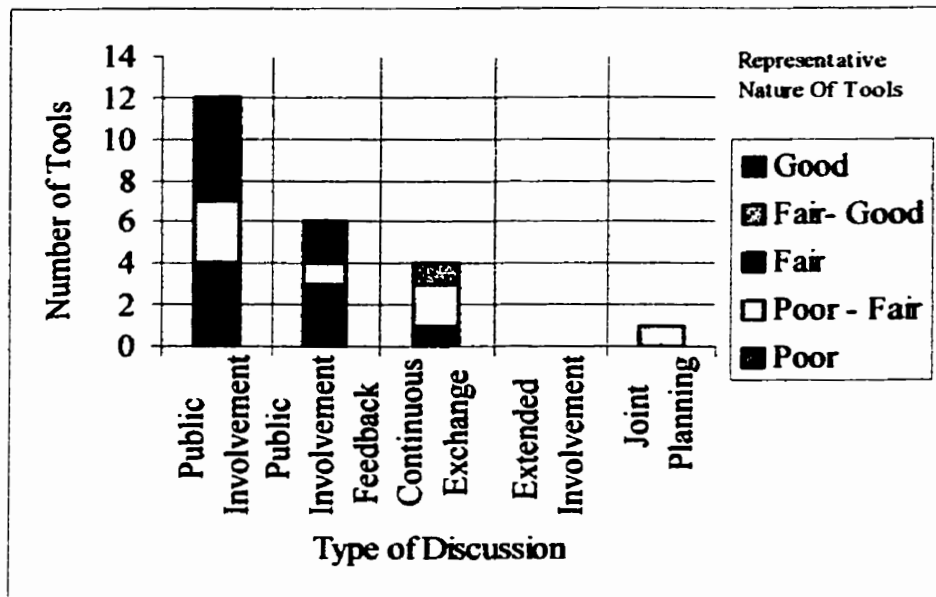


Figure 11: Techniques employed by ENGOs for engaging the public.

4.5 Effect of Tools on Participation

Applying Praxis' classification of public involvement and Mitchell's analysis of representativeness is a necessary but insufficient means for gaining an holistic understanding of the effectiveness of public engagement tools used in the Sable Gas Panel Review. The success of opportunities for public engagement must also be discussed in terms of what information was available to the public. To this end, participants were asked how they learned about the project and assessment process, the level of discussion in the community surrounding the assessment, and the accuracy of the information available.

4.5.1 Finding out about the proposed project and assessment

The media and informal networks of environmental non-governmental organizations served as important venues through which many of the study participants learned about the project and the assessment process.

Just being linked with the environmental movement. We knew it was coming. We actually were, as members and people that had been under the contract with the conservation council, we had been proponents of natural gas coming to the province. We saw it, and still see it as good interim fuel; we don't consider it the best by any stretch of the imagination. I don't. And I don't think that people should use it in their homes...But I guess we just knew it was coming. And newspaper. Certainly there was a lot of hype about it coming before it came. I guess I couldn't pinpoint for certain; we just knew (Andrew).

Well first of all it was pretty high profile in both the television and in newspapers. And also probably all prospective participants or people who might have an interest, environmentalists and so forth, were all given, were all sent information that this was taking place (Meaghan).

One representative of industry highlighted activities undertaken to inform the public about the process. Brochures and similar communication tools were provided to interested organizations, both by mail and through face-to-face contact with the proponent.

We talked about the regulatory process. We provided pamphlets and brochures that are produced by the National Energy Board, for example, and we provided many copies of those to anyone who asked for them. In addition, separate to our process, the National Energy Board held meetings for landowners and tenants to talk about their rights and to talk about what the board does, before the scoping meetings, one in each province (Nova Scotia and New Brunswick) (Brady).

The extensive media coverage resulted in significant discussion about the project throughout the community.

[T]here was an enormous amount of discussion. This was front page news generally for a whole year; front page exaggerates it a bit but it was in the papers the whole time. For a variety of reasons. Clearly, everyone saw the potential for a big economic boom. People were worried about the environmental aspects as well, and the fishery complicated it...The

fishery is of enormous economic significance in Nova Scotia. So the potential for adverse effects on the fishery was something that was taken very, very seriously here. And occasioned an enormous amount of public discussion (Patrick).

Other participants felt that discussion by the general public about the project was insufficient. Questions were also raised by participants about the type of discussion that developed. People questioned if the general public had an understanding of the potential impacts of the proposal, beyond obvious economic gains.

I was surprised, no [there was not significant discussion about the project by members of the general public]. Not in the general public. I think they just seemed to accept it. That it was a fait accompli, that it was going to occur and that's all there was to it. They were more concerned, I think anything that I heard was not concerns about the pipeline, but how much money Nova Scotia was going to get out of it. And the environmental issues, to me, are of grave importance. You know, if they didn't do it properly. But there didn't seem to be an awful lot of concern (Meaghan).

There was a lot in the news media. We are in Halifax, of course, so we have the weekly, daily newspapers, that type of thing. A lot of conversation in the news media. There was some discussion in council. Ah, individual people? I would say a lot less. I would say the awareness of the impacts, the overall of how it is going to impact, it was really like, natural gas equals jobs. That was sort of the level of discussion. Not so much so though when we actually went to the communities and asked what they thought. It was more detailed. They had much more opinion. It was a matter of getting into some more detailed conversations. I got a chance to talk with people (through the community project), and from the surveys (Dana).

More detailed information about the project and project impacts was available to people who accessed the project public registry. Participants unanimously agreed that there was an abundance of information available about the Sable Gas Panel Review.

Yes [the public registry was available]. I mean the National Energy Board did go out of its way to fax every single thing – item. I was, I must admit, it is very, ah, this particular process was more bureaucratic than just federal EAs have been in the past (Dana).

The scope of this information, however, was in doubt. People questioned whether the dataset was complete.

One of the benefits for a community based NGO groups like us, was we were copied in and included in the massive amount of documentation and information that was part of the regulatory process: the environmental impact studies, the socio-economic impact, the technical understanding of the project. And for the first time it gave us a deeper understanding that a project like this has wide ranging impacts and we began to understand, although it was very difficult to understand. It was very difficult because we were out of our league, we didn't have the expertise in terms of the legal understanding, the technical understanding, nor even some of the environmental impact. We had kind of a superficial view. An important one – I am not saying it's not important, it was very important, but it was just of the ordinary person's concern of the Sable Island gas project and what impact it would have on the environment and on human health (Laura).

[Industry, the Panel and ENGOs] worked really hard at [disseminating information]. Were they always honest about the environmental implications? Well, I don't know... Well I do know because they wanted their project to happen. But they did work really hard at a lot of open houses, and making literature, everything, tapes, everything you wanted they would make it available. I felt that it was one of the better processes I have been involved in, in terms of making information easily available (Andrew).

One participant made an important observation about the nature of the information presented in the public registry.

I think, in the end, it became accurate and complete, in total. Every proponent's information was missing something. And I think that is the point of the whole hearings – to bring all of that information together. Some were missing more parts than others (Brian).

The role of a panel is to provide a venue through which different data sets are presented at a forum where they can be discussed or debated. It is through this context that information becomes both complete, and understandable by the interested public.

4.6 Discussion

The Sable Gas Panel Review provided a variety of mechanisms for engaging the public in the assessment debated. These tools promoted a range of participation opportunities – from one-way communication mechanisms designed to inform the

public, to consultation techniques designed to promote serious dialogue about the project. Although participants were supportive of the range of engagement opportunities, the level of discussion about the true impacts of the project was unsatisfactory. To this end, participants promoted increased public education about project components.

The success of public involvement initiatives rests in the ability to attract participation from representatives of the public. Unfortunately, full participation by all affected parties will never be achieved; as such, a continuous discussion about improving methods for educating and consulting with the public is an on-going activity. In terms of the Sable Gas panel review, some participants questioned the role of the individual to proactively become involved in the assessment.

I think some of it is apathy. Look at the American election, more people voted than what they thought was going to vote, but a higher percentage of people didn't vote. I mean, what the heck can you do? You put it in the newspaper, you put brochures out, you sent it to all the supposed interest groups, you are on television, all of these types of things. I think it is just human nature. If you are interested you will go further; if you are not interested, you won't bother, or you will wait until after the fact and you will start crying. And it is too late then. I mean, I didn't want our rivers to be destroyed, and then cry afterwards. I wanted to be part of the process (Meaghan).

These participants suggested that every reasonable effort was made to dialogue with the public. A growing body of literature investigates the reasons behind non-participation (Diduck et. al 2000; Diduck and Sinclair 2001). This research suggests that constraints to public involvement include the beliefs that the decision is a forgone conclusion, that an individual's interest is adequately represented in the process, and that there is a lack of appropriate notification. In terms of the Sable Gas Panel Review, hearing participants suggested that non-participation was attributable to the local need for economic

development and reduction in oil consumption taking precedence over an examination of the ecological consequences of development.

A second group of participants promoted an increased effort to inform and educate the public, but recognized jurisdictional issues impact this endeavor. These participants questioned whose role it is to educate the public about the issues (i.e. the proponent, the government, the environmental organizations). Some participants suggested this role was an important function of the provincial government, an opinion consistent with the division of power enshrined in the Canadian Constitution.

But the question is, is that the role? Whose role is it, I guess? Absolutely [an assessment should undertaken more efforts to educate the public]...And whose role is that? Is it the industry's [role]? I don't really think so. I don't demonize them, because in some senses, their objective is "get gas" and "invest money". So, it is the role of government, in this case provincial government, supposedly, but maybe it is also the role of NGOs (Dana).

In terms of a federal assessment, requiring the provinces to undertake information and education programs, is politically problematic, particularly when no additional funding is provided. Furthermore, the federal government cannot dictate how education must be undertaken. As such, this strategy would encourage a greater regional disparity in terms of how the public is consulted. A second participant suggested that both levels of government, federal and provincial, have responsibility.

Well, I have always maintained that it is the government's role to make sure the public is informed and educated. The government should, by government in this case there is a Canada-Nova Scotia Offshore Petroleum Board that is responsible for the offshore activities, and the petroleum directorate that is responsible for inshore and onshore activities. And both of those bodies have or should have a responsibility that goes beyond regulation of the industry and should be responsible for or held responsible for making sure that information is disseminated to the public about what the industry is all about and what the implications and tradeoffs are as we move forward with development (Randall).

This solution requires a concerted effort by government departments to dialogue about mechanisms to educate the public. As all participant governments signed off on the panel terms of reference established for the Sable Gas Panel Review, a venue existed for intergovernmental discussion about public education related to the project. However, the Sable Gas agreement met, and in some cases exceeded, the established norms for public participation in the federal assessment process. Additional activities related to educating the public go way beyond the federal standards described in Chapter 2.

In terms of initiatives undertaken by non-governmental organizations, success is heavily impacted by budget and time constraints. Representatives of interest groups suggested that more activities could have been undertaken and that existing exercises could have been undertaken more thoroughly with increased time and money.

The time involved in completing an assessment seems long, but it is short. For example, if you applied to get intervener status, we found out that we got the funding in I think it was in December, and the hearings started in March, so there was only four months to do that piece of work. If you know anything about community development, four months is not a lot of time. So I think we have to be better at having these public discussions and developing active citizenship about these issues before these big projects come in so we are prepared (Dana).

Public involvement is also impacted by time. Members of the public must participate in their “free time”, thereby affecting other family and social commitments.

I guess that regular citizens, like my neighbours, would not be able to take the time to make a presentation before the panel anyway, so it wouldn't have really mattered if they had known more about it. It's really, I feel, it's a process that is geared towards special interest groups. Groups that actually have staff that can handle the workload of preparing presentations, and getting the right information out there (Maire).

Effective participation involves a commitment by altruistic individuals to learn about the project and the assessment process, activities that take a significant period of time.

These activities contribute to the overall effectiveness of public involvement programs.

4.7 Summary

This analysis served as a foundation for exploring the character of education programs arising from the Sable Gas Panel Review and the opportunities for critical learning through participation in this process. Activities designed to engage the public in the assessment debate illustrate an effort, by the Panel Secretariat, to foster dialogue about the project among stakeholders. Different public involvement techniques in the Sable Gas project, hosted by various interest groups, created an atmosphere conducive to public discussion about the project. People were aware of the project through extensive media coverage and had extensive opportunities to participate in different activities related to the environmental assessment.

In depth discussion about the project impacts, however, required a significant commitment of time by individuals to actively investigate the project. Media coverage about the project, although extensive, focused on political and route issues. Environmental and negative social repercussions were, for the most part, under-represented in the daily newspapers.

As noted by participants of the Sable Gas panel review, dialogue among members of the general public about project impacts was minimal. Few people were noted to spend time chatting over coffee about the project unless they were directly affected by the pipeline's potential impacts (i.e. through expropriation of land) or were actively involved in the formal hearing process (i.e. as a member of a non-governmental organization). Critical dialogue about the environmental and social consequences of the project by the general public was not evident to research participants.

A discussion of these limitations of the Sable Gas public engagement program provides a basis through which one can begin to think about methods for improving public involvement in assessments that include hearings, to be discussed in Chapter 7.

Effective consultation, however, is dependant on the participation of informed or educated public. As such, public engagement strategies should encourage participants to learn about different opinions related to assessment, critically examine assessment information and make informed decisions about the project. The next chapter explores the theory of critical pedagogy in the context of the Sable Gas panel review..

Chapter 5

CRITICAL EDUCATION

This chapter explores opportunities for critical education in EA that includes hearings. The process of critical education fosters the ability to discern different, even contradictory, evidence. This skill is important for participants in an environmental assessment that includes a panel review. The development of indicators provided a foundation for exploring the role of critical education in the Sable Gas Project. The indicators were derived from discussions of participant perceptions of the panel's agenda and activities, complemented with documentation from the hearings.

5.1 Environmental Assessment that includes Panel Hearings

The focus of this research was to explore the opportunity for critical education through participation in an assessment that includes a panel hearing. Rather than evaluate the nature of each tool that contributed to the dissemination of information in the assessment (i.e. the use of media, websites, workshops), it was important to consider how the public was involved in overall program delivery. Before presenting this analysis, it is useful to review the stages of an assessment that includes panel review described in the previous chapter.

The hearings process established in the *Procedures for an Assessment by a Review Panel* (CEA Agency 1997b) promotes eight stages in the hearings process. For the purpose of this discussion, these stages are grouped into three categories: capacity development, data collection, and the decision making process (see Figure 12). The first category, capacity development, includes all steps designed to develop the breadth of the

assessment. Following the appointment of the panel, members work to establish *timelines* for the review process. *Scoping meetings* are held to review the nature and content of the *environmental assessment guidelines*. The panel secretariat uses *information meetings* to inform the public about their opportunities to participate in the hearings process. Data collection involves all activities where research is undertaken related to the study. This includes the company's submission of the *environmental impact statement*, the conformity analysis, and participant funded projects, and to the extent that new information is presented, the *panel hearings*. The final stage reflects the process leading to the decision. This stage includes the *panel hearings*, where evidence is presented and challenged, the drafting of the Panel report, and the submission of the *final report to the Minister of the Environment* for consideration.

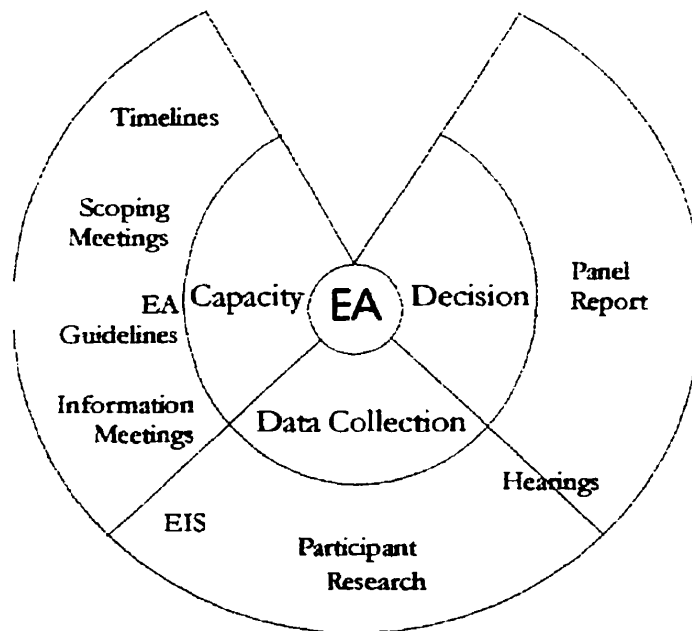


Figure 12: Stages of an EA that includes hearings.

5.1.1 Capacity Development

Using Shor's ten descriptors of critical pedagogy, the panel review process provides the conditions through which critical education can be achieved (see Figure 13).

EA is governed by the only body of legislation that requires public consultation in specific types of government decision making. Providing an opportunity for affected and interested parties to contribute to the assessment is a significant step toward mutually defining an understanding of sustainable development and how this development paradigm should be implemented. The purpose of and process through which EA is undertaken is also conducive to the application of critical educational theory. EA examines the potential benefits, impacts and risks associated with the development of a project, to determine if and/or how that project should proceed. This is an exercise centered in research related to the baseline and predictive ecological, social, cultural and environmental conditions. An assessment provides an opportunity to discuss dissenting opinions related to project impacts and merits, and develop an informed and critical opinion about the project. The greater the uncertainty, or the more controversial the assessment, the higher degree of public involvement, in theory.

In a process akin to establishing the learning agenda, determination of the capacity of the assessment establishes the issues considered within the context of the panel review. Panel guidelines promote a participatory process, whereby stakeholders are encouraged to contribute to the objectives, or EA guidelines. This structure provides the opportunity to encourage a participatory, democratic process for establishing the assessment agenda. Operational objectives for determining the extent to which this stage achieves these two descriptors of critical education, as outlined by Shor (1993), are presented in Table 10.

