Cross Cultural Border Crossing In Co-Curricular And Extra-Curricular Activityof First Nations Adolescent Students: Border-Fluidity, Border-Constriction, and Border-Crashing

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Abstract

First Nations high school students (N = 120) previously surveyed for perceptions and activities regarding school-based extra-curricular and co-curricular offerings as a research project for the MEd degree (Martin 1997) were subsequently compared to non-native students (a comparison group of 95 students) facilitating exploration of Aikenhead's (1996) conceptual model of "border crossing." Although the notion of cultural border crossing has been used to illuminate problems with science education we extended the metaphor to co-curricular and extra-curricular activities. Attitudinal borders (i.e., perceptions of importance) of co-curricular activities were evident. The non-native group assigned higher ratings for AHigh Profile School Endeavours" (e.g., student parliament) indicative of border-constriction for the native group. For extra-curricular activities the non-native group assigned higher ratings for "High Profile School Activities" (e.g., orientation dance), and "Exotic Activities" (e.g., computer cupids), again indicative of border-constriction. The native group rated "Low Profile School Activities" higher (e.g., mini pow-wow), indicating border-crashing. For participation borders, the native group participated more in "High Profile Arts Clubs" (e.g., culture club) and "Low Profile School Activities" (e.g., mini pow-wow), indicative of border-crashing. The non-native group participated more in the "Exotic Activities" (e.g., spring formal) showing border-constriction. For sports, border-crashings were evident for golf and football, while border-constriction was evident for soccer. On most activities (23 out of 34) there were no group differences which we take to be indicative of border-fluidity. All effects can be viewed as positive. Moreover, the metaphor of cultural border crossing is seen to have potential and value as a broad cross cultural research construct.

An assumption that Urion (1991) suggests should be questioned is that there is some value in comparisons between cultural groups, especially in terms implying that "…standards and central tendencies and modalities of one are definitive of the good, or desirable. At one level, one understands the suggestion, and has a sense of empathy with the target group. However, there are two sides to this issue which could lead one to respond to Urion with the following qualification: questioned, yes; precluded, no!

An aversion to group comparisons is warranted, one might argue, because of a natural egalitarian sentiment (whether religious or secular) that all people are equal. Yet, an egalitarian sentiment like this can seep into other realms breeding such claims as that there are no cognitive differences, no social differences, no cultural differences, and so on. Admittedly, there are some relativistic, postmodern, epistemological arguments to be made for such a claim, however, they appear to be self refuting. To argue that there are no cultural differences "of value," or there are no cognitive differences "of value," is to make the claim that one's argument is better (of more value) than those who hold there are cultural differences, or social differences or cognitive differences "of value."

Or one might argue against group comparisons because of a historico-political perspective of "colonization" which reveals a litany of abuse—a history of abuses (whether intentions were good or bad)—with the consequent need (1) to "decolonize" (Nadeau & Young, 2006), and (2) to keep the "abuse" prominent for political reasons. But does a focus on "colonization" present balance regarding harmful consequences and beneficial consequences? Is it not the case that when one hears the label "colonization" one thinks of the negative side of the coin. Does a focus on "colonization" perpetuate a victim mentality? Such questions dissipate somewhat when one

considers the breadth and balance of the intellectual process. Said (1992), for one, acknowledges both concerns. In his chapter "The Politics of Knowledge," he makes the scholarly call for "the full intellectual process" as opposed to caricatured reductiveness of extreme polar positions, which degenerate to dogma. Regarding the intellectual process he writes: "Into it goes historically informed research as well as the presentation of a coherent and carefully argued line that has taken account of alternatives" (Said, 1992, p. 176). Further, he writes: "But our point, in my opinion, cannot be simply and obdurately to reaffirm the paramount importance of formerly suppressed or silenced forms of knowledge and leave it at that, nor can it be to surround ourselves with the sanctimonious piety of historical or cultural victimhood as a way of making our intellectual presence felt. Such strategies are woefully insufficient…. On its own, ethnic particularity does not provide for intellectual process—quite the contrary" (p. 183). In essence, the intellectual process should be beyond the political. Regardless of the controversy, and possible hypocrisy, surrounding Said's views and practices regarding truth and truth claims (see Weiner, 2000) his valuing of the intellectual process, and his concern about victim-hood ring true.

