

The Pedagogy of the Professionals and Practitioners in the Natural and Applied Sciences: The Case of the Aboriginal Professional Class

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Indigenous scholars and political activists continue to dismantle colonial structures and reinvent models for governance and education. Their efforts reveal that the components of colonialism operate in advanced education. Using qualitative data acquired from a study on Aboriginal learning, the author will highlight what initiatives professional associations and training institutions undertake to alter their pedagogy and practices to accommodate Canada's Aboriginal population. The author also discusses the thoughts of practitioners and academics on pedagogies and practices that respect the worldviews of Aboriginal people. This investigation revealed that professional associations and their close counterparts, the registry boards, steadfastly adhere to what they perceive as unbiased standards.

INTRODUCTION

Legal and accounting scholars and education specialists have criticized the absence of culturally-informed pedagogies and practices in their respective professions. Maaka and Fleras (2005) observe that Indigenous scholars and activists, in their quest to dismantle colonialist structures and influences and reinvent and resurrect models for governance and education, find that more-subtle components plague advanced education. Battiste (2005) thinks of these subtleties, manifested in objective and rational curricula, pedagogy, and success indicators, as indicative of a power imbalance. Aboriginal students "can access what is available, but they cannot change the existing knowledge base" (Battiste, 2005, p. 224). One area where the barriers to decolonization exist is in professional colleges who train Aboriginal students and in the associations who license and monitor their practices. In these contexts, Indigenous Knowledge has minimally impacted on the pedagogy of professionals and practitioners.

Scholars from the law, accounting, and education fields have long believed that the pedagogy and practices of their respective professional groups fail to incorporate Indigenous traditions and, at times, work against Indigenous people (Monture, 1995; Gibson, 2000; Battiste, 2005; Battiste, 2008). These scholars have advocated holistic approaches to training and practice which help to address Eurocentric influences in professional training and practice. Monture (1995) criticized the legal profession for its continued reliance on the British model of adversarial justice. Chew and Greer (1997) asserted that the scientific method of the accounting profession fails to enable and empower “relatively oppressed members of society” (p. 276). In order to develop holistic approaches to practice, Smith (2000), drawing on the work of Freire’s (1970) *conscientizacao*, “a critical consciousness in the understanding of social, political, and economic problems” leading to “action for change” (pp. 19-20), argued that Indigenous peoples have to embark on a process of what he referred to as *conscientization*: the recognition of a people’s shared history of colonization and a conscious and collective decision to challenge the authority of the colonizer. For the Maori of New Zealand, *conscientization* means overturning the colonizer’s power and replacing it with the Maori at the centre of all power structures. The result of contemporary *conscientization* in the western practices of law and accounting is the recognition of the crippling power imbalance that exists in the bureaucracies of modern institutions (Chew & Greer, 1997; Gibson, 2000; Maaka & Fleras, 2005). Monture (1995) and Chew and Greer (1997) echoed Smith’s commitment to a holistic approach because, as Chew and Greer argued, “society cannot be deemed to be functioning to its full potential if some parts of it are oppressed” (p. 276). Only recently have scholars who research and teach in natural and applied sciences departments and colleges critiqued the unquestionable rationality of their practice (See contributors to Tripp & Muzzin, 2005, especially chapters by Jinkling, Muzzin, Ainley, Abergel, Grant, Tripp, Wane & Waterfall, Frize, Myers, and Fawcett).

The following discussion explores the initiatives of individual professionals and organizations in the natural and applied sciences. Anecdotes and studied analyses from practitioners and the organizations they represent indicated their priorities in reference to Canadian Aboriginals. The author also explored the roles of professional associations and the registry boards in training and practice. The intent of this discussion is to understand how

professional societies respond to the presence or absence of Aboriginals, the programs of learning in place to increase the number of Aboriginal professionals, the value of Aboriginal culture and knowledge to the professions, the successful and unsuccessful ventures undertaken by the leadership of these associations, and the elements that constitute successful programming. Finally, an Aboriginal professional association reflects on its involvement with training and practice in Canada. The author found that although the science professions¹ wanted workforces that represent the population they serve, their leadership and its largely non-Aboriginal practitioners were not clear on how to transform pedagogy that would affect practice. In some cases, the leadership in these professions has not yet embraced Aboriginal epistemologies and worldviews in training and practice.