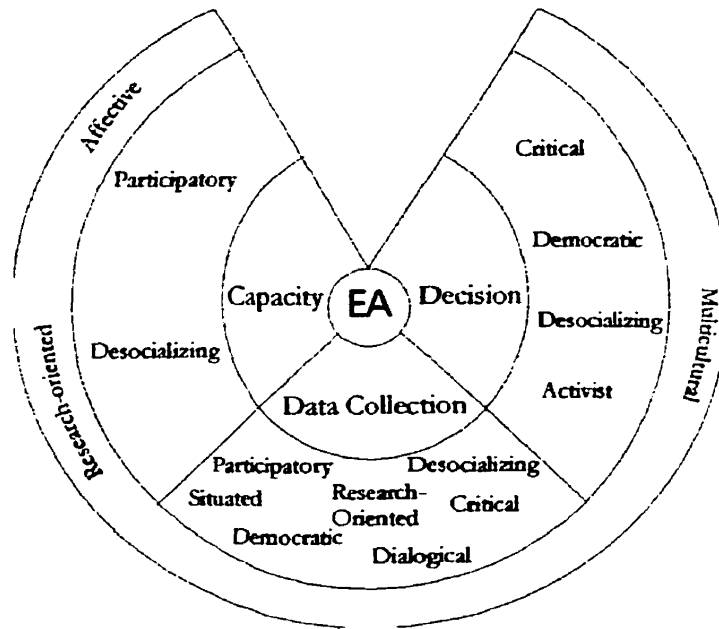


Figure 13: Environmental Assessment and Critical Education.

Table 10: Conditions through which critical education can develop as part of the of the panel process, and associated conceptual and operational definitions.

Criteria	Conceptual Definition	Operational Definition	Assessment Stage
Activist	The classroom is both active and interactive.	Did the hearings process encourage participants to engage in experiential learning?	Decision-Making
Affective	The discussion is interested in a broad development of human feeling.	What relationships developed among participants as the result of participation in the process	Throughout process
Critical	The dialogue promotes self-reflection and social analysis.	Were participants given an opportunity to critically reflect on the written documentation before the commencement of the hearings? Was there an opportunity for participants to critically reflect on the material presented during the hearings before being required to respond?	Data Collection Decision Making
Democratic	Educators and learners work together to develop the learning	Were steps taken to modify the hearings process to level power relations?	Data Collection

Criteria	Conceptual Definition	Operational Definition	Assessment Stage
	agenda.	Was all material presented given equal consideration [as opposed to discounted because of process or methodology]?	Decision Making
Desocialization	Education encourages active participation in education.	Were steps taken to encourage inactive publics to participate? Was the hearings open to all people who wanted to participate?	Capacity Development Data Collection
Dialogic	Learning methods emphasize discussion.	Was the public able to become part of the panel's EA decision? Were participants encouraged to dialogue outside the formal process? Did the process encourage dialogue about potential solutions to outstanding issues?	Decision Making Data Collection Data Collection
Multicultural	The curriculum acknowledges the cultural diversity of participants.	Were efforts made to engage people from diverse cultural backgrounds in the hearings? Did the process reflect the needs of participants (translation, location, process, etc.)?	Throughout process Throughout process
Other		Were broad policy issues affecting social, economic and environmental policy considered in the course of the hearings?	Throughout process
Participatory	Learners have a voice in education	Did the learners participate in developing the scope of the environmental assessment? Were the participants encouraged to participate in the conformity analysis of the proponent's EIS?	Capacity Development Data Collection
Research-Oriented	The teacher studies the identity of student; and students research problems posed in class.	Did the panel encourage independent research by participants? Did the panel investigate the participants and tailor the materials to reflect their needs? Did the panel investigate the participants and tailor the materials to reflect their needs?	Data Collection Data Collection Throughout process
Situated	Material is presented in way that reflects learners' thoughts and language.	Did the material presented during the panel contribute to future research initiatives [outside the specific EA]? Was the EA documentation presented in plain language? Were the hearing conducted in a way to encourage participation?	Throughout process Data Collection Data Collection

5.1.2 Data Collection

Following the issuance of EA guidelines, the assessment moves into the data collection stage. Table 10 outlines operational definitions to evaluate the effectiveness of various criteria appropriate to the data collection phase. This stage of the assessment encourages active research by all participants – proponents, government and members of the public. The critical nature of the assessment is encouraged as participants are funded to undertake research related to the valued ecosystem components identified in the EA guidelines, and positions presented by the proponent in the Environmental Impact Statement. Participants are encouraged to dialogue. Members of the public seek the guidance of the proponents and government agencies.

This phase of the assessment process is participatory in that stakeholders are encouraged to undertake a review of the Environmental Impact Statement. Proponents are often required to illustrate how the public was consulted in the development of the project, and how these contributions are reflected in the project design submitted for review. Consultation efforts are encouraged to reflect the needs of the affected publics in terms of both documentation (i.e. plain language executive summaries) and techniques (i.e. open houses, telephone numbers, etc). In addition to ensuring some level of dialogue between the proponent and members of the public, data collection also encourages discussion between participants, particularly between government agencies and the public.

The data collection phase includes aspects of the hearings themselves. Inasmuch as the hearings serve as an opportunity to present arguments related to the project

impacts, they serve as an important forum for a critical presentation of information. This venue also serves as an opportunity for further dialogue among stakeholders, as presentations can encourage questioning and debate about evidence in the public setting.

5.1.3 Decision Making Process

As data are collected and presented, panel activities move towards the decision making phase of the assessment. This stage of the process is participatory in that all stakeholders have the opportunity to reflect on evidence presented during the course of the hearings, and formulate opinions about the impacts and benefits of project development. The final panel decision is not made in a consensus fashion; the power over decision making rests with the panel members. This centralization of power, however, is not absolute. Appointments to assessment panels are meant to reflect the interests of stakeholders, and as such, should include a diverse, but representative cross section of public points of views.

The interactions fostered through the hearing process encourage active participation by stakeholders. While hearings are not always adversarial, evidence is presented and questioned by concerned participants. The way this dialogue is fostered is important; the panel can design the hearings to reflect both the process and learning needs of participants. Timing and process become a venue through which the panel can encourage critical reflection about information. Operational definitions for determining the extent to which this stage is participatory, critical, research-oriented and activist are presented in Table 10.

5.1.4 Themes Applied Throughout the Assessment

Three tenets of critical pedagogy explore themes related to the panel review process as a whole (see Table 10). These themes are not identified in the *Procedures for an Assessment by a Review Panel* (CEA Agency 1997b) but relate to how specific panels are implemented to achieve a decision. The extent to which panel activities reflected, or were influenced by the contributions of stakeholders speaks to the democratic and affective nature of the panel. Indicators of multicultural program activities examine how panel events were designed to reflect the cultural diversity of participants. The extent to which the panel encouraged participation from a broad based of interests explores to what extent the process was desocializing. Finally, insofar as evidence developed for and presented to the panel serves as a basis for future studies, the panel process can be evaluated as a research-oriented activity.

5.2 Opportunities for Critical Education in the Sable Gas Panel Review

Although the panel process fosters opportunities for the implementation of critical education criteria on a theoretical basis, the role of critical education must be established on a case-by-case basis using operational indicators. Guidelines for undertaking environmental assessment provide for flexible interpretation and implementation. As a result, each assessment experience is different, influenced by geographical location, political climate, economic environment, social climate and cultural context, among other issues. Qualitative evaluation of the nature of critical education in a specific hearings process relies on the development of operational definitions for each criteria, based on of literature related to critical education, public participation and environmental assessment. This process draws on experiences of

participants, complemented by documentation produced through the hearings process, to establish the nature of educational opportunities provided through participation in the panel.

5.2.1 Participatory

The first descriptor of critical education was participation. In terms of education, this concept deals with the relationship between teacher and student in developing a learning agenda. As applied to environmental assessment, “participatory” explores relationships between participants and the panel in determining the assessment agenda. To add depth to this examination, two operational indicators provided a foundation for discussion (see Table 10).

5.2.1.1 Did the learners participate in developing the scope of the EA?

The scope of the EA determines the focus of the assessment. This process is congruous with developing the learning agenda, as issues included in the assessment guidelines must be analyzed within the environmental assessment. As discussed in Chapter 4, the public was engaged in discussions surrounding the scope of the project through two media – attendance at local scoping meetings, and submission of written documentation. Members of the panel secretariat commented on these efforts:

I worked to engage the public in series of scoping sessions. We selected the communities that we felt would be most affected by any adverse or positive outcomes, and we went to those communities. Prior to start of environmental review, we engaged public in dialogue and gave them opportunity to understand what the process would be. This was the first joint panel in the Maritimes. Within short period of time, by going to them, brought about some interest. We then made it possible by follow-ups, and by many conversations with extensions to a call. (ripple effect). The community, corporately and public became involved. Not everyone chose to take a passive stance on process. There were some groups that took very opposed to process, and public themselves. They engaged

public on their own behalf, and then people became aware of project and review (Alva).

Scoping sessions we had all manner of people turn up. Farmers, citizens... We had all manner of people turn up who were interested. And that total, over that period of time, might have been something like a thousand over the twenty scoping sessions. They were very erratic – you could have six or eight at one meeting and a hundred at another. So those scoping sessions, which were not the hearing, went right through the community (Tracy).

As noted in the scoping submissions and meeting minutes, participants represented a cross section of interest groups. The general public, government, non-government organizations and industry submitted suggestions about what should be considered during the hearings.

The panel was asked to consider, in the scope of the environmental hearings, a variety of issues related to the:

- ✦ Process (two projects under assessment, role of Traditional Knowledge, application of relevant regulations, nature of the hearings in terms of mitigating or preventing project);
- ✦ Alternatives (route, energy sources);
- ✦ Economics (land valuation);
- ✦ Social (environmental illness, training and employment, quality of life, company history); and,
- ✦ Environmental (monitoring programs, impacts to fish, potential for radioactive sludge, project decommissioning, stream crossings, greenhouse gas emissions, global warming).

Determining the scope of the hearings provided opportunities to dialogue with interested parties about topics to be discussed in the assessment, but the ultimate decision over the scope rests with the panel. To this end, many of the contributions solicited through this process were utilized by the panel in their consideration of the project.

[W]e were given a set of issues at the outset – it came with the terms of reference. And the issues trebled – increased by a factor of three- as the result of the scoping sessions – little things. But they basically broadened the whole issue package and they redefined a lot of what it was that we would be considering. So at first blush the scoping sessions seemed a waste of time. In the end they were valuable thing to do (Tracy).

The strongest illustration of the utility of scoping relates to the overall hearings process. Whereas in the original terms of reference, the Panel was to evaluate the onshore and offshore components of the project independently, following the advice of Ecology Action Centre, the project was considered in its entirety. EAC's argument was captured in the minutes of the scoping session:

Splitting the project into two stages: How can the Panel deal with questions on the viability of the whole project (i.e. the need for the project) if it is split into two separate applications. For example, how the route will effect the benefits to the province so how can this be dealt with in the offshore? How will the interactions of the two projects be identified – if both halves of the project are marginal, how do you deal with it? (NEB 1996).

As noted in Chapter 4, in response to EAC's submission, the panel considered the impacts of both the on-shore and offshore project in its entirety.

With three key exceptions, namely alternative energy sources, company history, and greenhouse gas emissions, each of the issues listed above were ultimately considered during the hearings. It is important to note that these factors can be grouped as broad policy objectives, rather than project specific details. Each issue has implications for social and individual behavior which go beyond the development of the Sable Gas Panel Review. This, however, is not to suggest that these issues should not, or cannot be considered within the context of an EA. The panel ruled, however, they were beyond the scope of the panel's jurisdiction

Mr. Earl Lockerby, an Intervenor in this proceeding, has filed and argued a Motion before us which requests that the Joint Review Panel declare that our mandate include the consideration of greenhouse gas emissions;

specifically, carbon dioxide and methane....The issues raised by Mr. Lockerby are broadly similar to issues which were raised at an earlier stage of these Proceedings. In earlier Rulings, the Joint Review Panel found that the focus in the Sable Gas Review Proceedings was the project which are defined in the Project Descriptions. As a result, the Joint Review Panel determined that it was not mandated to assess broader generic issues, such as global greenhouse gas emissions, as part of the Sable Project Review... Accordingly, we have declined to issue the Ruling requested by Mr. Lockerby ... generic issues which arise or extend behind the Scope of the Project Descriptions are outside the boundaries established for the Sable Joint Review (NEB 1997a: 3948-3949)

Public contributions to the scope of the assessment were, indeed, considered by the panel. While not all recommendations were accepted, some suggestions affected the scope and nature of the Sable Gas panel.

5.2.1.2 Were the participants encouraged to participate in the conformity analysis of the proponent's EIS?

Unlike traditional CEAA EAs, the conformity analysis for the Sable Gas Panel Review was held concurrently with the scoping sessions. In addition to commenting on the assessment guidelines, the public was encouraged to discuss the merit of the proponent's application.

These Meetings will be an opportunity for the public to meet with the Panel for the purpose of formulating issues and identifying *any deficiencies* in the Pipeline Application as proposed (emphasis added) (Panel Secretariat 1996).

As noted in the submissions and minutes related to the scoping meetings, few people commented on the merit of the application at this time. Those submissions that addressed the project application focused on the amount of information about a specific topic area, rather than how the application addressed all issues identified in the EIS guidelines, or the accuracy of data presented in the application.

The one clear submission relating to the conformity of the application to the existing guidelines was submitted by two members of the general public. This letter,

inquiring about monitoring programs, construction plans and impacts to water, was introduced by the statement “[t]he following comments relate to a few items we feel could be more detailed, although we realize that all specifics may not be available at the present time” (Cross 1996). For the most part, however, the conformity analysis became one component of the actual hearings, as evidence was subjected to cross-examination.

5.2.2 Situated

The second descriptor of critical education pertains to the nature of the learning program in terms of the needs of participants. Is the material generated throughout the learning program, or environmental assessment, reflective of the language and content needs of participants? In terms of the assessment process, indicators of this criterion explore the relationship between participants and the assessment process. Does documentation surrounding the assessment and the hearings process encourage the participation of a representative sector of the population?

5.2.2.1 Was the EA documentation presented in plain language?

When asked about the nature of the assessment documentation, participant’s responses were varied. As discussed in Chapter 4, participants had a range of opinions about the scope of the material. Some felt that all issues were covered adequately in the assessment documentation, while others believed submissions by various groups reflected their biases. This division of opinion is also reflected in participant understanding of the appropriateness of documentation discourse. Some public participants suggested the material was accessible to a cross-section of members of the public:

As a matter of fact, in my presentation in Fredericton, I commented to the Panel, and to the proponents, the people who were building the

pipeline, I thanked them for having a very user friendly document. Maybe having some knowledge of science and the environment helped me but I thought that anyone could have picked it up, and without too much thinking, could have understood what was going on (Meaghan).

While some felt that documentation was user-friendly, and could be understood by members of the public, others found it more challenging:

So anyway we are hit hard with this massive documentation, which quite frankly was very, very difficult to get through, although we did pretty good on the environmental end, although we were completely lost on the regulatory area such as postage rates, all these different means to measure and to sell natural gas, the business end of it was completely out of our league. The economics of it were pretty complex too (Laura).

A third group suggested different ways to improve the general public's understanding of the proposal. These participants recognized the importance and need for technical reporting in environmental assessment, but acknowledged the need to communicate these ideas with the broad public, including the media.

So we felt both on the technical side – engineering, oceanography, petrochemical science, that type of thing, and also on a legal side, we usually had a lay person's knowledge on a lot of these things. For us to assess the accuracy of the information, we couldn't really do that. We felt that a lot of work had gone into the proponent's information – they put a lot of time and effort into it. But we couldn't start commenting about the accuracy of it. We thought that there might have been a bit more plain language, use of plain language, both in the proponent's materials, and in the assessment process (George).

This indicator illustrates the struggle to balance the varied needs of participants in the assessment process. Evidence presented during the hearings must reflect and respect the scientific and technical complexity of the proposal, however, this material must be presented in a way that can be used by members of the panel with expertise in other areas, and members of the public with varied educational backgrounds.

5.2.2.2 Was the hearing conducted in a way to encourage participation?

A strong theme emerged that the mechanics of the hearings did not encourage participation by the public. On a superficial level, the formality of the process was noted by the attire of many of the public participants:

And when we arrived that morning, I will never forget it. It was a big ballroom at the Lord Beaverbrook Hotel and we walked in and there were tables with table cloths, some seven or eight feet long, completely filled with people in suits and very expensive tailor made clothes who were there promoting and supporting and preparing to give evidence from their perspective and sometimes even to question some of the environmental evidence and to second guess it. So here we are a group of ordinary community based citizens. We felt like a fish out of water (Laura).

The hearings themselves, held in the quasi-judicial style of the National Energy Board, reflected the formal decorum of the "suits".

Well, just it's so formal. I think that is quite a turn off to a lot of people. Just the staggering formality of that whole process. ... we actually had some experience coming into it, which is probably good. I could see some of the landowners and stuff, I am sure they felt just out of their league. You get in there with two hundred suits and you begin to question whether or not your point is a valid one and they can make you feel pretty soon that it isn't. Your questioning could be cut off – there were those rules about what was relevant and what wasn't. But it wasn't ever that we didn't understand the process, we didn't like the process, but we understood the process, so there is a difference there. It is a very daunting process for what you would consider just the general public. I don't think there are many members of the general public that would participate in that, because it is pretty daunting. It is so structured, so formal, and you almost feel like you should bring your own lawyer with you, just in case, you slip up or say something really wrong (Andrew).

The impact of the formality of this hearing was so significant to participants that it became part of the five-year review of the Canadian Environmental Assessment Act.

The current panel review format is not the type of forum it was intended to be. It is viewed by the public as very "formal, judicial, adversarial." Hearings are very unfriendly to community groups, especially if they feel that they are being "cross-examined." The current panel review format is not the type of forum it was intended to be. It is viewed by the public as very "formal, judicial, adversarial." Hearings very unfriendly to

community groups, especially if they feel that they are being "cross-examined" (CEAA 2000a).

According to participants, the decision to adopt a quasi-judicial approach to the hearings impacted the general public's willingness, and ability to participate in the hearings.