Racism is another potential roadblock to cross cultural group comparisons. The thinking on racism, whether overt racism (St. Denis & Hampton, 2002) or covert racism (Dovidio, Gaertner, Nier, Kawakami, & Hodson, 2004), can push one to avoid comparisons that might be viewed as politically incorrect. For example, this has been quite prominent in the area of intelligence and intelligence testing since the late 1960s. The controversy over intelligence testing and racial differences as is evident in the discussion related to Arthur Jensen, William Shockley, Sir Cyril Burt, Leon Kamin, Stephen J. Gould, and J. Phillipe Rushton in Herrnstein and Murray (1994) is both academic and political. Yet, regardless of the long-term controversy there is a stream of

continuing scholarship in this area that remains apolitical. Science should be beyond the political.

Even philosophy can be conscripted for service. One might make the case for equality from an epistemological perspective tied to the fashionable and prominent postmodern relativism in large segments of the academic community (Curwen Doige, 2003; Wilson & Wilson, 2002). In general, such arguments lead to the inference that comparisons are unwarranted, if not epistemologically impossible. To illustrate, Wilson and Wilson (2002) write, "In our opinion, all knowledge is affectively loaded: there is no such thing as objective truth. Truth is always interpreted from a personal as well as a sociohistorical perspective" (p 67). First, and strangely, they seem to present this claim as an objective truth, which, in effect, would refute their claim, or imply they don't believe what they say, or "practice what they preach." Second, they seem to conflate opinion, interpretation, knowledge, and truth, which apparently serves to obfuscate their intention. But third, given their apparent knowledge claims, comparisons with competing claims—that is, their critics—would be unwarranted as everyone would have a different "personal as well as sociohistorical perspective." Surely it is better to tease out the personal and sociohistorical biases than toss out objective truth. To claim that knowledge and "underlying truth" is accessible is irrefutable, …for one's refutation itself would be knowledge and "underlying truth" would it not?

Given the above quasi-arguments against group comparisons what happens when someone like Flanagan (2000) sees the "…good, or desirable…" in a particular culture, which would imply a desirable standard to aspire to? Well, such a view is immediately up for questioning (see Anderson, 2000). Rightly so, but should the view be precluded? There is a case that neither egalitarian sentiments, nor colonial history, nor postmodern philosophy, should preclude such cultural

comparisons. If we avoid cultural comparisons we may miss the strengths to be used in social development, or miss the weaknesses we should address so that social progress is not hindered. But more importantly, we deny science, and the intellectual process—a perilous journey.

We ought not to disallow the intellectual process. This leads to the second reason that we not preclude cultural comparisons. Description and comparison between groups is the heart of academic research and discourse, and it is incumbent that empirical research continues. We test hypotheses, we test models, and we test theories by making comparisons. We make conjectures and then try to refute them (Popper, 1965, 1968). If we make the conjecture that there are no differences between Culture A and Culture B, can we refute this conjecture?

A third reason that we not preclude cultural comparisons, and the one of particular interest for the present paper, emerges from an interesting question related to "borders" or boundaries. Schmalz (1991) had noted a "structural separateness" for native groups which was related to national institutions like the Department of Indian Affairs, and Church missions, but also, a social separateness, in that, a "…general exclusion of Indians from other white organizations, such as social clubs, whether intended or not, also serves to maintain boundaries between whites and the general Indian population" (p 264). The term "boundaries" has the potential to be viewed in a strict sense as a "barrier," and therefore, not crossable, or, at least difficult to cross. A preferable semantic alternative would be "border," which is crossable given adherence to certain policies and protocols for crossing. The notion of "border crossing" for culturally different groups has been developed as a useful conceptual construct for examining group differences and group dynamics with respect to educational borders (Aikenhead, 1996, 2001, Ezeife, 2003; Jegede & Aikenhead, 1999). While this research has been particularly focused on science education the conceptual

relevance of "borders" and "border crossing" could apply to all aspects of education where cultural borders exist.