METHODS

The research for this project is part of the Canadian Council on Learning's Aboriginal Learning Knowledge Centre's (ABLKC) Animation Theme Bundle 'Pedagogy of the Regulated Professional' as it affects Indigenous learners. The lead for the project was J. Youngblood (Sa'ke'j) Henderson and the author worked with colleague Mary Callele. The author, with the assistance of his colleague and his team leader, devised a letter addressed to the stakeholders involved with the education, accreditation, and training of professionals and practitioners in the natural and applied sciences. Organizations and institutions in Canada, the United States, Australia, New Zealand, the United Kingdom, and France were contacted. The letter served as an open-ended request for information. The letter requested that respondents identify the initiatives, practices, or goals the membership of the organization had for Aboriginal learners and Aboriginal professionals and whether concerns about Aboriginal learning or the representation of Aboriginals in their professions surfaced in the minutes of Annual General Meetings, Position Papers, and vision statements. The information provided by the coordinators, planners, and administrators of the training institutions and professional organizations formed the bulk of the sources for this article; the data was analyzed to find out if Aboriginal representation and ways of knowing and learning were articulated priorities or concerns for the organizations. We hoped to learn the following: how one becomes a professional, the priorities of post-secondary institutions and professional associations for Indigenous learners (i.e. representation, pedagogy, practice), their knowledge of

Indigenous knowledge and epistemologies, and their understandings of its impact on practice.

FINDINGS: BECOMING A PROFESSIONAL

There are four types of institutions, organizations, and associations any professional will encounter: the training institution, the registration body, the professional association, and the learned society. The training institution is the public or private university, technical school, or college where the student follows a program of study which, upon completion, results in progression to licensing or accreditation. In many instances, a recent graduate of an accredited professional program is required to take a test in order to practice (examples include Bar exams and other professional licensing exams). For all of the professions researched, the regulation of practitioners is the responsibility of the provincial and territorial governments of Canada. However, in almost all of the professions the enforcement of the legislation has devolved to a professional association.² Finally, many professions have learned societies. Professionals, who are not required to join these societies, meet at least once a year to present research related to their field. Many of these societies publish one or more scholastic journals that serve as academic outlets for members to disseminate their work to students and colleagues.

Promising Practices by Individual Professionals

It must be emphasized that many employees, executives, and boards of training institutions, registries, and learned societies have attempted to address issues of representation, recruitment, and retention of Aboriginal professionals. Adam³ of the Canadian Council of Professional Geoscientists observed:

[The] history of the Geoscience profession contains a substantial history of professionals working with Aboriginals in both the resource and non-resource sectors. Aboriginals have and continue to be hired to work in the direct resource extraction or through research and negotiation outlets. Partnerships have evolved between Geoscientists and Aboriginal organizations and nations in areas where work is being undertaken and in the urban areas.

Adam provided an example of a recent agreement involving geoscientists. The agreement was the 'Exchange of Mutual Economic Advancement' and it was between the Ontario Ministry of Northern Development and

Mines and the Ontario Geological Survey; this was an example of a promising practice. However, the existence of this and other practices were not widely disseminated nor were associations obligated to undertake projects that included Aboriginal peoples.