5.2.3 Critical

The critical nature of a learning program relates to opportunities for self reflection and social analysis. In terms of the panel process, this involves opportunities to reflect on material presented throughout the course of the assessment. Data related to the assessment are provided to participants during two key stages of the panel process – data collection (between scoping and hearings), and decision making (throughout the hearings). Indicators of the critical nature of the engagement program focus on opportunities to analyze data during these stages.

5.2.3.1 Were participants given an opportunity to critically reflect on the written documentation before the commencement of the hearings?

Between the completion of the scoping meetings, and the commencement of the hearings, 104 days were allocated to participants to register their intent to intervene in the hearings (January 7), collect and submit evidence to be considered in the hearings (March 7), submit information requests related to the evidence (March 19) and file responses to these information requests (April 2). The amount of documentation, as noted in Chapter 4, was extensive and required substantial time just to read and incorporate into submissions by organizations.

If you are going to be comprehensive, you have to read it and cite [the documentation in your evidence]. And then if you need further clarification, I would go to the source. In order to participate in the EA

level, you really do have to get into the details. So going to an information session and looking at glossy brochures is not going to get the level of detail you need for complex social and environmental analysis, right? So that's really what we had to do (Dana).

As information trickled into the public registry, it was distributed to registered intervenors. This structure contributed to a fluid environment where information was constantly being received and reviewed. This constant barrage of information was noted by numerous participants representing non-government organizations, the public, government and the panel secretariat.

I just wished I had more time to really understand the process and I wish I had more time to reflect on it. But the nature of the thing is I was managing six programs. That was just one of many. You could spend a lot of time to understand it more, I wish I just had more time to get my head around it (Dana).

Well what I would like to see obviously, is have all the facts on the table before the hearings commence, so people have time to look at the stuff that is there – the environmental assessment, the reports, that kind of stuff. And being able to sort of coalesce what the main issues are, so when you get to the public hearing stage, basically you have an informed public going to the hearings (Randall).

Time to critically reflect on the comprehensive dataset was lacking. In terms of providing time to critically reflect on the documentation, this schedule was sorely deficient. However, this strict schedule reflects CEAA's standard practice. As noted in the *Procedures for Assessment by a Review Panel*, issued in November 1997, the panel is to provide between 105 and 135 days between the submission of the company's environmental impact statement and the commencement of hearings.

5.2.3.2 Was there an opportunity for participants to critically reflect on the material presented during the hearings before being required to respond?

From the outset of the hearings, the panel was scheduled to sit for 3 ½ hours per day. This arrangement would ensure that the hearings did not dominate the schedules of participants.

When the hearings started it was supposed to run from 8:30 to 12:00 every day. That was it - no problem. I think it was within four days, we went to all-day sessions – for four months – twelve thousand pages – you’ve seen the transcripts (Brian).

The record number of intervenors, and the attempt of the panel to accommodate diverse lines of inquiry resulted in the lengthening of the sitting to full days. This action impacted the ability of participants to critically examine material during the hearings process.

It was quite overwhelming. For example when it came to the hearings, if you wanted to be up to date on what was going on you pretty much had to sit there all day... So our position, like many other groups, is we can’t afford to have somebody sit there, all day, I mean we tried (Dana).

Although it must be acknowledged that fifty-six sitting days of hearings provided an impressive opportunity to dialogue about the project, this effort to accommodate participants has an impact on the ability of participants to effectively participate. With scheduled hearings sitting throughout the working day, additional research efforts were restricted to evenings and weekend. As many stakeholder-organizations participated in the hearings in an almost voluntary basis, this schedule severely restricted their ability to partake in the hearings. Many public participants suggested it was difficult to manage the material entered into the record through the hearing, in terms of verbal testimony, written transcripts and supplementary documentation.

[I]t’s not just the proponent, because there is all the other interveners, who also put forward documents, and it would have been a fulltime job

just to track all this material, let alone fully understand it...So again, getting back to timing, resources, this project was extraordinary in terms of its size and complexity. But if it is large and complex, maybe people need a bit more time to work up the issues (George).

Over a four-month period of time, the hearings required a significant, sustained effort by all participants.

5.2.4 Democratic

Democracy relates to the fairness of the learning experience in terms of the development and implementation of the learning agenda. Given the varied positions of power of participants vis a vis financial and human resources, time, experience, and levels of education, the ability for participants to contribute to the learning agenda is contingent upon a redistribution of power relations. To this end, the primary indicator of democracy in terms of the panel review process looked at how the assessment process addresses power differentials of participants.

5.2.4.1 Were steps taken to modify the hearings process to level power relations?

Given the formalistic nature of the quasi-judicial process, the panel worked to level power relations between public participants and representatives of national industries with significantly more resources. In addition to providing funding, as per the CEEA participant funding program, the panel presented a course for participants on how to be an intervenor, offered the services of the National Energy Board counsel to assist non-governmental organizations develop motions, and provided leeway to participants with respect to standard rules of practice for judicial hearings. According to one member of the panel secretariat:

[W]e tried to let everybody who wanted to participate in, and we tried to give everybody a chance to say what they had to say. We only cut them off in the end when it was clear that they were repeating themselves, that

we weren't getting anywhere. And we gave them lots of opportunities. This is your first warning, this is your second warning, this is your third warning, please sit down now. So there was plenty of opportunity. So in the end, I think it exhausted the complaints, and allowed the process to go forward (Tracy).

These steps, according to panel members, worked to "level the playing field."

The ability of a person to represent their interest groups was not reliant on a law degree, but mastery of a particular topic.

And that process can work for both. Sure the lawyers are slick... they do this for a living, but I saw lawyers humiliated. I saw lawyers embarrassed. I saw lawyers having to recant their information because somebody knew better than them. And the panel's not stupid, you know. I mean I am not a lawyer and I am not an environmentalist in the strictest sense, or I am not an oil company representative... but after a while you can tell baloney from non-baloney (Tracy).

Stakeholders, however, had a somewhat different perception of the process.

We were in what has turned out to be quasi-legal proceedings at somewhat of a disadvantage, as neither of us has legal training or expertise, nor would our small Intervenor grant allow us to hire such services. A less legalistic proceeding would have contributed to a leveling of the playing field, and could have led to more open discussion. (NEB 1997a: 10643-4)

Many participants cited the need for legal representation and increased funding to effectively participate in the panel hearings, when challenging the gas industry and its legal counsel. Another member of the panel secretariat acknowledged this power differential:

It certainly – it isn't equal. People who can pay an expensive lawyer – and people certainly made a lot of money – certainly do have a better kick at the can. On the other hand, some scientists who presented information were not lawyers and were incredibly effective. So it is a matter of learning skills to be involved in that. But I think it was a positive process for a lot of people, but not everybody got what they wanted (Samantha).

From this perspective, the judicial formality of the Sable Gas panel review served to restrict the ability of the panel members to foster equitable power levels among participants.

5.2.4.2 Was all material presented given equal consideration [as opposed to discounted because it was not based in science]?

This criterion explores how the panel evaluated material contributed to the EA hearings. Was evidence provided in non-academic formats considered as equally valid to that compiled using statistically significant scientific methodology? In the Sable Gas Panel Review, panel members were very cognizant of the need to test the validity of information presented for their consideration:

CEAA [has a] tendency to have town hall meetings. I hate them. I hate them because you have a panel of wise people and you have a bunch of others, who come to them and they make a representation. And it is all anecdotal information. That is, this is what happened to me, this is what happened to my brother-in-law, this is what happened on the North Sea, and then sometimes people come in and they make reasoned, careful arguments. You can't separate them out; you don't know which is the good or which is the bad. You have a fishermen come in and verbalizing something that is absolutely dead on. And you have a lawyer come in with baffle-gab that could be entirely wrong. One is going to be slick and the other is going to be very unstructured, and so forth. So I think you need to separate out the baffle-gab from the unstructured, from the hearts...and the opposite can happen as well. You can get a fisherman telling you about something that happens some place and it can be complete blarney. And the lawyer could be...So I think what the NEB has done is to create a process in which you have a quasi-judicial process. You have people interacting in a formal way. (Tracy).

To this end, the panel openly supported the quasi-judicial format.

But because it was the National Energy Board as opposed to Environment Canada they were formal hearings with lawyers and swearing and witnesses and all that kind of – and I will say – accountability. Which to me was the strongest part of the process, although I had strong doubts about it at the beginning whether or not it was a level playing field. By the end I felt very much that although the resources available to various groups of stakeholders were not equal, for

sure, the ability, the requirement to be accountable, and the ability to push other people to accountability was very high. So you didn't have the kind of thing that you have in a normal environmental assessment public meeting kind of thing where you get up and you can say just about anything that you want. And somebody else gets up and say that you are wrong. And they might even yell it at you. You know, volume does not really count – but you don't really get cross-examination of information. So I think that was one of the more positive things from this rather expensive and cumbersome process. You do get accountability which I haven't seen in other processes (Samantha).

However, this format had a recognized “learning curve” for participants (see also experiential learning, Section 5.2.9.1). At the outset of the hearings, when evidence was submitted for the record, participants were struggling to work in the judicial context. As such, some members of the public felt their evidence was not given due consideration.

[I]t would have been nice to learn more about rule of how a National Energy Board type panel works. For example we felt that, we didn't want to get in to cross-examine people because we felt that was acting like the way everyone else was. But at the same time it might have made our, if we had been able to cross-examine, for example, on the proponent's outreach effort with the community, their telephone survey for example, it might have helped us with our points later. But again we never really learned enough about that, when to do it, how to do it. So for example, we had heard that when they phoned people up they and did an opinion poll, the opinion started up by saying “Natural gas is a cheaper and environmentally friendly fuel. Are you in favor of the project?” But that type of evidence was allowed by the panel, but the statistically significance of our evidence was excluded, as it was irrelevant or insignificant, according to the rules of evidence followed by the panel, but the types of public opinion, that the proponent supposedly surveyed was a lie. That's just one example. Little things like that, we were not trying to score points but, we felt that why wasn't our evidence taken as seriously as the evidence of proponents and other groups? And I think in the end it is because we didn't have a lawyer to make the point that it could be. If your evidence is being excluded on rules of procedure, unfortunately, if you want to have your evidence counted, you might need a little bit of legal help (George).

I was intimidated by the process, and there were scientists and lawyers... so it is not a great way to learn, but you learn. I wouldn't be intimidated by the process now, but it requires a lot more work, having to cross-examine a panel of twelve DFO scientists and bureaucrats, and you don't expect them to brush you off, and lie, and they do. Once you understand what the process is about, your approach become to effective developoo

your cross-examination skills, and score points by making the experts look bad. It seems to be all part of the game. Our intent would be to expose weaknesses. I wouldn't be intimidated now, but it is still not a friendly process (Veronica).

Evidence subject to cross-examination was given greater consideration by the panel. The "learning curve" involved in developing successful cross-examination skills may have affected the weight attributed to evidence presented earlier in the hearing process, when industry lawyers, well-versed in quasi-judicial procedures faced novice members of the public.

5.2.5 Dialogic

Programs of critical education encourage active discussion about topics in the learning agenda. Discussion among participants is an important component of critical education. In terms of an EA process that includes hearings, dialogue can be fostered both inside, and outside the hearings venue. Were participants encouraged to dialogue about potential impacts of the project and mitigation measures? How was this dialogue fostered among stakeholders?

5.2.5.1 Were participants encouraged to dialogue outside the formal process?

EA is a process whereby people with expertise related to the project can contribute to the overall understanding of the potential impacts and mitigative mechanisms. This knowledge can be contributed not only through direct participation in the assessment, but also through in-kind contributions of expertise to intervenors. This criterion explored the extent to which intervenors entered into discussion about the project with specific government departments or members of academic institutions.

One government agency approached frequently by members of the public to provide advise about potential environmental impacts was Environment Canada.

The public calls Environment Canada. The public trusts Environment Canada, because the mandate of the Department is to protect the environment. The public contacts the department to find out how we feel about the environmental impacts. Environment Canada provides an intervention; the public will then focus their limited resources on the deficiencies identified by Environment Canada (Nancy).

This trust is also placed, to varying degrees, in other area-specific federal departments such as Indian Affairs and Northern Development and the Department of Fisheries and Oceans. During the Sable Gas Panel Review, smaller numbers of inquiries related to the process were directed at federal institutions.

We did get some [people contacting our department], yes. We did get people wanting to know. I had the feelings at the hearings they were listening to Environment Canada very closely. And we were being measured a lot by what we said, what we didn't said. There was just so much paperwork, and so many hearings in such a short time, there probably wasn't a time that the public could come forward and talk with the different departments. If they were Intervenors, they could cross-examine, and a few of them did. EAC, WWF were the main ones that responded to our panel at the hearing (Judy).

This relatively isolationist perspective also seemed to be evident in terms of academic support. Only two of the participants discussed approaching researchers from any of the numerous academic institutions in the region, although several professors were involved in the assessment in various roles (i.e. on the panel, as expert witnesses, as representatives of non-governmental organizations, and as individual participants). The strongest exceptions to this statement involve the efforts of MEAT and the Nova Scotia Salmon Association.

But our own research on the Internet, we did our own research in the libraries. Basically we had a mini pug wash, a mini think tank out at the writers retreat, Lawrencetown. And prior to that we had other mini pug washes where we would get together and talk about various environmental issues. We would have speakers come in on Friday and Saturday night continuously, into the strange hours of the night they would be arriving. Everything from Aboriginal peoples here in Nova Scotia... so we had a broad spectrum of people who knew about all these

issues and were prepared to share with us on these issues. But that kind of lead up to our involvement in this issue (David).

And I found Nova Scotia department of the Environment, the Canadian Department of the Environment, Department of Fisheries and Oceans, Halifax, to be very, very helpful. For example I had a big concern about acid rain and so forth, and I met with DFO officials several times, especially Dr. Walton Watt, who was the person who had them doing all the acid rain things for DFO. They were very helpful. The size of the siltation on the egg bed – once again, DFO was very helpful that way. And Wayne Faulkner, from Truro, the department of the environment in Truro. He was very helpful (Meaghan).

These non-governmental groups explicitly discussed seeking the expertise of government, academics or other learned people in project related fields. The efforts of MEAT and the Nova Scotia Salmon Association, however, appeared to be exceptions.

According to one government representative:

I don't think we got as many calls as we thought we might. We had responses and media lines and all [prepared, but did not use them] (Janna).

As illustrated by the comments, some informal discussion networks did develop as a result of the Sable Gas Panel Review. These networks, however appear to have been under-utilized by participants in this hearing.

5.2.5.2 Did the process encourage dialogue about potential solutions to outstanding issues?

As the purpose of hearings is to explore potential project impacts and develop mitigation measures, where possible, this criterion explored the process leading up to the panel's recommendations. Were intervenors encouraged to discuss and develop potential solutions to outstanding issues? Responses addressing this question focused on the hearings format. Can dialogue develop in a quasi-judicial setting? Public participants were clear that they believed the quasi-judicial procedure, as implemented for the Sable Gas Panel Review, did not promote discussion.

Because really the process is set up as winner and loser, but there is not much discussion. What they are discussing is win or lose. They are not discussing ideas (Dana).

Dr. Fournier at one point admonished one of the citizen presenters to remind them that the whole purpose of the hearings was to put information in front of the panel, so that the panel could make up its mind and fulfill its mandate. And I have to say that is not my interpretation of what a public process is all about... The public has to be satisfied that their concerns have been raised, that their concerns have been taken seriously, that their concerns have been looked at, and that their concerns have been dealt with. If the public does not come away from a process reassured, then there is no buy-in to the decision. People might not be happy with the end result, but if they come to believe that things have been heard and thought about and taken seriously, then they are much more likely to accept the result than if they feel they have been dealt with unfairly. So I think that there wasn't quite enough attention paid to the public by the panel (Patrick).

While these statements do not suggest that participants believed issues were outstanding at the termination of the hearings, the process through which resolution was achieved was adversarial, as opposed to dialogical in nature. Representatives of the public felt that rather than foster dialogue about potential, the process fostered competition among participants

5.2.6 Desocialization

Desocialization refers to the ability of the learning program to encourage active participation. Did public involvement programs work to overcome circumstances of non-participation to both invite, and encourage members of the public to participate in the decision making process? To add depth to this examination, three operational indicators provided a foundation for the investigation (see Table 10).

5.2.6.1 Were the hearings open to all people who wanted to participate?

Accessibility is an important issue when considering opportunities for public engagement and education in an EA. Were the hearings conducted in such a way to

ensure the public could effectively participate? The Sable Gas panel took steps to ensure that the hearings were open to all members of the public wishing to be involved. As per the panel terms of reference, informal hearings were held in Antigonish and Saint John prior to the commencement of the formal hearings. The informal sessions were open to all; people could walk off the street and provide their comments to the panel. Figure 14 illustrates the affiliation of the 51 participants of the informal sessions.

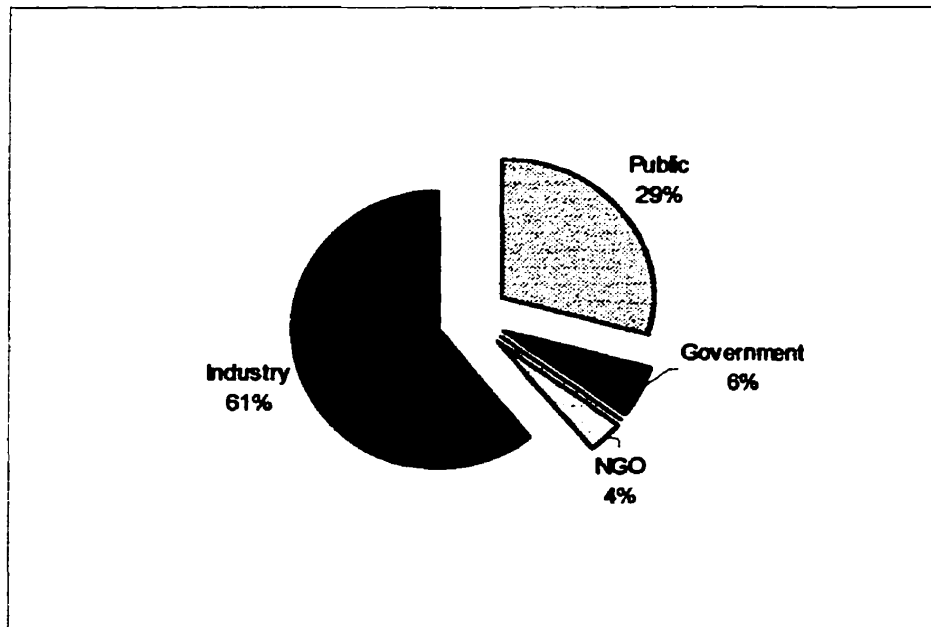


Figure 14: Affiliation of participants of the informal sessions.