In the present study we utilize the concept of border crossing by expanding it to include three different states: (1) border-fluidity, by which we mean comparable perceptions and practices for native and non-native adolescents, (2) border-constriction, meaning difficulty or reluctance regarding crossing to mainstream territory, and (3) border-crashing, meaning an apparent preference or facility for crossing the border. We examine this conceptualization of border-crossing in a high school setting by investigating the perceived importance of, and participation in, co-curricular and extra-curricular school activities of native and non-native adolescents. Group similarities, we assume, would imply border-fluidity and a relative degree of free-flow border crossing. Group differences would be indicative of: (1) border-constriction (boundaries or barriers, either systemic or self-imposed) if the native group showed the lower ratings or, (2) border-crashing if the native group showed the higher ratings.

As a working hypothesis based on the common notions of real cultural borders (institutional and social boundaries) that are presented in the literature (e.g., Schmalz, 1991), we predict border-constriction will be dramatically prominent when comparing native with non-native adolescents in a public high school. We examine this hypothesis for both co-curricular and extra-curricular activities with respect to perceptions of importance and level of participation.

In this report we make group comparisons at a specific point in time—the mid-1990's. While the data are empirical, the time frame (10 years later) situates the report as a historical report, in part, allowing us to explore existing "boundaries" and "borders" in the mid 1990's. While the data we use are 10 years-old, and could be considered "stale data," we offer four

comments in support of their use. First, history is important, and the past is particularly important for First Nations groups. As Benton-Banai (2002) expresses it, using a string of strong adverbs, the past "…is very important and in some cases critically so…. the past is physically and spiritually important to us" (p. 6). Secondly, and in line with current academic research, we are using the data for hypothesis testing—a research approach that is not necessarily time-locked. We are examining—even testing—the use of Aikenhead's (1996) border crossing construct in a broader educational context. Thirdly, the findings have the potential to serve as baseline data for future research. And fourthly, the implications of differences and similarities, are open to generate discussion, inference, speculation, hypothesis generation, and thus, future research.

By making group comparisons of adolescents in a high school setting we are in a position to use *perceptions of importance* of school activities (co-curricular and extra-curricular) and *participation* in such activities as proxies for "borders." Empirically, our working hypothesis is that there are borders, and border-constriction will be prominent for native adolescents. Thus we are testing a modified border crossing construct used by Aikenhead (1996) and others. Historically, our intent is to document such borders that existed in the recent past. Practically, we hope to offer research directions that emerge from these data.

Method

Subjects

The participants were drawn from a single public high school in southwestern Ontario, Canada, that also provides services for First Nations adolescents from Walpole Island. The native participants had been surveyed first as a major research paper for the MEd degree (Martin, 1997). Then, for a follow-up study, a similar non-native comparison group was sought for purposes of

direct comparisons. The participants were comparable in terms of sex distribution (native males = 61, native females = 59; non-native males = 41, non-native females = 54), $\underline{X}^2(1) = 1.25$, $\underline{p} > .1$. Likewise the grade distribution was comparable, grade 9 (native = 39, non-native = 31), grade 10 (native = 26, non-native = 30), grade 11 (native = 24, non-native = 12), grade 12 (native = 27, non-native = 18), OAC (native = 4, non-native = 4), $\underline{X}^2(4) = 4.15$, $\underline{p} > .1$.

Test Instruments

The survey instrument used was composed of three sections. The first section asked students to rate the importance of 17 co-curricular activities (see Table 1) using a 5-point, Likert-type scale ranging from AUnimportant@ to AVery Important.@ Then students were asked to indicate which activities they participated in during the year. The next section listed 24 extra-curricular events (see Table 2) which the students also rated in terms of importance using the same 5-point Likert-type scale as the first section. Then they indicated whether or not they participated. The final section listed nine school teams (see Table 3) and the students indicated if they tried-out for the team, and if they were selected for the team.