Brian, Vice-President of L'Association des Architectes en Pratique Privée du Québec (AAPQ) argued that professionals who wish to articulate work agreements with Aboriginal communities must undertake the initiatives on their own and with no support from their professional associations. Brian noted that a handful of Quebec's 2 000-2 500 architects worked with First Nations and Inuit groups on the design of airports, municipal offices, and schools. However, these architects faced a higher workload than architects who work for non-Aboriginal clients. Architects who worked for Aboriginal clients draft feasibility studies and assist with programming and development. Brian stated that no templates or ethical guidelines existed for architects who work for Aboriginal clients. Brian, a veteran architect who has served northern Inuit communities in both Quebec and what is now Nunavut, was involved in the development of a 1991 agreement which he drafted with the assistance of the Kativik School Board in Nunavik, Quebec. Brian offered to provide a job shadow or mentorship program to students in the public schools with an interest in construction and architecture; the goal was to encourage post-secondary participation. A similar arrangement formed when he worked in Frobisher Bay (now Iqaluit) where he set up a company with the help of local partners in order to train Inuit to pursue careers in architecture and construction. Taken together, both practices were cogent examples of collaborative efforts between science professionals and Aboriginal communities to provide opportunities for Aboriginal learners. Unfortunately, these two projects failed to generate any interest amongst local Aboriginal children and youth. Henderson (2008) believes that if teaching and learning opportunities, whether formal or informal, follow Eurocentric models, they will likely fail to excite learners and neglect to consider Indigenous protocols.

Brian and Adam were non-Aboriginal professionals dedicated to improving the career prospects and professional work experiences of Aboriginals. However, prior to conversations with the author, they did not report their initiatives at their respective professional conferences, in scholarly or practitioner journals, or through non-formal communications. Brian and

Adam did not know how to inform larger groups of individuals about their equity initiatives. The situation is not prevalent to the fields of architecture or any of the natural sciences. Very few ethical guidelines or frameworks exist in numerous professions to inform educators or the general public of promising practices and examples of successes with regard to equity initiatives, or to provide support to professionals interested in promoting their profession to Aboriginal youth. Adam and Brian indicated that there was a disjointed set of initiatives and projects designed by professionals who had an interest in improving the representation of Aboriginal workers. However, registries and professional learned societies considered the representation, recruitment, retention, and learning of Aboriginal and non-Aboriginal professionals to be outside of their duties to their membership and to the public they serve; therefore, no records of these promising practices exist. These professional associations and registry boards state that their primary goal is to license all practitioners who meet the requirements. Secondly, since the professional associations and registry boards have their mandates devolved from provincial and territorial government legislation, they regulate themselves and their requirements for licensing and practice (Henderson, 2008). In addition to Brian and Adam, professionals, advocates, and administrators representing two occupational groups, Forestry and Veterinary Medicine, have created promising beginnings which have the potential to evolve into substantial large-scale projects which will enhance professional practice experiences for Aboriginals.

Priorities for Aboriginal Learners and Practitioners

Several insights about the professions emerge from the data acquired. Representatives from the training institutions, usually directors, equity officers, or recruitment officers, who targeted equity-seeking groups, or Aboriginal resource officers, considered themselves to be involved with education. Agents from the registry offices stated that their role is to administer examinations and license all people who met identified requirements. These organizations award the designations to anyone who meets the requirements necessary to take and to pass the examination. Anna of the College of Veterinarians of Ontario and speaking for the Ontario Veterinary Medical Association provided a response representative of our data: "Our [College of Veterinarians of Ontario] mandate is to protect the public good in licensing

veterinarians." Officers of Learned Societies such as the Canadian Geotechnical Society emphasized that their organization has no devolved authority to award professional designations. Instead, the boards and the executives allow anyone with professional ties (for example, Geological Scientists, Geologists, Geological Engineers, and Surveyors) access to the online and in-person intellectual venues. Therefore, Aboriginal graduates pass through the registries and may pass through the learned societies but their presence is incidental, not deliberate; it is the responsibility of the membership to bring Aboriginal-related concerns to the forefront of plenary and conference sessions.