To contribute to the formal hearings, however, participants were required to register as “intervenor”. While this formality may have been a potential deterrent to participation, no one was denied intervenor status, regardless of the date of their application. When one applicant requested status mid-way through the hearings, the panel’s decision to confer intervenor status was widely publicized. Figure 15 illustrates the affiliation of the 125 registered intervenors.

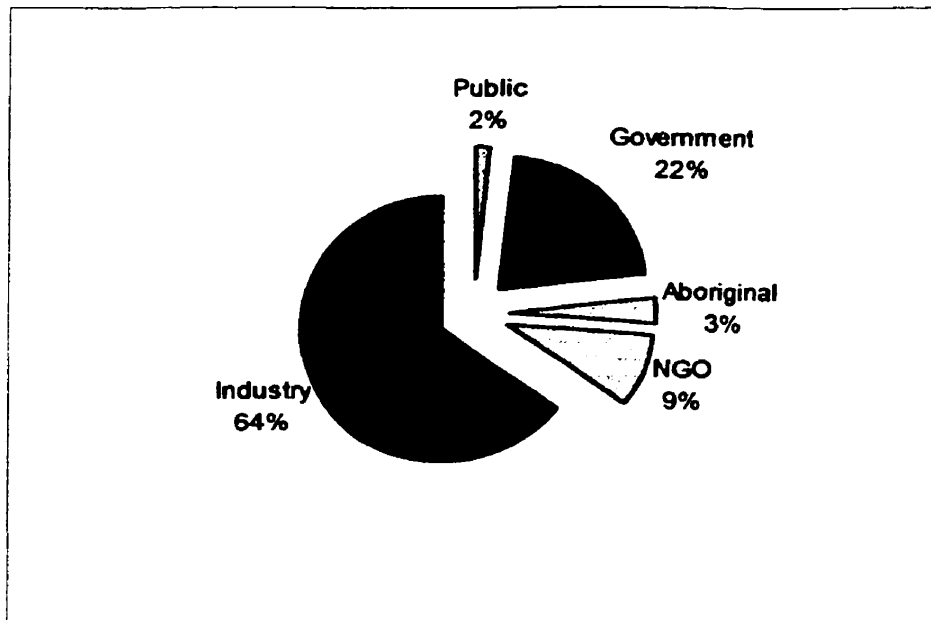


Figure 15: Affiliation of registered intervenors.

Figure 16 illustrates the affiliation of all participants of the Sable Gas Project hearings. As demonstrated in Figure 14, 15 and 16, representatives of industry dominated the hearings, accounting for more than 60% of all intervenors during the hearings. Participation by other groups was not as consistent. Members of the general public were more active in the two informal hearings, where they accounted for 29% of all participants. During the formal hearings, however, the general public consisted of only 2% of the intervenors; their participation was replaced by representatives of government, non-governmental organizations and Aboriginal Government. The different representation levels of members of the general public between the informal and formal hearings support the assertions of participants that the formal nature of the quasi-judicial process may have deterred the involvement of the general public in the hearing (for example, see Sections 5.2.2.2 and 5.2.4.1).

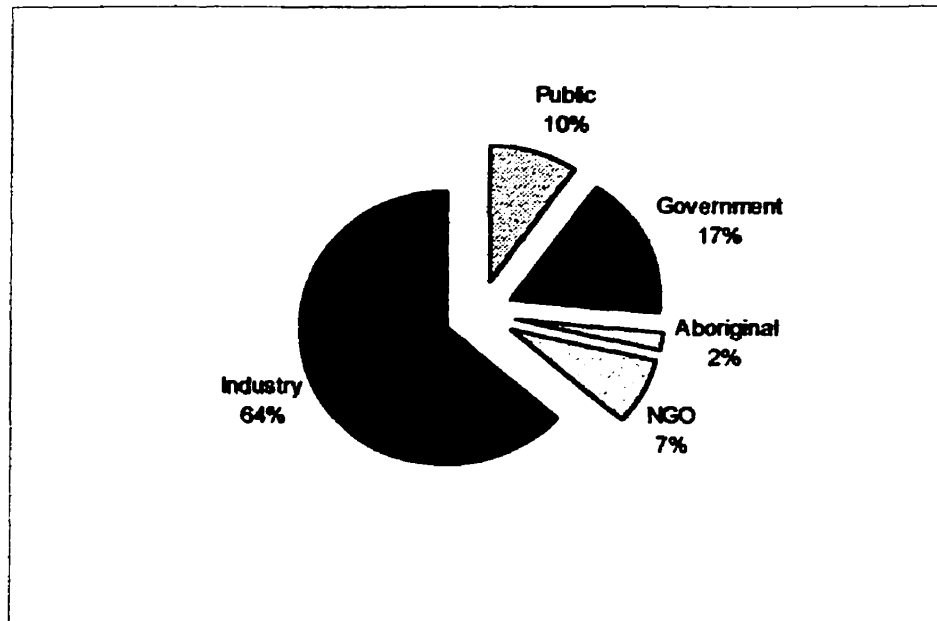


Figure 16: Affiliation of all hearing participants.

A second factor that may have detracted from the Panel's efforts to ensure the hearings were accessible to the public involved the hearing schedule. The panel sat each weekday, between standard business hours (i.e. between 8:30 am and 5:00pm).

Accessibility, for those with conflicting schedules, due to work or school, was a frequent issue during the hearings.

So, again, they are precluded from making their own presentation by the fact that this Hearing does not sit outside of normal business hours or normal school hours. They again raise their voice in protest that it precludes the voice for the students, by not sitting at times that are more available to them (NEB 1997a: 10493)

You know, people with jobs or people who were taking courses, could attend some of the hearings at night, and not interrupt their daily routines. And that became an issue for us. We realized that each day that we went to the joint panel hearings in the hotel in downtown Halifax, it was only people who were being paid to attend, could afford to go to the hearings. So we felt that the public was, we thought, at a bit of a disadvantage. So we thought that perhaps some flexibility could be built in next time – but there wouldn't be a next time for this project, but maybe for future projects (George).

Although the panel worked to ensure the public could participate in the hearings (i.e. through activities detailed in Chapter 4 including the provision of intervenor status to all interested parties, etc), the panel schedule appeared to act as a significant barrier to broad-scale participation.

5.2.6.2 Were steps taken to encourage inactive publics to participate?

As described in Chapter 4, numerous activities directed at informing and engaging the public were undertaken by the panel, industry and non-governmental organizations. This criterion explored how the secretariat worked to engage members of the public in the Sable Gas panel review. To this end, the panel secretariat office was relocated to Halifax. A public liaison officer from the affected community was appointed and charged with conferring with interest groups and conducting media relations activities.

I acted as community liaison to stakeholder groups, intervenor, advising the panel and the public on the working of the joint panel. Like any communications officer, you have respond to who you report to, and act on their behalf. But in case of public review, you have responsibility to ensure that public was engaged in the process (Alva).

Efforts to engage the public in the assessment were delegated to the panel secretariat, who made every effort to encourage participation in the assessment.

I think [the secretariat staff] were endlessly accommodating to people who walked in off the street. "I want to learn something." Give them documents, talk them through it, and so forth. That was their job. They did it extremely well. I never heard a complaint from that part. People knew about that (Tracy).

I am not sure how much could have been done. The hearings were widely publicized. As I said, at some points... daily... daily hearings were covered by six media organizations. And people from outside Nova Scotia were stunned by this. They said they had deals worth twice as much, and couldn't receive a quarter of the coverage. So there was a lot of information put out. And the hearings were basically in the same place, everyday for three months. Except for when they went to

Fredericton. So I think people had the opportunity if they wanted to. There were some members of the public came down, but more often than not I recognized them from other issues, other causes, and so I am not sure what else could have been done (Brian).

As illustrated by these responses, the panel secretariat was effective at providing information to members of the public, and making themselves accessible for public meetings.

However, as described above, despite these efforts, there was little representation by members of the public in the formal hearings. Public participants suggested a variety of factors that may have served as constraints to public involvement in the hearings. These constraints classified in terms of categories identified by Diduck and Sinclair (2001), include:

- ✦ process deficiencies, including a lack of opportunity to dialogue about the project (Dana, Judy), and an inability to participate in the hearings due to timing (David);
- ✦ alienating dominant discourse, fostered through the formality of the hearings process (Laura, Patrick), and the proponent control of the public involvement (Laura);
- ✦ lack of institutional capacity due to the extensive efforts required to adequately participate in the hearings (Maire);
- ✦ not directly affected by the development (Stephen);
- ✦ left it to others, particularly non-governmental organizations who represented their interests (Scott);
- ✦ lack of understanding about technical issues (Dana), and the potential impacts of the project (David, Andrew, George) ; and,
- ✦ character traits, including apathy (Meaghan).

5.2.6.3 Was the public able to become part of the panel's EA decision?

This criterion explored the views of the participants in the Sable Gas Panel Review. Did the stakeholders believe they were able to contribute effectively to the assessment decision? Responses related to perceptions of effectiveness were varied.

Some people believed that their participation in the process had an impact on the panel decisions.

Probably nine times out of ten of them it didn't have any lasting impact, but I bet there are a few people who think a little bit differently, even if it is only about one thing, one aspect. You have done the best that you can to, then I consider that to be a positive experience [as was this experience] (Andrew).

These respondents espoused the notion that through participation in the hearings process, they contributed to the questioning of the proponent's evidence and as such, they contributed to the panel decision.

Other participants had a more negative perception of the nature of the public participation experience. These respondents believed their contribution had little impact in the decision-making efforts of the panel.

I feel [participating] was not actually worth the time that I put into it. Because I don't feel that the panel – it didn't change anything. It didn't seem that the panel took much into consideration from the presentations that we did (Maire).

Some public participants question whether the public was provided an opportunity to contribute to the decision as merely a token illustration of participatory democracy. They believed the assessment decision had been made before the project reached the hearings; issues raised during this stage of the assessment were not reflected in the panel's recommendations.

Panel members, however, acknowledge a range of input from stakeholders. They suggested that public participants in the hearings raised valuable questions but at other times, issues were not focused on the panel's terms of reference.

[T]he hearings were so exhaustive that every issue that they raised after the hearings was raised in the hearings and was thoroughly vetted on both sides. They raised some issues that were important, and they got vetted and they raised some issues that were basically provocative, and they got vetted as well (Tracy).

Regardless of the applicability of specific topic areas discussed during the hearing, the panel supported the process, suggesting there is a responsibility to allow members of the public to vet their ideas in a public forum. Some of these ideas contributed to recommendations formulated by the Panel, (CEA Agency 1997), including:

- ✦ information requirements related to the impacts of the subsea pipeline on the valued ecosystem components identified in Betty's Cove (recommendation 5);
- ✦ the development of Contingency Plans to focus on spill prevention, response, and strategies for cleaning up the marine and terrestrial environments (recommendation 16); and,
- ✦ a written protocol detailing the proponent-Aboriginal roles and responsibilities for co-operation and monitoring (recommendation 45).

The varied understanding of the nature of individual contributions to the assessment process between some members of the public, and the panel illustrate the outstanding conflict in assessment literature surrounding the nature of the public involvement process (see Section 2.2).

5.2.7 Multicultural

A multicultural curriculum acknowledges the cultural diversity of participants. In terms of the panel review process, operational definitions of this criterion explored efforts to attract people from different cultural backgrounds to participate in the process. They also examined efforts to ensure the process balanced the needs of participants of different genders, races and classes. Did participation in the assessment include representation by different segments of the population?

5.2.7.1 Were efforts made to engage people from diverse cultural backgrounds in the hearings?

Concerns regarding efforts to engage publics from different cultural backgrounds were cited as a major concern of several Aboriginal organizations participating in the process. One member of the secretariat noted:

Having said that certain communities were problematic, primarily the Aboriginal Community. I think primarily in the way the proponents considered them the same as any other community. So they would just ship a bunch of documents to them assuming they have the resources and the will and the interest to disburse them and have the organization and the infrastructure to become part of the process. And they felt very strongly that shipping a bunch of cartons of documents to an office that didn't necessarily represent them, or all of them – it's not a homogeneous group – is not enough, so that became an issue during the whole hearing process. And afterward - it held up the project (Samantha).

Despite recognition of this deficiency in the proponent's application, it appears few steps were taken to encourage Aboriginal participation in the hearings. Beyond the allocation of participant funding, and the granting of intervenor status to three Aboriginal organizations who requested this right, no special efforts were undertaken to engage the Aboriginal community in the hearings process.

5.2.7.2 Did the process reflect the needs of participants (translation, location, process, etc.)?

Logistically, several steps were taken to meet the needs of participants in the Sable Gas hearing. The formal hearings were divided between two locations – New Brunswick and Nova Scotia, so residents of each province affected by the proposal could participate in the process. As New Brunswick is an officially bilingual province, translation services were provided, as required. Finally, in an attempt to respect the needs of people with environmental illness, the panel worked to encourage a scent-free environment for participants.

Some requests, however, were not accommodated by the panel. In particular, a request for video-conferencing by MEAT was not undertaken.

We had requested, on numerous occasions, and you will find that in the documentation there, for video conferencing. We are into the millennium now, and I would have liked to have gotten more students involved, seeing that this has quite an impact on their own future. And I requested that videoconference occur so that we wouldn't have to make the long trek into Halifax, and so that students could present their evidence that way, but they refused to do so. They refused even to acknowledge it (David).

As illustrated by these activities, moderate steps were undertaken by the panel to accommodate the needs of participants.

5.2.8 Research-Oriented

This criterion refers to the nature of the activity. Does the learning agenda promote research by both the teacher and the student? In terms of the panel review process, the criterion was explored using three indicators: Did the panel investigate the needs of participants; were participants encouraged to undertake independent research activities; and did material presented in the course of the assessment contribute to future research initiatives?

5.2.8.1 Did the panel investigate the participants and tailor the materials to reflect their needs?

This indicator is difficult to assess because three years had passed between the completion of the Sable Gas panel review and this research. This lapse in time impacted the ability of participants to recall specific details related to the assessment process, including how or why certain events were instigated. The best source of documentation related to the EA was material submitted as formal evidence to the hearing; as such, many of the detailed day-to-day material surrounding specific activities has been lost.

This being said, extant documentation and personal recollection related through the interview schedule indicate that members of the Secretariat recognized the unique circumstances surrounding holding a quasi-judicial hearing in the Maritimes.

When this assessment began, the public didn't understand the project, or the assessment process. It was a major development project; a change to the existing socio-economic environment of the region. Sable Island was a new energy source - this project had a big impact... There was even a greater learning curve with Sable because the panel used the NEB's quasi-judicial hearings process. This was a challenge to all participants who didn't have legal council (John).

Although no definitive conclusion can be reached regarding the level of consideration given to the learning needs of participants by the panel secretariat, several activities indicated an awareness about needs specific to the Maritimes. These included presenting a class on "How to be an intervenor" led by the members of the Panel Secretariat; offering legal assistance to non-governmental intervenors; and providing leeway to first time participants in the process. It is unclear by whom or under what circumstances these activities were instigated, however, the secretariat included a combination of experienced NEB personnel, and local government officials. This combination of experience may have contributed to the efforts by the panel to develop programs reflective of the novelty of the process to the Maritimes.

5.2.8.2 Did the panel encourage independent research by participants?

As with all EAs that include hearings under CEEA, provisions were made under the participant funding program for stakeholders to apply for monies related to research and administrative expenses. Funding dispersed in relation to the Sable Gas Panel Review totaled \$125,000. While figures detailing contribution levels for each organization were not available, money was distributed to the Conservation Council of New Brunswick; the Union of New Brunswick Indians; the Native Council of Nova

Scotia; the Ecology Action Centre; the Maritime Pipeline Landowners Association; the Clean Nova Scotia Foundation; the Citizens Coalition for Clean Air; the Nova Scotia Salmon Association; and, the Allergy and Environmental Health Association.

This funding contributed to each organization's submission to, and ability to participate in the hearings.

Now we knew right away that we were going to have to have some expertise. Can the public participate when they are at the disadvantage of not have experts available, not having resources, how can we do that? And the way that we try to do that is we use the CEAA, the public participation funds, we were granted money, and what we did – we hired our own expert. Three things we did. One we hired our own expert and here is his report... we produced evidence, official evidence that was put into the record...We are put on the intervener status, we receive intervener status (Laura).

A survey of research undertaken for the Sable Gas Panel Review presented in Table 11. The participant funding program provided resources to various interest groups to devote the time and effort to research key issues related to the EA, and participate in the hearings process.

We hired a number of people to do studies, which I think had quite an impact on the process...We did a study on ice conditions in the North Atlantic that I think pressed them to come up with more detail. We did a study that had to do with alternative routes for the pipeline onshore, and that pushed them on the methodology of crossing waterways. So there were a variety of things that we did that I think were quite helpful to the process (Patrick).

Basically, I mean, thank god for intervener funding because the little that we did have, we put to really good use. We could have used a whole lot more, but if we didn't have that – there's no way [we could have participated] (Dana).

We appreciate the funding of the CEAA, but it did have limitations to carry out the consultations (NEB 1997a: 10582).

This source of funding was appreciated by all recipients, however concerns related to timing and level of funding were raised.

Table 11: Survey of research submitted as evidence to the Sable Gas hearings.

Author	Pages	Scope
Nova Scotia Salmon Association	19	Freshwater Ecosystem, Watercourse Crossing; Trench as a conduit for surface and Subsurface water; Riparian Zones; Erosion and Sedimentation; Acid Drainage; Final Routing; Lateral Lines; Environmental Inspectors' Environmental Protection Plan; and, Monitoring.
Seafood Producers Association of Nova Scotia	13	Relationship between fisheries industry and petroleum development; Observer Program; SOEP Fisheries Liaison Committee
Allergy and Environmental Health Association, Nova Scotia	Approx. 80	Environmental Illness and chemical sensitivity; Indoor pollution and natural gas use; cumulative effects; Natural gas; Hydrogen sulfide; Natural Occurring Radioactive Material; Organometallic compounds; Odourants; Products of combustion of natural gas; Particulates and Volatile Organic Compounds; Occupational Risks; Economic Implications; Legal Implications; Alternative Energy Sources
Maritime Pipeline Landowners Ass.	33	Easement and Property Rights, Funding for Efforts; Compensation
Conservation Council of New Brunswick.	17	Crossing of Salmon Rivers; Recreational use of Easement; Burning of Wood Waste; Vegetation Control; Avoidance of Wetlands; Moose; Old Growth Beech Stand; Performance Bond; Acid Rock Area;
Ecology Action Centre	59	Corridor Selection Process (public documents pertaining to onshore pipeline; corridor selection process; importance to wildlands to ecosystem sustainability; ecological effects of forest fragmentation; government regulations; deficiencies in EIA; and pre-existing linear corridors in the study area)
Ecology Action Centre	15	Sable Offshore Energy Project Intervention: Economic Issues (Insufficient protection of Public Interest- time limit on development rights, risks associated with Royalty Regime; Displacement of Coal Industry; Net Benefit to Public Partner)
Ecology Action Centre	115	Review of the Marine Environmental Impacts
Ecology Action Centre	Approx.120	The Historical Record of SEA Ice in the Vicinity of Sable Island and Sable Island Bank, Scotian Shelf, Nova Scotia Canada 1801-1961
Earl Lockerby	21	Natural Gas – Environmentally Friendly or a Major Polluter? (Other Energy Sources, Atmospheric Pollution and Global Warming, Sustainable Development)
Saint John Citizens Coalition for Clean Air	Approx. 40	Lateral Lines to Saint John, Air Pollution
World Wildlife Fund	Approx.100	Protected Areas, Species of Concern (Northern Bottlenose Whales, Roseate Terns)
Confederacy of Mainland Micmacs	Approx.40	General Concerns, Archaeological Sites, Effects on Habitat of Fish, Wildlife and Traditional Medicinal Plants; Effects on Land Claims; Employment and Economic Opportunities
Scotia Fundy Mobil Gear Fishermen's Ass.	4	Ecosystem, Economics, Discharges

For example, if you applied to get intervenor status, we found out that we got the funding in I think it was in December, and the hearings started in March, so there was only like four months to do that piece of work. And if you know anything about community development, four months is not a lot of time (Dana).

It became very, very clear that the interest of the public were really way down the list of considerations in my view because it appears that the interest of the big developers, the big suppliers, the big, the people who were going to have advantages with this, their interest were very well served. Unbelievable expertise – lawyers, engineers, accountants – at the public hearings (Laura).

And to some degree, that is true, when you have eleven thousand dollars of intervenor funding to do a whole process in six month, versus millions of dollars going into EA assessments, by consultants for the company, obviously you can't do the same scope of work, right (Dana)?

Despite the extensive contribution of independent studies to understanding the environmental impacts of the Sable Gas project, panel participants felt that with additional timing and money, more research could have been contributed to the Sable Gas hearings. Additional studies could have served to generate more discussion about the positive and negative impact of the proposal, and worked to level organizational capacity to effectively participate in the hearing.

5.2.8.3 Did the material presented during the panel contribute to future research initiatives [outside the specific EA]?

As with many EAs for large-scale projects, studies about project impacts continued following the panel's recommendation. As a condition of project approval, for example, the proponents were required to undertake numerous baseline and monitoring programs. These programs focused on valued ecosystems components, including:

- ✦ waste discharges;
- ✦ water and sediment monitoring;
- ✦ data pertaining to wind and extreme events;

- ✦ underwater habitat data; and,
- ✦ geotechnical information related to the pipeline (Natural Resources Canada 1997; NEB 1997b).

In addition to project-specific monitoring programs, as a condition of approval by the Canada-Nova Scotia Offshore Petroleum Board, the proponents were required to contribute \$5 million over a five year period for research and development in Nova Scotia. Details regarding studies funded by this money, were unavailable (Canadian Nova Scotia Offshore Petroleum Board 1997).

5.2.9 Activist

Activist refers to the nature of the learning environment. According to Shor (1993: 34) a classroom should be both “active and interactive, thanks to problem-posing, co-operative learning, and participatory formats.” Wherever possible, critical education should contribute to action outcomes. As the EA process is explicitly designed to produce an action outcome the criterion for this descriptor focused on the learning environment. Were participants encouraged to engage in experiential learning?

5.2.9.1 Did the hearings process encourage participants to engage in experiential learning?

Experiential learning is the process of using a real-life experience as a method of learning about general principles that can be applied in future activities. In more colloquial terms, experiential education focuses on learning by doing -deconstructing specific activities for lessons which can be applied to life experience - rather than learning through reading about action-outcome.

The Sable Gas panel contributed to the experiential learning opportunities of participants on two fronts. A small group of (public) stakeholders utilized this education style to prepare for their participation in the hearings.

We actually went out and walked pipeline routes; we did everything. We were more than just on the paper. We went to the communities where they were going to go. We were up in Minto and all of these places scouting around and driving and looking at where they said they were going to have it. [One member of our group] spent a couple days in the woods. So we actually did the hands on sort of thing as well, where we looked and critiqued because we would look at the maps that they provided and then we decided that there might be an area that we had questions about so we would go out, drive out. Sometimes it would take us a day, a day and a half in the car to get to some of the places, and we would drive out and see if whither or not we agreed with what they said they were going to do (Andrew).

Through a hands-on examination of areas under consideration, these participants suggested they had a greater understanding of the true impacts of project construction.

The second avenue for experiential learning affected all participants of the hearings. The quasi-judicial hearing serves as an experiential learning activity for all participants. This idea, expressed by many participants, was explained by a member of the panel secretariat:

You learn best by being in the process and doing it. I went to a formal class, and learned a lot, and it helped me in the formal process. But I will tell you my first week doing it ... it was trial by fire. And it was pretty scary, but it was a way to learn. We had some people from NGOs come in beginning who were clearly embarrassed, uptight, frightened. I mean the room is filled with a hundred lawyers, and here is a guy who has a PhD in something or other but he's had no legal experience, and he's really intimidated. That - the one guy particularly in mind, who did this right at the very beginning, at the end of a couple of months of hearings, this guy was really good. So I mean, sure, it was intimidating. I mean he watched what other people did, and he learned from it, and he got better and better, and so in the end, the criticisms of intimidating and adversarial came from people who only gave it a passing glance... But the ones who stuck with it and tried to learn the process, they did extremely well (Tracy).

To truly understand how to effectively participate in a quasi-judicial environment, stakeholders had to have experienced the process.

5.2.10 Affective

According to Shor (1993), dialogue fostered through a program of critical education is interested in a broad development of human feeling. Critical education should be “affective”, engaging a range of human emotion – from humour to anger. To examine the nature of the EA process in this context, the operational definition focuses on opportunities for developing relationships between proponents.

5.2.10.1 What relationships developed among participants as the result of participation in the hearings process?

An assessment that includes a panel review is a time-intensive activity. As noted above, the hearings themselves sat for 56 days over a four month period. Given this extended period of time during which participants were in daily contact, did any lasting friendships emerge? Unfortunately, the research survey did not specifically explore lasting relationships emerging from participation in the Sable Gas Panel Review. As such, insufficient information was available to analyze this indicator.

5.2.11 Additional Considerations

The final descriptor of critical education relates to the overarching learning agenda of the learning process. What is the relationship between education and broad political policy? The application of this concept to environmental assessment is challenging – the scope, or focus of the assessment is defined by categories defined by relevant legislation. However, as sustainable development is an overarching principle of

assessment, it is possible to examine to what extent the assessment considered the implication of the development on broad social realities.

5.2.11.1 Were broad policy issues affecting social, economic and environmental policy considered in the course of the hearings?

As indicated in the discourse related to the scope of the hearings, the panel focused the assessment on issues related directly to the project. For example, the panel considered the project's contribution to greenhouse gases as a result of extraction of the natural gas – not as a result of the end-use of that gas. Broad scale policy objectives – such as discussions related to greenhouse gas emissions, or, sustainable development, were permitted only as they related to the immediate project.

The projects have not been discussed, debated or analyzed within the framework of sustainability... After weeks of testimony and months of preparation, there is little on the Record as to how these Projects relate to sustainability, and how the people of Nova Scotia were apprised of this relationship (NEB 1997a: 10596-7)

They answer questions and provided the maps and did all those things very well. But the bigger questions about should we be doing this anyway, like before you get it, it never really gets fully explored (Andrew).

And people would say well that's at the policy level for the government, but often policy is void. You know, if you had an energy policy for Nova Scotia before Sable came in, you might be able to lobby effectively, or point to it as saying this does or does not fit in with our strategy; if it is going to move it away from our strategy, what kind of mitigating factors can we do? Like there are often just, it is very piecemeal, it is sort of like, here is a big project here, try and stop a million dollar train, here is another one over here, you know. So I think that to be more at that (Dana).

Discourse surrounding the Sable Gas Panel Review did not appear to directly contribute to the broad-scale policy discussions about issues related to the project. This decision was cited as a concern by many public participants.

5.3 Summary

Opportunity for critical education in the Sable Gas Panel Review, as promoted by Shor's ten indicators were examined. Twenty-one assessment-specific operational definitions were applied to the Sable Gas Panel Review EA. Participant perceptions of the panel agenda, complemented by data produced through the course of the assessment suggest that the panel format, as undertaken in this case, emulates components of a learning program which can foster critical education. In most instances, the assessment process encourages, to some degree, activities that can allow for critical learning. In all areas discussed, however, additional efforts would foster a more critical educational environment.

Participants in the Sable Gas panel review had an opportunity to engage in critical education. While it is important to acknowledge that the panel did not set out to engage participants in a "critical educational" experience, each of the ten operational definitions of critical education were addressed to varying degrees, through activities undertaken by the panel secretariat. The efforts of the panel secretariat can be ascribed to a variety of motivations, including a desire to ensure the project was subject to a comprehensive evaluation of the environmental impacts before construction; a need to meet the legal requirements of five assessment Acts; an attempt to level power relations and resources among participants of the process to allow for more equitable ability to participate; and a desire to assist non-governmental organizations in their efforts to effectively contribute to the hearings process. Regardless of the original motivation behind the action, efforts to ensure extensive dialogue about project impacts through fifty-six days of hearing, access to legal assistance for all participants, and the provision of funding for independent research produced a forum for a critical learning

environment, where participants could debate the environmental effects of the natural gas project.

One of the strongest criticisms of the EA, expressed by representatives of the public, related to the process under which the hearings were held. The quasi-judicial format of the Sable Gas Panel Review served to discourage participation by the general public, affected the ability of the panel to level power relations among participants, fostered an environment where not all evidence was given equal consideration in the assessment decision, and decreased opportunities for open dialogue about potential solutions to the project. These criticisms must be weighed against the requirement of the hearings to meet the needs of National Energy Board legislation, and the strength of the tool of cross-examination for measuring the validity of a statement.

Efforts can be made to encourage critical education, but the success of the initiative is dependent on the learning outcomes of the participants. Chapter 6 describes and reviews the conditions for transformative learning – Mezirow’s theory of how adult learners experience a perspective transformation through learning activities. The application of this theory provides the basis through which an exploration of the learning outcomes of participants in the Sable Gas Panel Review is conducted.

Chapter 6

TRANSFORMATIVE LEARNING

This chapter explores the potential role of transformative learning in EA. Framed within the context of transformative learning theory, a discussion of an individual's experiences serves as an indicator of assessment success. Responses to questions related to the context of an individual's participation in the process (motivation for and expectation of participation), learning outcomes, and impacts of participation on lifestyle provide insights into evaluating the EA. Participants in the Sable Gas Panel Review were asked why they participated, what they learned, how this learning developed in the context of the assessment process, and the impact of the learning on their current lives.

6.1 Learning Through Participation in the Sable Gas Panel Review

6.1.1 Why did you choose to participate in the Sable Gas Panel Review?

Responses to this line of inquiry reflected the mandates of the organizations represented by the participants. Since many of the contributors to this research represented environmental organizations, the data collected through interviews illustrated that participation in the Sable Gas Panel Review was motivated by environmental concerns. Some public participants suggested that their role in the hearings was motivated by interest in energy issues.

I wanted to put forward the view, and not just the view but the fact that natural gas is not the end all and be all, because natural gas still does contribute to global warming; natural gas still has environmental impacts. ... So I wanted to make these views known and try to correct the

misconception that is developing. So that was my objective to participate in the hearings. I wanted to put this view forward – it's not just a view, it's a fact (Stephen).

Other respondents emphasized concerns about the potential impacts of the project on fisheries and water management.

[Our organization has two focuses]:one on energy issues, and one on fisheries and oceans matters. And these are two very large preoccupations for [my organization]. And it was obvious that the proposed development of the offshore was of enormous significance for both of these matters, both for energy policy and for fisheries and oceans policy. In addition, the EAC has quite an expansive view of what environmentalism is all about. It does not fail to make the links between environmental issues and economic activity. So all of these matters came together with the Sable and Maritimes and Northeast Project, so it just seemed like an enormous opportunity not to be missed. So it was important for us to advocate for either significant modifications to the project as proposed, or to have them go back to the drawing board entirely, which is what we would have liked (Patrick).

And one of the reasons was that the project was crossing ninety-two rivers in Nova Scotia out of which, $\frac{3}{4}$ of them had salmon populations in them. So I guess that was why we became interested. Plus the fact that it was just... individual interest of myself (Meaghan).

A third set of responses related to concerns expressed by individuals about impacts to land-based systems.

Basically because I felt that the consultant who had prepared the report for the project, the environmental consultants, didn't take into consideration any of the proposed candidates [for protected areas] that we knew of and for some reason they had not obtained that information. So I thought it important that the panel hear about that (Maire).

Participants in the Sable Gas Panel Review expressed a need to advance the panel's understanding of issues central to the mandate of their organizations.

Information presented during the hearings complemented interview responses.

As organizational representatives were cross-examined about the intent of their contributions to the panel, responses could be linked with organizational mandate.

In the spirit of participatory democracy and sustainability, Clean Nova Scotia applied to be an official Intervenor before the Joint Review Panel. We were concerned that insufficient attention was being paid to sustainability issues and that neither the Provincial government nor the Proponents were exposing the Nova Scotia public to balanced information on the proposed Sable offshore Energy and Maritimes and Northeast Pipeline Projects... At this point, our emphasis is to bring to the Panel the voices of communities, not to focus on building our own case. I think that is an important point to make. That is what we try to do: try to bring to you the voices of the affected communities (NEB 1997a: 10581).

[I]s that this every from natural gas be used to displace more polluting forms of energy, which are having a really detrimental impact on our region, our country, and indeed the planet; that Sable gas should be used to displace other fossil fuel forms of energy, such as coal and oil; and also to displace nuclear energy, wherever it is possible to do so, that that we move to having less impact on the planet through the use of a cleaner-burning fuel (NEB 1997a: 20398).

Responses provided in the hearing transcripts, complemented with interview details, illustrated that groups were concerned with contributing to the Sable Gas assessment discussion as it related to their organizational interest.

6.1.2 What did you learn through your participation in the assessment process?

Responses to this question were grouped into three categories: learning about governance, learning about environmental assessment and learning about the project. Learning about governance included observations about the system of legislative control over the public, and the actions or behavior of individuals within that legislative context. In terms of the legislative context, many respondents espoused some level of disillusionment with the target of government policy. These respondents verbalized a newfound belief that the government – at the federal, provincial and municipal levels - does not act in the interests of public, but rather in the interest of industry. When

questioned about his learning outcomes, the harshest critic suggested that government is an agent of industry demands.

[I learned that] that the National Energy Board is the lap dog of the oil and gas industry, number one. That the idea of participatory democracy is an illusion here in Canada. And those are the two things (David).

Other comments were less forceful, but provided a similar observation about the nature of participatory democracy as practiced in this case.

In terms of what we learned, it's probably something that we knew as hearings opened up, that the public was not going to really be able to become involved in the process, and we felt that was really unfortunate. I mean I think even a video tape that a high school environmental team made, and all the time and effort they put into that, and it was excluded from the evidence on legalistic grounds by the lawyer from the proponent. That will give you an idea of what people were dealing with. So it was seen as a threat or something (George).

Within this regulatory framework, the some members of the public believed that they were unable to participate effectively. Some participants also suggested that government was likewise ineffective at protecting the public interest.

I learned, I had something I had learned before reinforced which was that the Nova Scotia government, generally is very much of a novice when it comes to oil and gas matters, and isn't very sophisticated about protecting the public interest here (Patrick).

Representatives of the public questioned how the needs and rights of civil society were protected through this process.

I really felt that the letter of the law had been met through that system, but basically people with the money had achieved what they wanted. And I felt that in the end, money talks. I kind of had a rough feeling that that's the way it works – big government, big business that type of thing, but that was confirmed through this participation. It might be possible for people to think of this process as window dressing... The letter of the law had been met, but I am not really sure that the community had been consulted at any level whatsoever, other than the limited efforts that some of the environmental groups and community groups might have engaged in (George).

While participants acknowledged that the assessment met the legislated requirement, they questioned, if it met the spirit and intent of participatory democracy. As described in Chapter 2, participatory democracy supports the direction of the collective wisdom of citizens over the decisions of select individuals. Some participants questioned if EA, as enshrined in current legislation, and implemented during the Sable Gas Project could adequately hear from civil society, or if the process itself was designed to defer to the wisdom of government and business.