In a paper published by the Canadian Institute of Forest Practitioners, Aboriginal stewardship and economic practice in relation to Canada's forests was cited. The author mentioned that "residents of Aboriginal and non-Aboriginal communities in forest regions often have close cultural links with woodlands and may rely on forests for important subsistence, traditional, and other social activities" (Canadian Institute of Forest Practitioners, 2003). The need to respect and develop the forests was a theme resonating in Canadian, Australian, and New Zealand contexts. Governmental and non-governmental organizations sought to develop strategies that ensured the maintenance of traditional lands and practices and assist with the economic development of Indigenous communities. Like the previous examples, Indigenous peoples collaborated with non-Indigenous organizations and agencies but in Forestry, Indigenous peoples impacted on the practices of Forestry professionals.

For Aboriginals involved in Canadian forestry, there are two doors through which Aboriginal cultural knowledge and traditions may pass: business and the burgeoning non-wood products sector. Buck (2006) provided an example of a means to attract and retain Aboriginal forestry professionals. Buck stated:

[T]he 1998 Minneapolis Conference Framing the Forest for Specialty Products, hosted by the University of Minnesota, [where] there was an urgent need identified to change the forestry curriculum in universities and colleges across North America to reflect the growing importance of non-timber forest product values and their significance for economic development in marginalized forest communities. (p. 181)

The development and use of non-timber forest products has attracted the attention of Aboriginal and Torres Strait Islander peoples in Australia (BDO

Consulting, 2004) and if discussed in Forestry curricula, may inspire more Indigenous peoples to train for the profession. The subsequent National Indigenous Forestry Strategy (NIFS) scoping report in Australia found, through consultation with Indigenous and Torres Strait Islander peoples, that non-wood products provide an excellent outlet for economic development and economic growth should the resources for capital be present.

Administrative challenges were one of the most profound issues facing the chairs and staff of applied science professional associations. The Canadian Council of Forest Ministers (CCFM; 2004) survey of the Forestry profession revealed “very few jurisdictions have programs that support the upgrading of skills and knowledge particularly for mid-career personnel... When budget constraints occur, usually one of the first areas impacted is investing in continuing competency development of staff... impacting future skill levels” (p. 16). The situation was critical in northern areas, where vacated positions are difficult to fill and lack of access for continuing education was identified as a serious issue. Finally, the mindset of employers and the CCFM (2004) called for a return to critical skills and knowledge. Therefore, is Indigenous Knowledge, in Canada, considered worthy for inclusion in training programs already affected by disinvestment and neglect?

Indigenous Knowledge and its application to practice remain misunderstood and at times ignored in the Aboriginal training and employment experience. Cavanagh (2005) defines an educational framework informed by Indigenous Knowledge as “spirit-centred, creationally viewed, and process-oriented within a holistic system operating on a reciprocal relationship within Creation” (p. 250). At the University of Guelph, a Wildlife Veterinary Medicine program influenced by the diverse Indigenous knowledge teachings was a consideration for Aboriginal training but is not yet realized for the Ontario Veterinary College; the coordinator took her cues from the Aboriginal Resource Centre (personal communication, December 11, 2006). The transition to an inclusive curriculum reflecting the values of Aboriginal learners and a pedagogical style for professional training was underway in the Forestry professional associations. The presence of the National Aboriginal Forestry Association (NAFA) in the professional arena was valuable as the College of Alberta Professional Foresters (CAPF), and its provincial colleagues, revised the core competencies of their employees, a process that was completed in 2007 (David, personal communication, December 14, 2006). A

number of organizations understood the necessity of reforms to pedagogy and practice. As well, they addressed the prejudice and hostility toward professionals from a diversity of ethnic, racial, and religious backgrounds.

Some professions did not consider their practices to be in need of revision. Instead, they looked to Aboriginals as collaborators and sought to improve their representation in the workplaces without understanding that any differences between worldviews existed. Geoscientists (including Geologists, Geophysicists, Environmental Geologists, and people involved in hydrology) asserted their goal was collaboration with Aboriginal communities without realizing that the authority to determine the direction rests with the non-Aboriginal public or private sector employer and that the power relationship in this arrangement is uneven and unfair. For Geoscientists, workplace representation was a valuable target and collaboration on projects was a necessary goal but it certainly is not the endpoint.