From my perspective the hearing was about giving industry a big, green light To tell the oil and gas industry that Nova Scotia was open for business....[Without our contribution] the hearing would have been about argument between corporations and the regulators (Veronica).

[A reliable conclusion that] can be drawn from the Evidence CNS filed on May 1, 1997 [is] there has been no widespread, accessible, genuinely two-way consultation on these projects [NEB 1997a: 10596]

This concern leads to the question, “Is EA an efficient and effective tool for ensuring a public debate about the sustainable nature of a development initiative?”

After weeks of testimony and months of preparation, there is little on the Record as to how these Project relate to sustainability, and how the people of Nova Scotia were apprised of this relationship (NEB 1997a: 10597).

Are all facets of sustainable development – biophysical, social, cultural and economic environments adequately represented through a hearing? Is the public able to vet their individual collective ideologies using this process?

Disillusionment with the government was not uniform among participants. Some participants, representative of each sector, expressed a divergent opinion. They emerged from the hearings with a renewed faith in the public, and a new faith in the ability of individuals to represent public interests within the regulatory environment.

I never came away feeling that it had been a negative experience in any way (Andrew).

And I would do it again... It was entertaining. You learned a lot, but it was also entertaining. ... It was well worth the time and effort that a person put in it (Meaghan).

It was fun (Norman).

And, despite the discouragement some public participants felt with the government, they expressed positive learning experiences related to individual participants and personal growth.

I never cease to be amazed at how serious people are at the things that are important to them, the effort people will make on a voluntary basis because they believe that it is important to the community as whole. Or that they can affect the outcome. I am impressed the most with the individual people who participated in the process (Alva).

I felt pretty proud of the way my presentation appeared on paper... The most important thing I got out of it was my own personal satisfaction. I am learning something. It's just the personal satisfaction that is more important than anything else (Meaghan).

While some learning experiences related to governance focused on a disillusionment with the application of participatory democracy in EA, others focused on the ability of stakeholders to participate effectively in the process.

A second category of the responses related to individual learning about the assessment process.

Well certainly how to participate fully in one of these kinds of quasi-judicial type of hearings. I think we were able to, as things went along, much more fully than a lot of interveners....But I think we learned through these processes how to be more effective. And I think what kind – having seen first of all the process and then the implementation, I think that would allow you to zero in on areas of vulnerability with the proponents, where you could bring up for example past track record, and reinforce point from that sort of perspective (Randall).

Well I certainly learned a lot more about the official process itself, which is interesting and it's good to know that. And as much as I am critical about the process, you do have to have a formalized structure in place that you can't vary too far from, because you would never resolve any of the issues that were put forth. I guess I have a lot more respect for the

panels. They do incredibly hard work, it must be incredibly hard to try to remain fair and see both sides are served (Andrew).

These respondents believed that through this experience, their future contribution to an EA that includes hearings would be more effective and efficient. The Sable Gas panel came to serve as an opportunity to engage in experiential education.

The final category of answers relates to specific learning related to the project. Participants identified learning about specific technical data related to oil and gas, and the project environment.

I certainly learned a lot about natural gas and pipelines....I learned a lot more about the ecology of the Scotian Shelf. ...And I learned a lot more about gas. I don't know that I ever questioned how good natural gas would be for home fuel, for instance. I thought that as a transitional fuel, that gas would probably be a good transitional fuel anywhere. But you find out that it isn't such a good fuel, particularly people with asthma should not be in homes heated by natural gas. So I think basically you just learn a bit about everything (Andrew).

We learned science, because we commissioned studies and so if you commission studies you learn what it is your researchers come up with. I know we learned about the effect on the fishery of offshore oil and gas development by studies that had been done in the North Sea. I guess we learned particularly that there are gaps in the scientific knowledge that could be improved (Patrick).

But a lot I didn't know, I know a lot more now. I was intimidated by the process, and there were scientists and lawyers... so it is not a great way to learn, but you learn. I wouldn't be intimidated by the process now, but it requires a lot more work, having to cross-examine a panel of twelve DFO scientists and bureaucrats, and you don't expect them to brush you off, and lie, and they do. Once you understand what the process is about, your approach become to effective develop your cross-examination skills, and score points by making the experts look bad. It seems to be all part of the game. Our intent would be to expose weaknesses. I wouldn't be intimidated now, but it is still not a friendly process (Veronica).

Stakeholders in the Sable Gas Panel Review became well-versed in scientific and engineering information related to the project.

6.1.3 What do you think you should have learned through your participation in the assessment process?

When asked about the ideal learning outcomes, participant responses were grouped into the categories of governance concerns and technical data. Participants of the Sable Gas Panel Review expressed a strong desire for the assessment to have considered the broader socio-political context of the impact decision.

Well I think what I should have experienced is that the panel would have chosen to interpret its mandate in a broad manner. But they did not. So I guess it just it was a revelation to me, I didn't anticipate it. Otherwise I would have never – I went to a great deal of work to gather my submission, I did a lot of research, I went to a great deal of work, and it was very professionally done. And I've got enough experience in these things to know when something is professionally done and when it is not. So I put a lot of effort into it – weeks and weeks. So it was very disappointing from my point of view, but I guess it was an eye-opening, but it did not leave a good taste in my mouth. So whether that is learning something, I am not sure, but it certainly is experiencing something (Stephen).

As discussed in Chapter 5, respondents expressed a strong desire for the panel to give more consideration to sustainable development, greenhouse gas emissions, and federal-provincial energy policies. The EA of the Sable Gas project would have then been considered within the context of government policies. Decisions could move towards strengthening linkages between policy decisions and project implementation. Without this broader social context, panel discussions were limited to considering the impact of one project, without consideration of the cumulative effects of the project in terms of contribution to unsustainable public behaviors related to energy use and greenhouse gas emissions.

Other contributors expressed a need for more transparency in discussions surrounding the project. As intervenors in the assessment included a wide range of

interest groups, including government (federal, provincial and municipal), participants suggested a need for a clearer understanding of positions presented by government through the hearings.

I should have seen the deal making, more than I did. There was a lot of deal-making that went on. And in the last of it, a stunning reversal of a deal (Brian).

Our Direct Evidence lists examples of policies, decisions and statements by the Government of Nova Scotia that (1) legitimize development decisions in advance of environmental hearings; (2) confuse the public as to the significance of the Joint Panel Review; (3) foster apathy and cynicism in the public as to their ability to affect the review process; in short, influencing the climate of opinion in a manner to suggest that the projects are, pending the Proponents' ability to find investors, a "done deal" (NEB 1997a: 10595)

People expressed the need to understand why public officials selected the policy agendas espoused and forwarded through the Sable Gas hearings. This concern relates to people's questioning of the ability of government to represent the broad interests of civil society, described above. If participants were not informed as to why government espoused policy decisions, or were misinformed as to the nature of the assessment process, they become disillusioned with the process, seeing it as a practice of promoting agenda setting.

In addition to issues related to governance, some responses related to the understanding of technical information presented in the hearings. Public participants suggested they would have liked to gain a greater understanding of the project, and project impacts.

I would have been happier to have the opportunity to do more studies. We felt under-funded as an organization. It was great to be able to have that flexibility which we wouldn't have otherwise been able to have [without the funding], but it wasn't enough. We probably needed almost twice that to do a reasonable job, and given that we were looking at a two billion dollar project, I don't think that it was out of line for a more

significant amount of participant funding to have been made available (Patrick).

These participants expressed a desire for additional resources to effectively contribute to the dataset, and subsequently more effectively contribute to the EA decision.

6.1.4 Did participation in this EA influence your current lifestyle?

Interview participants were slow to respond to the question related to how their participation in the Sable Gas Panel Review influenced their current behavior. This hesitancy is understandable, given the time lapse between the panel and the research project. Factors that may have contributed to an individual's current lifestyle may not have been attributed solely to the Sable Gas panel review. Conversely, if an individual's behavior or perception had been modified, that individual may not have been conscious of the specific relationship between the panel and that change. This being said, three categories of responses – in addition to the “no impact” response – were identified.

Some participants, disillusioned with the EA process, suggested they would not contribute to this activity in the future.

I don't have too much faith in environmental assessments. As far as I am concerned, they are a prediction what can eventually happen, or according to them what can eventually happen to the environment. And I think that money can buy the best environmental assessment that you want. What did I learn from the environmental assessment process? I learned that it is only a prediction, and that you can't rely on them. I saw the environmental assessment that Ogden and Martin did with the incineration. And I don't have very much faith in the environmental assessment process at all. They are only models, and they don't really take into account the cumulative effect a lot of these projects have on the environment. The cumulative effect of a particular toxin on the environment –they only say that it is going to have perhaps a limited impact on the environment, initially, but over 10 or 15 years down the road what impact is it going to have on habitats, and the people living in those habitats (David)?

Expressing disappointment with the scope, hearings process, or panel outcomes, these participants stated their hesitancy to exercise opportunities to participate in government processes in the future.

No [I would not participate in future hearings]. [P]articipating is an onerous task that I feel was not actually worth the time that I put into it (Maire).

A second group of participants, likewise disillusioned with the process, used this experience as a motivation for increased participation in terms of interaction with the government related to policy decisions.

Well it made us more proactive and more vigilant when it comes to regulatory approvals, particularly in New Brunswick at the provincial level. In fact we influenced, we think, our group we influenced the new regulations, the new Clean Air Act of New Brunswick...So in a sense we learned a lot and it changed our lifestyle in that we take every opportunity now to participate and make comment in these review and comment periods. We try to influence the government to make tighter conditions under these big certificates of approval. So it was very effective (Laura).

The Sable Gas Panel Review served as the start of some organization's participation in environmental policy development. Subsequent to this EA, they have actively participated in revisions to federal and provincial environmental regimes.

A third group of participants suggested that Sable Gas Panel Review may have only contributed to subtle changes in personal behavior.

Not really, I was always inclined to environmental principles before hand. I reduced my fossil fuel consumption. I haven't chosen natural gas because it is not available. I might, if there was less burning, you know. But if there was an option for wind, I would definitely do wind (Dana).

These decisions, however, were not necessarily linked with the hearings process, but all environmental activities arising during that period of time. Ecologically responsible behavior was seen as both a cause and result of participation in the Sable Gas EA. This

behavior was attributed as much to membership in environmental non-governmental organizations as with participation in the assessment process.

6.1.5 Have you had an opportunity to use what you learned since the review?

The final question regarding learning outcomes related to the integration of knowledge in personal activities subsequent to the panel process. Have participants used the skills and information acquired through participation in the Sable Gas process?

Responses related to two fields: specific technical knowledge and the application of new skill sets.

Technical data were cited as important for people who continue to work in oil and gas activities.

I know a lot more than I otherwise would about what makes an offshore project economically viable. And this becomes quite relevant to public policy here in Nova Scotia, where there is a lot of discussion about where there is going to be further development of the offshore here. And [indistinguishable] from the Sable project, as part of the overall bundle of benefits to the Maritimes is a constant debate here... I think I benefited enormously just in terms of detailed information and a policy perspective that I got from the hearings (Patrick).

Several participants indicated that they have used their ability to understand the implications of natural gas development since the termination of the hearings.

A second set of respondents referred to general skill sets acquired through participation.

I think in some ways, just facilitating. The small group sessions, you always learn things there that can help improve your process. I think also I learned I would be better prepared if I was an intervener again, in a similar-type situation. Because I would know the process a lot better, the environmental assessment process. So right away I would go to their homepage and get the guide that I know is there now. Call people, ask questions, meet people earlier on, and write down all the dates, so I would be prepared for what was all happening (Dana).

I learned negotiating tactics, and had a better understanding of how to deal with the press. These skills have become more important as I continue to represent my organization (Scott).

We will be involved in these public hearings starting in the spring. There will obviously be more National Energy Board hearings as well and we will, I think, be using all of that stuff. And like I say, it's not just the stuff that you get in the hearings, it's watching the implementation... That's why I say, once you know that's what happens ultimately after the approval is given, you are prepared for the discussions when they come next time (Randall).

These skills relate not only to presentation tools, but also to personal networks.

I don't think my experience translates into how we do our work. It maybe gave us some extra contacts that we can use in our work when we are discussing any issues related to environmental conservation, we now know that there are these groups that represented the farmers or the private land owners that we can go to. So I suppose it expanded our contact network, but other than that I don't think it changed much (Maire).

Respondents cited specific scientific material, and personal information as lessons reutilized in their personal lives since the completion of the Sable Gas Project.

6.2 Discussion

An evaluation of Mezirow's theory of transformative learning examines the *process* through which perspective transformation develops. This analysis has traditionally (and effectively) found individuals with similar learning outcomes and then traced the events leading up to the perspective transformation. For example, Mezirow based his philosophy on the process leading to the decision to return to school following the birth of a child; Macdonald et. al (1999) studied the process through which individuals adopted a vegan diet for ethical reasons. As all participants in the study share a similar (perspective) learning outcome, documenting the conditions leading to this transformation provide empirical depth to Mezirow's theory.

My research, however, examined individual learning outcomes arising from participation in a hearing. Rather than identifying a group of people who share a learning outcome, and testing the process from which this outcome developed (see Figure 17 (a)), this study explored the (multiple) learning outcomes of a group of people who shared a common experience (see Figure 17(b)).

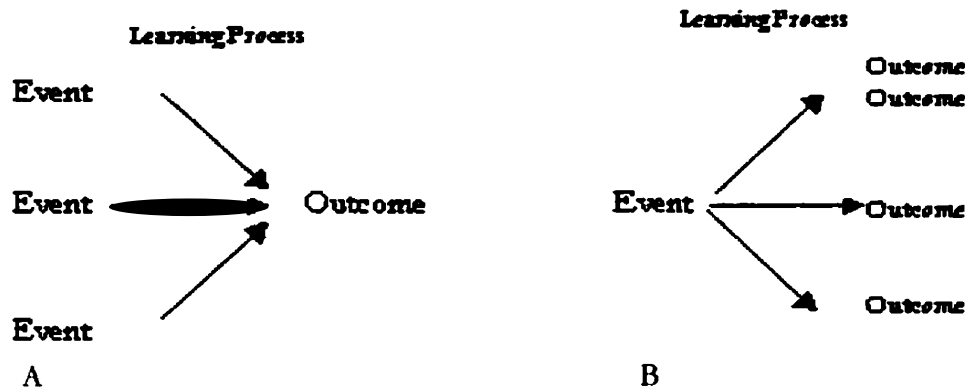


Figure 17: Traditional sequence of events in studies related to Transformative Learning (a), juxtaposed with the sequences of events in my research (b)

This reality made research design and analysis more problematic for two reasons. The process through which transformative learning develops is still subject to significant academic scrutiny and debate (ie. McDonald 1999; Taylor 1997). The research objectives then focused on the categorization of the learning outcomes of participants. Without some pre-hearing reference through which the researcher could establish the significance of each individual's learning, this analysis was guided by participants' self-categorization of his/her learning outcome. As the research methods did not include some aspect of education for participants about Mezirow's concept of meaning perspectives and meaning schemes, self-categorization was reliant on each individual's definition of "influence on current lifestyle."

Although the findings of this component of the research are marked by this caveat, the application of transformative learning was appropriate, and the results of this discussion contributed to the understanding of learning opportunities through EA. Examining transformative learning was appropriate in this context because the theory provided a framework for determining the learning outcomes of participation in EA through the lens of cognitive education. If the curriculum strategy reflected the ideals of critical education, how did the program influence individual learning⁷? This analysis provided a basis through which recommendations for changes to the panel process, as guided by participant learning, were developed.

Individual learning through participation in the Sable Gas Panel Review was multi-disciplinary in nature. Respondents identified lessons couched within the categories of technical information, procedural components and new understandings of governance as outcomes of participation in the hearings process. New technical, scientific, and procedural prowess is a direct consequence of participation; as intervenors sat through 56 days of testimony related to scientific and technical impacts, the requirement to contribute through the process of cross-examination resulted in mastery of these two areas. Effective questioning required adeptness as the formulation of informed question required an understanding of relevant to the technical evidence of the panel, formatted in an acceptable quasi-judicial format. Lessons related to government actions and the role of the public in these actions reflect cognitive interpretations of information. Through a process of working to understand experiences related to the Sable Gas panel, participants developed broad generalized ideas about the overall

⁷ Critical education provides a context for evaluating outcomes in terms of social change; transformative learning focuses on the individual.

framework through which participation was fostered. As demonstrated above, these broad notions reflect various levels of disillusionment with the government, and reaffirmations of the capability of individuals in the public.

Transformative learning theory divides learning outcomes in two categories: meaning schemes and meaning perspectives. It is clear that the development of expertise about specific aspects of the oil and gas industry reflect contributions to meaning schemes. For example, one participant in the EA entered the process believing that natural gas was an important alternative to existing energy options in the Maritimes. When compared with nuclear power and heating oil, the impacts related to natural gas as a heating alternative were more desirable – it was the lesser of the three evils. However, as the hearings progressed, this individual learned of environmental illnesses associated with the use of natural gas to heat individual houses. This information was reflected in her new understanding of the role natural gas in the Maritimes energy regime. While natural gas could, and should replace nuclear power and oil in community generating stations, it should not be used as alternative fuel source by individuals living in the Maritimes. This change to a specific belief, or attitude, is an obvious illustration of changes to an individual's meaning scheme.

Changes to an individual's meaning perspectives, or transformative learning, is not as clearly illustrated through participants' discussions surrounding the Sable Gas Panel Review. Perspective transformations involve changes to general, orienting dispositions of a person. These changes, or the process of considering these changes, may result in tangible actions by an individual, for example, a decision to return to school, or a become an ethical vegan. Statements related to governance issues – for example, individual's disillusionment with the government's assertion of public interest,

may indicate perspective transformations; however, people's hesitancy in illustrating how these beliefs have influenced their current lifestyle make this categorization more problematic. It is unclear if this type of disillusionment triggered, or contributed to, an individual's "disorienting dilemma" which caused them to reconsider preexisting assumptions. It is also unclear if this experience affected, in any way, their subsequent activities, or broad understanding of their environment.

When asked if the learning experience fostered through participation in the Sable Gas Panel Review affected the respondent's current lifestyle, many participants said no. Three types of contributions were identified by remaining participants, non-participation, renewed interest in participation, and renewed environmentally conscious behavior. Responses concluding that the individuals would never participate in an EA again were interesting in that these declarations were very specific. This group of people did not respond that they would refuse to contribute to government policy discussions, or environmental policy discussions, just EA. This reflects a specific disillusionment with the process, not with the role of or opportunities for public engagement in government discussions.

The second group of respondents include those people who identified a renewed interest in participation in environmental policy discussions. This interest in volunteering is a very important and desirable outcome of a panel that includes hearings, however, these individuals had a predisposition for participation in environmental activities. It was this predisposition, indeed that resulted in their original participation in the Sable Gas Panel Review. As such, it is difficult to suggest this reflects a perspective transformation in individuals. The final groups of respondents identified subtle changes in their behavior towards more environmentally sensitive actions. Again, this change is

book-ended with preexisting participation in environmental organizations; these behavioral modifications cannot be specifically attributed to the Sable Gas Panel Review, but to activities undertaken simultaneously during this period of time (i.e. participation in an environmental non-governmental organization, and all related activities, including the Sable Gas Panel Review).

Although survey responses do not definitively illustrate perspective transformations by individuals, it is important to call attention to issues that may have veiled the scale of the repercussions of participation in the Sable Gas Panel Review. As discussed previously, a significant amount of time passed between completion of the panel, and this research. While this time is important for allowing participants to critically reflect on their experiences, it also allows for a complete adoption of modifications to one's meaning perspectives. Participants may no longer recognize changes to their understanding of the world as "new", or these changes may no longer be attributed to participation in the Sable Gas Panel Review. Furthermore, without a significant period of time to reflect on the interview question itself, respondents may not have had an opportunity to critically reflect on the outcomes of participation. When asked how a certain event changed one's life, unless that event was traumatic or obviously significant (i.e. marriage), many people may not be prone to identifying perspective transformations.

Transformative learning theory is still important to consider when evaluating public engagement programs and learning through participation in an EA. Of primary importance is that this theory provides a framework for discussing and analyzing learning outcomes, as described above. These learning outcomes, in turn, contribute to the general understanding of the success of the assessment. What did participants learn?

Are these outcomes compatible with assessment objectives? What is the impact of this experience on a participant's subsequent actions? These questions provide an opportunity to consider the strengths and weaknesses of the panel review process, and, where required, identify opportunities for change.

6.3 Summary

The chapter began with a discussion of these results, framed within the context of transformative learning theory illustrates that learning arising from the Sable Gas process includes both specific data and applied interpretations of information. Stakeholders indicated their primary motivation for participating in the assessment was to contribute their knowledge about a specific valued ecosystem component to the discussion. In turn, participants indicated an expectation to contribute to dialogue that would not only consider the Sable Gas project, but also the Sable Gas project within the context of broad scale policy decisions, including provincial energy use strategies and sustainable development policies. This debate was deemed outside the scope of the environmental assessment; this decision contributed, to a significant degree, in learning outcomes described as disillusionment with the assessment process, and with government in general. Participants expressed concern with the quasi-judicial-styled hearings in terms of both the purpose of the panel hearings, and the ability of government stakeholders effectively represent the interests of the public in this forum. The impact of this learning on the subsequent actions of individuals is ambiguous. Participants struggled to identify what, if any, long-term lifestyle changes arose from their experiences in the Sable Gas panel review. While it is clear the specific data affected individuals' meaning schemes; there is insufficient information to conclude that applied analysis affected the meaning perspectives of participants.

The next chapter discusses the relationship between public engagement, critical education and transformative learning theories in terms of understanding the role of education in EA, with specific reference to the Sable Gas Panel Review. Is it possible to develop a clear understanding of the relationship between the participation in a panel experience and an individual's cognitive learning outcomes? Does this relationship have implications for how EAs that include panel reviews should be undertaken?

Chapter 7

CONCLUSIONS AND RECOMMENDATIONS

This chapter explores the findings of this research in terms of the three objectives established in Chapter 1. What are the dimensions characteristics and motives of EA participants? What are the dimensions of adult education in a panel review? What are the dimensions of the learning experiences of EA participants?

A discussion of the findings of my research contributes to the development of the frameworks of public engagement, critical education and transformative learning introduced in Chapter 2. Public engagement, critical education and transformative learning serve as necessary and complementary mechanisms for contextualizing and analyzing opportunities for public input in EA. These three ideas, when used in conjunction, provide a staged approach to discussing the nature of public engagement in environmental assessment. An analysis of the public engagement program in the context of each theory respectively provides foundation for an analysis of the relationships between inputs and learning outcomes. This discussion provides guidance with respect to developing recommendations for modifying the delivery of panel reviews to better address the learning needs of participants. These changes, if successful, will foster conditions more conducive to participation in an EA that includes hearings.

The second section of this chapter explores the personal learning outcomes of the researcher. Did this study affect my understanding of EA? Can my journey be framed within the process outlined by Mezirow?

7.1 What are the dimensions characteristics and motives of EA participants?

The dimensions of the EA participants were discussed in terms of the types of programs offered for participants in the process, and the information provided to interested parties through these vehicles. This line of inquiry focused on who the learners were, why they chose to participate in the hearings, and how this participation was fostered.

A wide range of people representing numerous organizations were involved in the Sable Gas panel hearings. Stakeholders included representatives of government departments (federal, provincial and municipal), non-governmental organizations representing as diverse interests as economic development, environmental preservation, and landowner rights, industry representatives including both proponents and competitors, and members of the general public. With 125 registered intervenors, this panel was the most inclusive NEB hearing to that point. However, over 60% of all participants represented the interests of industry.

The smallest group represented in the formal hearings process was members of the general public. Only two people without organizational affiliation participated in the hearings as formal intervenors. This lack of involvement may reflect the formalistic nature of the process. The hearings were held under the guise of the quasi-judicial rules of the NEB. Participants were required to register their intent to participate three months before the commencement of hearings. They were required to submit formal evidence one month before the hearings. On the day of the hearings, they arrived in a room full of lawyers representing multi-national corporation, all wearing suits. Hearings were held for four months, between the hours of 8:30 am and 5:00 – during regular

business hours. Each of these factors contributed to a lack of participation by members of the general public.

Those who did participate had altruistic objectives guiding their actions. Participants expressed an interest in a particular issue impacted by the proposed project and they suggested their organization could contribute their collective knowledge to that specific area of interest. In this fashion, participants believed they could contribute to responsible decision making by the panel about the project.

Public engagement in environmental assessment has traditionally been measured through the degree of empowerment of participants. To this end, an exploration of nature of individual tools, or mechanisms for encouraging broad scale participation in the process provides a snapshot of how the public was engaged in the Sable Gas Panel Review. The results presented in Chapter 4 reviewed opportunities for participation in the Sable Gas Panel Review, as hosted by the different groups associated with the project (i.e. Government, Industry and Non-Governmental Organizations). The scale of the audience accessible through each tool provides a picture of who can participate in the assessment process. Finally, a discussion of participant's perceptions serve as a measure of the strengths and weaknesses of the engagement program.

As discussed in Chapter 4, efforts to inform and include the public in the EA were extensive. Numerous initiatives were undertaken by the government, industry, and non-governmental organizations to inform the public about the project, and solicit input about the potential environmental impacts. Participants were hard pressed to identify additional activities that could have been undertaken to engage the public. One criticism of this process, however, related to the type of information being presented to the public about the project. Participants questioned the critical nature of the information; were all

sides of the story being adequately represented in the communication campaign?

Overall, however, the participants were pleased with the level of effort undertaken by the panel to inform the public about the project.

Although participants suggested the public engagement program was extremely successful, they expressed a concern with the inherent bias of information being presented to the public. This criticism was vocalized more strongly in the discussion surrounding the critical nature of the assessment process. Participants expressed unease with the objectivity of the data. They questioned what data was presented, who penned it, and the need for independent corroboration of this material. They expressed concerns with the amount of funding allocated through the participant funding program and time provided between the provision of funds and the deadline for research submissions to the official record. Participants expressed concerns about the time available for them to critically reflect on the evidence, and the process. Finally, there was a strong concern about the lack of personal experience of many of the intervenors working within this assessment context. Resolution of these concerns can involve several modifications to the assessment process. To this end, three recommendations are described below.

7.1.1.1 Ensure the assessment timelines reflect traditional calendar holidays.

Participants expressed concern that some of the deadlines established for the hearings spanned calendar holidays (i.e. the time between Christmas and New Years). While staying true to deadlines is important for ensuring the assessment is not stalled, expecting people to register their interest to be intervenors over this time is unrealistic. Future assessment deadlines should respect traditional provincial holiday periods.

7.1.1.2 Offer a screening service

The Communications Officer of the Sable Gas Panel Review did an excellent job of ensuring all intervenors had access to assessment documentation. However, the sheer bulk of this material came to represent a barrier to participation to some. To this end, the Communications Officer could devise a system for screening document delivery. For example, on Tuesdays and Thursdays of each week, a list of submissions and general subject hearings could be delivered to each intervenor, who, would, in turn, request material, as required. Time expended on this activity could be available to the Communications Officer if their activities related to participant education were limited (see Recommendation 7.2.1.3).

7.1.1.3 Appoint an independent body to manage the EIS.

A frequent issue highlighted by public participants of the Sable Gas project was the lack of clearly impartial evidence submitted for consideration at the hearing. This perception of bias can be addressed, in part, by the submission of an impact statement which has not been penned, or managed by the project proponent.

It would be much better if whoever does the environmental assessment is somebody other than the proponent. I mean the proponent pays for it, but there is an independent board appointed to oversee the environmental assessment. That way you would start with a fair, more objective document (Veronica).

7.2 What are the dimensions of adult education in a panel review?

The dimensions of adult education in the panel review were established through a discussion of opportunities for critical education in the assessment process. The Sable Gas Panel Review served as a vehicle for a broad range of programs directed at both informing the public about the project, and providing an opportunity to contribute to the assessment decision through the development of information feedback, consultation

programs, and, to some degree, promoting consultation with self-identified stakeholders, or “intervenor” in the hearings process. These activities were offered by numerous “hosts”; the government, primarily through the panel secretariat, the proponents, and non-governmental organizations actively sought input about the project from a wide range of affected publics. Organizers of these events sought to offer alternative programs to affected parties in key project areas. These efforts, considered as a holistic public engagement plan, represent a successful stewardship program

The content of these programs was extensive. Information provided through these venues included both curriculum related to how to participate in the assessment process, and curriculum specific to the project. The content of each program was organized primarily by the host-organization. As such, some of the data were not as analytical or objective as it would have been had it been hosted by third parties.

The nature of the public involvement program was of concern to participants in the Sable Gas Panel Review. Participants expressed the need to have more contradictory information available to the public to foster discussion. Emphasis in the media about job creation and political dealings related to the project does not adequately represent the issues related the environmental impact of the project.

It was acknowledged, however, that the hearings served as a vehicle to present all points of view related to a project in one venue. As such, through the process of undertaking the environmental hearings, a complex, holistic understanding of the project and its impacts evolved.

Following a discussion of the engagement program, an analysis of the information in terms of curriculum is important. Outcomes of consultation are only effective if the material under consideration, and the methods through which analysis is

promoted, are adequate. “For the most part, evaluation of public involvement processes tend to focus on the amount of power given to the public in decision making processes, not on the education dimension of the involvement process” (Diduck and Sinclair 1997b: 95). Employing theories of learning that include consideration of power relations is a logical step in this analysis. The application of descriptors of critical education, as undertaken in Chapter 5, allowed for consideration of the nature of information provided through the assessment. Were participants exposed to critical points of view about the project impacts? What was the nature of the program offered by the Panel Secretariat? Were participants able to be involved in dialogue about the project, contribute to research initiatives?

Discussed in the context of opportunities for critical education, the hearings process served as an opportunity to critically dialogue about the project. Participation in the process arose through many forums. As described above, there were many opportunities to contribute to the EA, before and after the assessment was triggered, inside and outside the government process. In terms of formal opportunities to participate in the assessment, the public could contribute to the scope of the assessment, or learning agenda. They could provide an evaluation of the proponent’s application in terms of the conformity analysis. Finally, and most significantly, participation was promoted through registration as an intervenor during the formal hearings. This title gave individuals the right to submit research, in the form of evidence, about the project, cross-examine the proponent or other intervenors about their evidence, and make concluding statements about the impacts of the project.

The hearings were viewed as an opportunity to foster critical dialogue about assessment and its impacts. Participants were asked to contribute to the scope,

conformity analysis and critique of the assessment during the panel hearings. To assist non-government organizations, funding was provided to various groups to encourage independent research related to the environmental impacts of the project. This research served as a foundation for the cross-examination of expert witnesses who presented the company's impact statement at the hearings. As evident through data presented in Chapter 5, opportunities for improving this process included a discussion of both the quality and scope of data considered throughout the assessment. Participants voiced dissatisfaction, again, about the nature of data considered in the process. They expressed a belief that the bulk of the information had a proponent-centred bias. Non-governmental organizations, while provided with funding to research impacts from different points of view, were under funded when compared to the resources of the proponent. They also expressed concern about the scope of information considered. Participants expressed a desire to have the panel consider the project in terms of broad policy objectives promoted by all levels of government. What were the implications of contributing additional energy resources when current levels of resource use are considered unsustainable. Critical dialogue about the project was promoted through the hearings, but participants expressed a need to foster more critical data, and a broader scope of the impacts.

Critical education, which would improve the implementation of participatory democracy in EA, public support of the assessment process and panel decision making, could be more adequately developed through the implementation of five recommendations, described below.

7.2.1.1 Increase funding opportunities.

Additional funding can take the form of increased disbursement of money related to each EA that includes panel reviews. Unfortunately, there appears to be a cap of \$125,000 available as participant funding for each panel assessment. This funding is secured by the CEA Agency on an annual basis – and reserved for distribution, as required, where a panel review is undertaken. This process results in a level of insecurity. The CEA Agency is forced to return unused funding annually. Increasing the amount of flexible money may not be in the best interest of the Agency, or justifiable to the government treasury board.

A more preferable solution involves the provision of some stable source of annual funding for non-governmental interest groups outside specific EAs. This funding program can be developed in collaboration with industries working in the region, provincial and federal governments. These three groups can contribute to research and development activities undertaken in a region annually. The West Kitikmeot Slave Society Study, a program undertaken in the Northwest Territories to encourage studies related to the West Kitikmeot geological region serves as both the precedent of and model for this type of program. Funded by the diamond industry, territorial and federal government, this board seeks to increase understanding of baseline information and cumulative effects of development in a region of Canada's north subject to the latest "development rush". This type of program can be expanded to include baseline funding for long-term non-governmental organizations studying development issues in the focus area.

It is important to acknowledge that this type of program is contingent on large-scale, economically productive resource development in a given region. However, the

focus of this project is the Maritimes. It is clear that oil and gas development will not be restricted to this one project. It is also clear that this type of development will continue to be economically viable. As such, a funding program for non-governmental organization is a feasible and viable option.

7.2.1.2 Increase time between allocation of funding and presentation of results.

There are three potential ways to implement this recommendation. These solutions may be used in conjunction with one another, as possible. The first consideration relates to the panel's participant funding program. Funding should be disbursed as early in the process as possible. This process should be implemented as soon a project is recommended for review by panel. It is important to note there appears to be some effort in the Agency to address this recommendation through a provision in *Procedures for an Assessment by a Review Panel* (CEA Agency 1997b).

The second consideration related to the panel timelines. Although this document was developed after the Sable Gas Panel Review was initiated, it provides timelines for each stage of the assessment. To this end, future hearings should follow the stages of the *Procedures for an Assessment by a Review Panel* (CEA Agency 1997b), including a separate and distinct stage for considering the conformity of the assessment document with the EA guidelines. Following the timelines suggested in this document will slightly improve the time between the provision of participant funding and the hearings.

The third potential resolution relates to Recommendation 7.2.1.2. If a funding program, independent of a specific EA, is implemented, this program can be used to encourage independent research related to an EA *before* CEAA is triggered. Studies may be undertaken as the proponent is developing the EIS – rather than after the formal

assessment process is triggered. This would provide for similar study frameworks for evidence submitted by the proponent and the non-governmental organizations, thereby working to ensure all evidence is given equal consideration.

7.2.1.3 Hire “Education” or “Training” Officers

In addition to a contracting a project manager and a communications officer, the Agency should consider hiring an “education” or “training” officer for each panel review. This person would be responsible for ensuring the translation of scientific documentation into user-friendly language, where required. This person would undertake activities with intervenors to ensure stakeholder comprehension of both the project and the process. These activities reflect the activities undertaken by the Communications officer and the Project Manager of the Sable Gas Panel Review. However, tasking a separate individual to undertake education and training related to the assessment would allow that person a greater opportunity to ensure the public was fully cognizant of their role and function within the process. This would work to level power relations among participants in the process.

7.2.1.4 Promote outsourcing of research for the Panel.

As panels are able to contract research related to an EA, they should be encouraged to solicit the services of outside resources to explore the context of the project in terms of government policy. These contracts may be allocated to Environmental Non-Governmental Organizations, who have indicated the most interest in this scope of project impact, or they may be contracted to other consultants, to provide some avenue for critical dialogue.

7.2.1.5 Reconsider the use of quasi-judicial hearings

The Canadian Environmental Assessment Agency should reconsider their decision to undertake hearings in a quasi-judicial format in cases of harmonization. Over half of the panel review processes under CEAA have been harmonized with assessment legislations that utilize the quasi-judicial format. The consequences of decision to acquiesce to a hearings format that does not meet the stated objectives of the Act must be considered by the federal government.