Toward Successful Programming for Professional Association Respondents

Success of Aboriginals in the professions occurred when their numbers in the training institutions had increased and the collaboration was meaningful. Furthermore, collaboration obligated both Aboriginal and non-Aboriginal stakeholders to be accountable to the communities they served (Battiste, 2000). Due to the inflexible nature of registry boards in licensing and defining membership and, in some instances, the reluctance to ask members to self-identify, many representatives did not believe there was a need for measurements of success or to keep track of student and licensed professionals and their activities. However, there were individuals in professional organizations who had started programs that may have not been successful but highlighted problems with workplace representation and training.

Respondents did not have mechanisms to determine if initiatives failed. However, from a review of the data gathered, the author infers that two potential problems may affect current and future initiatives. Continuity and sustainability appeared to be two issues affecting many programs. As well, neo-liberal governments seeking investments from multi-national corporations combined with these governments' desire for budget surpluses result in accountability agendas that impede momentum gained in recruitment and retention of Aboriginal learners and professionals and may adversely impact on attempts to revise pedagogy to inspire and train them. Brian's

project with the Kativik School Board serves as an illustrative example of issues surrounding continuity, sustainability, and accountability. The architects in Quebec who wished to recruit larger numbers of Aboriginal workers and encourage them to pursue post-secondary training launched these partnerships on their own initiative and in this instance, when Brian finished his northern terms, the arrangement ceased. It is very important for organizations like AAPQ to consider making a human and financial investment in partnerships such as the one initiated by Brian to ensure continuity of the program.

Evaluation of Programs

In order for any of the recruitment programs to succeed, a system of recording and reporting successes must accompany the initiatives. The other option is for associations to develop mechanisms to track incidences of discrimination and use the data gleaned from surveys and focus groups as a launch pad for the development of remedies. Continuing professional education was a requirement for Veterinarians, Foresters, and Biologists. However, there was no record of the topics practitioners pursued and the potential for information exchange amongst peers did not exist (David, personal communication, December 14, 2006). David noted members of the CAPF must pursue a program known as 'Continuing Forestry Education' in order to maintain their professional designation. Members may take seminars, university extension classes, or courses offered by Aboriginal organizations from either the public or the private sector and on topics such as traditional Indigenous Knowledge to fulfill the requirements. Finally, certain organizations, such as the registries for Veterinarians, had no programs and no mandate or requirement to change.

Promising Evaluation Practices: Alberta

Before identifying and discussing two examples of promising evaluation practices, it is necessary to underline the difference between keeping track of progress and evaluation. There is a wealth of program examples to observe and to consider. However, most respondents identified no means to evaluate their successes and challenges. The two practices provided in this section demonstrate potential means for organizations to evaluate programs designed to enhance Aboriginal participation in the professions.

In 2006, the Alberta Chamber of Resources [ACR] published the outcomes of the Aboriginal Programs project, designed to capture programs (from corporate members and non-members in the resource industry) that “best engage Aboriginal people on issues that are important to them: environment, traditional use, capacity building, [and] employment” (Zahary & Meyer, 2006, p. 4). The catalogue of promising practices promoted collaboration and mutual respect between corporations and Aboriginal communities and served as a template for corporations who lacked Aboriginal strategies and policies. The ACR recognized that operating the programs was not enough as there was a “need for systematic reporting, assessment or benchmarking of results” (Zahary & Meyer, 2006, p. 12). The ACR reported one useful method for disseminating and assessing promising practices in corporations. The Progressive Aboriginal Relations (PAR) program, developed by the Canadian Council for Aboriginal Business (CCAB) and incorporated in 2001. The PAR system allowed for employers to measure their Aboriginal policies and practices against an Aboriginal-developed system and to be recognized if their policies matched or exceeded PAR standards. Another important mechanism identified was the Corporate Social Responsibility (CSR) gauge, which allowed for a corporation’s record on Aboriginal issues to be released to stakeholders. The innovation of the ACR’s catalogue and, the systems it encouraged its corporate members and non-members to follow, allowed corporations to be accountable to Aboriginal political organizations.