The benefits and costs of this procedural process are significant; serious consideration regarding the trade-offs of accepting this process should be considered. The strengths of this process is the ability to measure the validity of submission through cross-examination. The price of this form of evidentiary valuation available through a quasi-judicial process is a restriction in terms of process accessibility. Participants of the Sable Gas Panel Review felt that this process restricts the participatory nature of the process, in terms of the ability of the general public to contribute to the hearing. They believe the benefits can be achieved through different research methods. Triangulation, for example can serve as a measure of the strength of the concern in place of the formal nature of cross-examination. Roundtable dialogues with stakeholder also serves as a valuable measure of significance of issues.

7.3 What are the dimensions of the learning experiences of EA participants?

The dimensions of the learning experience were explored in terms of the learning outcomes of individual participants in the assessment process. What did the participants learn from this experience? How has this affected their current lives? Participants identified a variety of learning outcomes, grouped into three categories: technical information, procedural prowess and governance philosophies.

In terms of technical information, people learned about the variety of valued ecosystem components identified with the project – the air, the water, the fish, the land. They also learned about the engineering components – the pipeline, the drilling structures. Finally, technical information included an understanding of the oil and gas industry, and economic issues associated with the production of these resources.

Procedural prowess refers to issues that relate to the EA. Participants identified a newfound ability to function in a quasi-judicial environment; they indicated a new understanding of how to present evidence, cross-examine expert panels and craft procedural arguments.

Finally, governance learning related to individual's understanding of the role of government in the economy. Rather than a specific piece of knowledge, these lessons relate to the overall impression of participants as a result of the hearings. Many expressed a disillusionment with the government, both in terms of representing the public interest, and allowing the public interest to be represented by other parties. They questioned the purpose of the EA, suggesting that their contributions may not have been taken into consideration. On a more positive note, they also expressed a reaffirmed respect for individuals to capably represent the public interest in this forum.

As indicated through these examples, learning outcomes were heavily steeped in experiential education fostered through the hearings process. The act of researching testimony, presenting it to the panel, and being both subjects and promoters of cross-examination served as the most important mechanism through which people learned both about the process, and the project.

The implications of this learning has not had a definitive, significant impact on the lives of participants. The pass of time between this research, and the termination of

the panel, however, may have affected people's responses. Some people suggested their experience with the Sable Gas Panel Review fostered a decision never to participate in another EA. Others said it forged a new vigilance guiding their participation in all environmental activities.

Understanding the nature of the learning programs provides a bridge for discussing learning outcomes of participants. The application of indicators of transformative learning provides a snapshot of what people took away from their efforts in the Sable Gas panel. If the learning program- or opportunities for public participation – fostered an environment for critical and informed discussion about issues related to the environmental assessment, what did people take away from their participation in the assessment process? What are their specific learning outcomes, and how do these outcomes affect an individual's life.

Learning outcomes of participants, however, were largely negative. Participants were critical of the experience. As discussed in Chapter 6, stakeholders expressed a sense of disillusionment with the government, and with the assessment process. They suggested that opportunities for participatory democracy fostered through environmental assessment serve are undertaken strictly for the purpose of appearance; government will ultimately promote economic decisions above any consideration of environmental or social impacts.

These learning outcomes illustrate an erosion of levels of satisfaction with the nature of participation. Participants voiced strong support for how the panel worked to inform the public; they voice general satisfaction, with some exceptions, for how the hearings were undertaken. The outcome of the experience, however, is negative. And it is this outcome that must be resolved in the delivery of panel hearings. This evidence

illustrates two areas in need of improvement: the nature of the assessment information, and the scope of the assessment decision.

7.3.1.1 Develop opportunities for public contributions to policy development

People expressed a strong dissatisfaction with the panel hearings in terms of affecting government policy discussion. Evidence presented in Chapters 5 and 6 indicated that people wished to participate in broad discussion of impacts of process, and as such, the scope of this assessment was insufficient.

Resolution of issue is more problematic than resolution of the concern related to the objectivity of data. While it would be easy to suggest that assessment should consider broad-scale policy implementation of decisions, this solution is awkward for several reasons.

In the first place, EA is designed, in the current context of CEAA, to be project specific. Federal EA address governmental policies and programs through the issuance of a Cabinet Directive, not through the CEAA. This deficiency was a strong concern of participants of the five-year review of CEAA.

Mandate the use of CEAA for assessment of federal policies and programs, to turn the current Cabinet Directive into a useful and accessible public policy tool by applying the public involvement features of CEAA (Mining Watch Canada 2000)

Many groups call for the assessment Act to include the design and implementation of government policies and programs as triggers. Unfortunately, the draft revisions to the assessment legislation do not address this concern. As such, it appears that policies and programs will continue to be extensively outside the purview of EA.

Within the context of project specific assessment, the consideration of policy decisions is very problematic. Who should evaluate the implications of a project to broad reaching policy agendas? The proponent is currently given onus for self-assessment; is it beyond their limitations to consider the impact of their project to a government decision to, for example, reduce greenhouse gas emissions? Without data regarding how the government will meet this goal, how should the proponent measure the impact of their project? Would any decision promoted by the proponent be sufficiently objective?

The government could be tasked with considering the implications of the project on policy objectives, however, they are currently under-resourced and over-expended. My experience working for government to undertake EA illustrates government departments are struggling to digest and contribute scientific information to the assessment discussion; any time allocated to consider the implications of the project to policy would take away from discussion between technical experts about impacts to identified valued ecosystem components like birds, and water. This solution is also subject to the fact there is a lack of operational definitions associated with traditional government policy. How can one measure the sustainability of a project? Is one gas project sustainable, but not two? Furthermore, which government policy is most important? Is the directive on sustainable development more important than the Atlantic job creation program? How should "policy preference" be determined? Although members of the public generally believe it is the role of government to consider the impacts of the project within their policy context, the government may be under-resourced to undertake this activity.

Environmental Non-Governmental Organizations have traditionally assumed the strongest role in discussing the political context of projects in an EA. One of the strongest criticisms of participants of the Sable Gas Panel Review arose from groups who tried to dialogue about policy issues; these concerns were deemed outside the scope of the assessment. With an increased emphasis on cumulative impacts, I suspect that in the future, it will be more difficult to distinguish between extraction-related and end-use implication of resource development. This decision, as illustrated by the discussion of learning outcomes, resulted in the strongest alienation of participants. Potential resolution of this issue may rest with the panel itself.

However, it is clear that the government should work to provide opportunities for the public to contribute to strategic planning and operational level of policy development, in addition to the nominative activities of project-specific EA.

7.3.1.2 In the future, ensure policy positions contain criteria and objectives through which implementation can be guided and measured.

A long-term resolution of policy concerns also rests in the need for government to develop measurable objectives in conjunction with specific policies. These objectives can then be used as a baseline for considering the relationship between a specific resource development project and a related policy or program.

7.3.1.3 Increase the Agency's institutional capacity.

This recommendation relates to the need to ensure repeat participation by panel members, and members of the public in EAs. As illustrated through this research, prowess in panel hearings is largely based on experience working within the process. As such, effectiveness and efficiency is, in part, reliant on experience. The Agency should therefore work to ensure participants do not become disillusioned with the process; that

they choose to participate in future activities. The strongest mechanism for ensuring “repeat customers” is to work to ensure “customer satisfaction.” The Agency should undertake a post hoc evaluation of each large environmental assessment; this evaluation should discuss, with all participants, the strengths and weaknesses of the process. Where possible, modification should be made to address these concerns. It was noted during my research that I was the first person, in four years, to ask about the intervenor’s experience. In my experience, inquiring about participant’s perceptions of a process goes a long way to ensuring satisfaction.

7.4 Personal Learning

As described in Chapter 1, prior to starting my Master’s research, I had experience working with the government on EA in the Northwest Territories. This employment background provided me with a unique opportunity to explore Mezirow’s theory of Transformative Learning in relations to my own, personal understanding of EA. This section details changes to my meaning schemes and perspectives, as developed through Mezirow’s process of transformative learning.

My most recent experience with EA, prior to this research was with the federal government, working as the project secretariat for the Diavik Diamonds comprehensive study. In my role as public liaison, I spent months visiting impacted communities and recording public concerns about the project on behalf of the Government of Canada Job. I also provided administrative support to the project Steering committee – representatives of the federal, territorial, Aboriginal governments who worked to facilitate the environmental assessment.

The Diavik project was undertaken in a rather unique format. As a comprehensive study, the legislative requirements of the CEAA were less prescribed

than a panel review. The government used this flexibility to craft an assessment that would, in theory, meet the needs of the diverse set of stakeholders in this process. These activities included an extensive community consultation program, technical meetings and working groups sessions on important issues to communities.

Despite this effort, stakeholders were ultimately unsatisfied with the EA process. Many expressed concerns about the time required to assess the impacts (too long/too short). Some suggested there were insufficient resources allocated to non-governmental organizations to undertake the assessment. Participants expressed dissatisfaction with the resolution of impacts. They questioned the level of public participation permitted in the process. Overall, the assessment ended with stakeholders who were very, very, tired. Indeed, my return to school was accompanied with a decision never to be involved in EA again.

My resolution to absolve myself of all thoughts related to EA persisted throughout my first seven months of school. In March 2000, I happened to attend a public meeting on the five-year review of CEAA. Listening to people's comments about EA angered me. This experience reaffirmed my frustration with the EA process, and people's understanding of the legislation. I began to question my retreat from assessment. Was I avoiding a subject for no reason other than being "tired"? Did I have something to contribute to the assessment discussion? These questions lead up to my decision to study EA for my Master research.

The context through which I came to understand EA resulted in an inherent bias favouring the positions of government and industry proponents. I have a complex understanding of and empathy for economic issues surrounding the need for a quick, but efficient assessment decision. I support the mitigation of impacts of a project-specific

basis. I believe that market demands for products influence project development – if the public truly does not want something, they will not use the resource (i.e. they will not buy diamond rings). Furthermore I believed the Diavik comprehensive study was the most comprehensive, and inclusive assessment every undertaken. Minor recommendations for improving the process would always be desirable, but I believed that every aspect of the assessment design met, or exceed past public experience. The project represented the “next stage” of EA.

Research related to public engagement provided an ideal opportunity for undertaking a critical assessment of these assumptions. Many of the issues raised in EA literature mimic concerns of stakeholders in the Diavik comprehensive study. I began to question my understanding of people’s concerns. While the Diavik project approached EA differently than previous experiences, did these changes substantively address the motivation behind the criticism? And if these underlying assumptions were not addressed, is there a need to modify the EA process to resolve these issues?

As discussed extensively throughout this document, this research involved discussions with participants of the Sable Gas Panel Review to evaluate the role of critical education in an EA that includes hearings. Talking with people during the course of this research provided me with an opportunity to explore other ideas about EA, outside my past experience. Although there is no one ‘right’ answer, I believe a collection of perspectives can work to illustrate areas for improvement for the EA process. EA will never satisfy all participants, but continual improvement is required to provide the public with an increasing opportunity to participate in decision making, and ensure development is undertaken in an increasingly more sustainable fashion. The body

of this document highlights some of the key issues arising from discussions with people involved in the Sable Gas Panel Review.

Measurement of my transformative experience resets in my re-conceptualization of how EA should be undertaken. Using Diavik as a case, what changes would I make to how this EA was undertaken?

The first change I would make relates to the employment experience and background knowledge of the project secretariat. A greater technical understanding of the potential biological and physical impacts of the project would have allowed the project secretariat to engage in more active discussion with members of the public about the impacts of the project. While it is unrealistic to expect any one person to have a comprehensive understanding of all interactions between the project components and valued ecosystem components, the ability to answer basic questions about project impacts would have been valuable for fostering critical dialogue about the project.

The project secretariat should have been charged with undertaking more efforts to ensure the public had a comprehensive understanding of the project and project impacts. While I believe the public had every effort to contribute to the discussion, the level of critical information available to the public was minimal. Steps should have been taken to ensure all people had an opportunity to understand the non-technical executive summary, and dialogue about that information within communities. While it would have been impossible for the project secretariat to undertake or attend each and every meeting, more effort should have been taken to ensure these meetings were being undertaken.

Although every opportunity was provided to affected publics to participate in the assessment, few steps were taken to engage the non-participants. If someone did not

“self-select”, they were not sought out to participate in activities. Future EAs would do well to engage members of the public who have, for a variety of reasons, not chosen to participate in the formal assessment process, although they are interested in the outcome of the EA.

A primary concern of a very vocal minority of the public related to the scope of the Diavik EA. As with the Sable Gas Panel Review, individuals were looking to see how the project assessment fit into broad-scale policy discussions related to sustainable development. Why, exactly, is it important to mine for diamonds. Talking with participants of the Sable Gas Panel Review has provided me with a clearer understanding of the components of this argument. People want to ensure there is a long-range, consistent development strategy across this nation; they want this strategy to be environmentally, socially and economically sustainable. While EA does not provide a forum to dialogue about these issues, there must be some way to engage the public in policy discussion, and there must be a link between policy discussion and project-specific environmental assessment. Comprehensive EAs will not treat each project as an isolated bubble, but part of a Canadian lifestyle choice.

Finally, my last observation relates to timeframe of assessment. EAs are rapid, energy-intensive activities. They dominate the lives of all participants in the process, who work on the assessment morning, noon and night for months at a time. I have first hand experience at how overtaxed members of the government and industry become during an EA. I suspect public stakeholders are even more greatly affected as they can only contribute the time available to them outside their regular employment. While it is unreasonable to suggest EA should take more time – arguments to this end are frequently overlooked, it is important to suggest that efforts to discuss environmental

impacts should be started before the formal process is triggered. If stakeholders work together to provide critical material about the environmental impacts, to develop a technical vocabulary and a network of resources for communities, I believe that the intensity of the project will decrease. This institutional capacity-building will decrease the sharp learning curve required for effective participation in the assessment process.

I still believe the Diavik comprehensive studies every undertaken in Canada. The level of public participation fostered through this process, and the level of participant funding allocated to stakeholders was unprecedented. This being said, I do recognize some significant changes in my understanding of the purpose, function and process of EA that illustrate a level of perspective transformation related to this research. In particular, I have a new understanding that non-participation in an assessment is a valid form of participation; strategies must be undertaken to engage all interested parties in the assessment discussion. I also have a greater appreciation of the need for additional time and resources to critically reflect on assessment documentation. For people to effectively contribute to the assessment decision, they must first be educated about the project impacts, both through a process of the provision of information by the proponent, and through an opportunity to undertake individual studies. Finally, in terms of changes to my meaning scheme, I have developed different strategies that may be useful for minimizing exhaustion of stakeholders from all sectors. I hope, through this research project, I am better prepared to critically analyze this EA, and realize that, as with everything in life, there is always room for improvement.

7.5 Summary of Recommendations

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APPENDIX A

Public Survey

The purpose of my research is to document the role of learning by members of the public through participation in the Sable Island Panel Review. I am interested in who participated in the assessment process, how members of the public came to be involved in the Sable Island Panel Review, and how their interest progressed throughout the process. My research is designed to develop a practical understanding of the current role of, and potential for, environmental education in the panel review process.

This interview should take no longer than an hour, and will cover a range of topics pertaining to your knowledge of and experience in the panel review process. In the course of this interview, please feel free to engage in discussion as much as you would like, to discuss your opinions and feelings openly. You can, at any time, end the interview or refuse to answer individual questions. In the case you do not wish to answer a specific question, simply respond “no comment.” Your responses will be held in strictest confidence, and the results of this study will be aggregated with no reference made to specific participants. I only require a mailing address if you would like to receive a summary of the research findings.

1. How did you find out about the proposed project?
2. How did you find out about the EA process?
3. What activities did you participate in?
4. Why did you decide to participate in these activities?
5. Outside activities hosted by panel or proponent, did you participate in any activities related to the EA?
6. In your community, was there a lot of talk about the project or the EA?
7. Did you have an opportunity to talk with people about the project?
8. How would you address the accuracy and completeness of the documentation?
 - a. Was the public registry available?
 - b. Was the documentation user-friendly and in summary form?
 - c. Was the process clearly explained?

9. Can you tell me about yourself?
10. When did you first become interested in the Sable Island Project EA?
 - a. How did this interest develop?
11. Why did you participate in the EA?
12. Were there any activities you chose not to participate in? Why not?
13. Where did you go when you had questions?
14. What do you feel you learned about participation in the panel review?
15. Did you learn from other participants in the review? If so, what?
16. What do you think you should have learned?
17. In your opinion, what was the most effective method through which you learned about the project? About the EA process?
18. Do you think public education about Sable Island could have been improved? If so, how?
19. Do you think public education about EA could have been improved?
20. Has your participation influenced your current lifestyle?
21. Have you had an opportunity to use what you learned since the review?
22. Have you participated in subsequent EAs? Why or why not?

Government, Panel Secretariat and Industry Survey

The purpose of my research is to document the role of learning by members of the public through participation in the Sable Island Panel Review. I am interested in who participated in the assessment process, how members of the public came to be involved in the Sable Island Panel Review, and how their interest progressed throughout the process. My research is designed to develop a practical understanding of the current role of, and potential for, environmental education in the panel review process.

This interview should take no longer than an hour, and will cover a range of topics pertaining to your knowledge of and experience in the panel review process. In the course of this interview, please feel free to engage in discussion as much as you would like, to discuss your opinions and feelings openly. You can, at any time, end the interview or refuse to answer individual questions. In the case you do not wish to answer a specific question, simply respond “no comment.” Your responses will be held in strictest confidence, and the results of this study will be aggregated with no reference made to specific participants. I only require a mailing address if you would like to receive a summary of the research findings.

1. Can you tell me about your job?
2. How were the stakeholders identified?
3. Can you describe some of the people who participated in the assessment?
4. How did they participate in the EA?
5. How did participants learn about the consultation experience?
6. How were participants involved in the delivery of the program?
7. What methods were used to educate stakeholders about the project and the EA?
8. Why were these methods selected?
9. How were the tools evaluated once they were presented?
10. How were comments reflected in subsequent activities by participants?
11. Do you think public education about Sable Island could have been improved? If so, how?
12. Do you think public education about EA could have been improved?