Promising Practises in Aboriginal Pedagogy: Forestry

Laurel of NAFA, a non-profit and non-governmental organization in existence for fifteen years and based out of Ottawa, Ontario spoke to the most profound issue facing Aboriginals in the scientific professions: under-representation. Using the low numbers of Aboriginal foresters as the touchstone to its campaigns, NAFA put together a ‘Careers in Forestry’ kit which contained a video discussing career prospects for the profession and a paper prepared by the association. The target audience was Aboriginal learners in secondary and post-secondary institutions. Laurel referenced a 2003-2004 survey of the public and private agents employing foresters and forestry technicians conducted by the CCFM Deputies Committee (2004) which recommended:

[A] coordinated effort to promote public awareness of professional and technical forestry school programs as an environmental science field focused on sustainable management and to market forestry as an attractive source of employment. A component of the marketing strategy should also target aboriginal [sic] communities... Individual forestry schools must invest or continue to invest in the development of aggressive marketing strategies at the high school level (p. 20).

However, Laurel and her personnel knew there was an overall low demographic of Aboriginal students in post-secondary institutions⁴ and particularly in the science professions; they wanted to know why Aboriginal students did not pursue applied science training after graduating from high school.

Many Aboriginals who enroll in university come ill-prepared from secondary school to take part in programs which require a high level of proficiency in mathematics and the natural sciences. Consequently, Laurel surmised that a 'Careers in Forestry' campaign should reach students at the secondary and primary school levels. Running this campaign led to the revelation that teachers in First Nations schools required the resources necessary to successfully teach the skills in math and natural sciences that are necessary for ensuring success for those students who continue on to technical schools, colleges, and universities. The initiatives of NAFA stood out not only because the personnel focussed on recruitment but also because they ensured the students who entered the programs came proficient in the core subjects required for the forestry program.

Finally, NAFA participated in the negotiation of a recent federal forestry strategy document. On February 21st 2006, NAFA signed the Canada Forest Accord and participated in theme three of the Accord titled Developing new institutional frameworks, incorporating traditional knowledge in forest management, increasing access to benefits from forest use, and building capacity in communities (Rekmans, 2006, n.p.).⁵ Overall, NAFA collaborated or lead initiatives both in education and advocated on behalf of forestry in areas like program development.

CHALLENGES TO NASCENT ABORIGINAL PEDAGOGY IN THE PROFESSIONS

Registry boards and professional associations continue to hide behind the myth of equality. Both groups tended to function on objective exams or

numbers (i.e., recruitment and retention data, percentage scores on tests, and grades in classes) and believed these indicators are the most reliable predictors for success.⁶ The belief that such data are the most accurate predictor of success and that exams are fair and objective hinders the success of under-represented groups like Aboriginals. The value placed upon statistics and test scores may hinder any efforts to diversify the pedagogy of professionals in training.

Secondly, globalization is collapsing borders. The consequences of globalization may be particularly profound for the business professions. Gallhofer and Chew (2000) echoed this sentiment when asserting that, "The world market has brought about increased interdependencies countering diversity (if reinforcing discrimination and inequalities) while the recognition of an ecological problem (at least) has underscored the sense of unity" (p. 259). Global markets threaten to reduce the diversity of languages and cultures that exist in the world at a time when the nascent and shaky programs that already exist and promote diversity must continue to advocate for recognition, respect and, funding.

Finally, governments in Australia and Canada have embarked on a crusade of accountability in the twenty-first century. While no scholarly studies of the effects of accountability on Canada's Aboriginal organizations exist, an Australian academic (Gibson, 2000) proposes that "two of the weapons used in dispossession [by fiscally conservative governments seeking to build surpluses] are the economic tools of accounting and the rhetoric of accountability" (p. 299). Using the idea of statistics and westernized bureaucracy as leverage, politicians and critics highlighted the problem areas with funding awarded to Australia's Aboriginal and Torres Strait Islander Commission (ATSIC), the conduit through which the financing for all of the Indigenous national projects flows. Australian politicians either attempt to employ stronger controls over the terms and conditions of proposals approved by ATSIC or peel away the dollars available for projects. The umbrella of accountability hangs over governmental decisions and actions in the western world.

DISCUSSION

The project Pedagogy of Professionals sought to illustrate, through an open-ended letter and follow-up discussions with training institutions, registry boards, professional associations, and learned societies in Canada, the

promising practices for recruitment and retention of Aboriginal peoples in Aboriginal learning in the professions. Respondents from registry boards, professional associations, and learned societies revealed that the licensing of candidates who have completed the training requirements was an authority devolved from provincial and territorial statutes to registry boards and professional associations. Taken in aggregate form, the 202 responses revealed a sparse number of initiatives and few of these had been reported to the membership and in governmental and scholarly forums.

The administrative bodies of training institutions believed that augmentation of Aboriginal student numbers was the most tangible outcome. However, Gibson's (2000) study of accounting in Australia warns professionals and those who train them that statistics are a crude indicator of success. Curriculum, teaching styles, and workplace environments must be considered when devising strategies for achieving representative classrooms and workplaces.

Finally, professionals like Brian and Laurel who offered opportunities for young Aboriginals to try out a profession through programs such as job-shadowing and recruitment sessions must be supported, financially and morally, and rewarded. Furthermore, there needs to be venues for the dissemination of their work and for critical appraisal. If opportunities exist for the discussion of promising practices, then the momentum will be maintained and enthusiasm will spread. Registry boards, advocacy groups, and professional associations must step-up and lobby provincial governments to revise statutes. First, practitioners, scholars, advocates, and students must convince their peers, teachers, and the executives of registry boards and professional associations that in addition to recruitment and retention of Aboriginal practitioners, there is a requirement to rethink the supposed rational and objective practice of science (Tripp & Muzzin, 2005; Tripp, 2005; Grant, 2005). Policymakers in Canada and abroad must recognize the faults of what they perceive as black and white indicators that define membership in a profession and reconsider the myth of equal opportunity that blinds those who steadfastly adhere to the maintenance of existing standards.

NOTES

- 1 For the purposes of this paper, a scientific professional is an individual who completes the required training to practice (i.e. college or university degree or diploma), passes the standards set by the professional association or the govern-

ment, and registers with the professional association. However, not all professions require a candidate to complete a practicum, take a standardized test, or belong to a professional association in order to practice.

- 2 This study found that in some provinces and territories, the number of professionals is small and the legislative offices look after the licensing. For example, geoscientists in Prince Edward Island and the Yukon do not receive their licenses from a professional organization.
- 3 In this article, pseudonyms are used to identify respondents.
- 4 Kapasalis (2006) noted that eight percent of Canada's Aboriginals have a university degree.
- 5 In Australia, as a prelude to the development of the NIFS, a series of consultations with local Aboriginal and Torres Strait Islander people on issues ranging from forest management to employment to training occurred in 2003-2004. The report on the consultations included promising forestry practices in Canada and New Zealand (BDO Consulting, 2004).
- 6 Australian and New Zealand accounting scholars criticize the excessive reliance on numbers and balance sheets as a means to dictate an objective reality. See Gibson, K. (2000). Accounting as a tool for Aboriginal dispossession: Then and now. *Accounting, Auditing, and Accountability Journal* 13(3), 289-306. Gibson maintains accounting practices are, in the twenty-first century, dispossessing Indigenous organizations of financial resources. The Australian federal government, in the name of what is perceived to be value-free accounting practices, exercises "a value, the value of economic power that seeks affluence and wealth at the expense of social infrastructure and social interaction" (p. 290).

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