Table 1. Co-curricular Activities Surveyed

Student Parliament	School Reach
Culture Club	Fly Tie & Fishing
Athletic Association	Sound Crew
School Band	Art Club
Yearbook	Arts Festival
School Newspaper	Computer Club
Free gym Basketball	Radio Club
Tag Team	Sears Drama Festival
Drama Club	

Table 2. Extra-curricular Activities Surveyed

Orientation Dance	Intramural Golf Tournament
Bronze Boot Pep Rally	Intramural Hockey
Bronze Boot Game	Intramural Ball Hockey
Bronze Boot Dance	2-on-2 Basketball
Chocolate Bar Campaign	Fitness Centre Use
Christmas Dance	3-on-3 Volleyball
Winter Carnival Events	Tin Man Triathalon
Winter Carnival Video Dance	Computer Cupids
Staff/Student Hockey Game	Carnation Sales
Tartan Toss Shoot-A-Thon	Spring Formal
Mini Pow-Wow	Athletic Banquet
Fried Bread Sale	Moga Madness

Table 3. School Sports Teams (Varsity Sport)

Basketball	Curling
Volleyball	Soccer
Football	Badminton
Track & Field	Golf
Cross Country	

Results

Factor Analyses

First, a factor analysis was run on the *perceptions of importance* responses for the co-curricular activities. Using an eigenvalue of one, the varimax rotation method, and a loading criterion of .50, with at least two items loading on a factor, 4 factors emerged. The first factor was termed AHigh Profile School Endeavours@ with six items loading (Student Parliament, Yearbook,

School Newspaper, Tag Team, Drama Club, and Sears Drama Festival) and accounted for 43.7% of the variance. The second factor was termed AHigh Profile Arts Clubs@ (Culture Club, School Band, Computer Club, and Radio Club) and accounted for 7.0% of the variance. The third factor was termed "Exotic Clubs@ (School Reach, Fly Tie & Fishing, Sound Crew, Art Club, Radio Club, and Sears Drama Festival) and accounted for 6.6% of the variance. The fourth factor was termed "Sports@ (Athletic Association, Free Gym Basketball) and accounted for 5.9% of the variance. Second, a factor analysis was run on the *perceptions of importance* responses for the extra-curricular activities. Using an eigenvalue of one, the varimax rotation method, and a loading criterion of .50, with at least two items loading on a factor, 4 factors emerged. The first factor was termed AHigh Profile School Activities@ (Orientation Dance, Bronze Boot Pep Rally, Bronze Boot Dance, Chocolate Bar Campaign, Christmas Dance, Winter Carnival Events, Winter Carnival Video Dance, and Staff/Student Hockey Game) and accounted for 43.7% of the variance. The second factor was termed ASports Activities@ (Staff/Student Hockey Game, Tartan Toss Shoot-A-Thon, Intramural Golf Tournament, Intramural Hockey, Intramural Ball Hockey, 2-on-2 Basketball) and accounted for 8.0% of the variance. The third factor was termed AExotic Activities@ (Tin Man Triathalon, Computer Cupids, Carnation Sales, Spring Formal, Athletic Banquet, Moga Madness) and accounted for 6.4% of the variance. The fourth factor was termed ALow Profile School Activities@ (Mini Pow-Wow, and Fried Bread Sale) and accounted for 5.9% of the variance. To determine a *perception of importance* score for each of the four factors on the co-curricular activities the ratings were summed on the scale 0 to 4, and then divided by the number of items for each scale. The same procedure was applied to the *perceptions of importance* ratings for each of the four scales on the extra-curricular activities survey.

Multivariate Analyses of Variance for Perceptions of Important

With Group (native, non-native) as the independent variable a multivariate analysis of variance (MANOVA) was computed using the four scales for co-curricular activities for *importance* ratings as the dependent variables. There was a main effect for Group, $\underline{F}(4, 187) = 16.66$, $\underline{p} < .001$. The univariate analyses revealed that the non-native group rated the High Profile School Endeavours higher, $\underline{F}(1, 191) = 26.59$, $\underline{p} < .001$ (see Table 4 for means and standard deviations).

Table 4. Means and Standard Deviations For Native and Non-Native Adolescents[a] On the Perceived Importance of the Four Co-Curricular School Activities Scales

	Group					
	Native			Non-Native		
	Mean	SD	N	Mean	SD	N
High Profile School Endeavours**	2.01	.94	104	2.68	.84	88
High Profile Arts Clubs	1.93	.83	104	1.88	.88	88
Exotic Clubs	1.66	.85	104	1.88	.82	88
Sports	2.39	.97	104	2.30	1.07	88

a. *p < .05; **p < .01 on the univariate analyses.

A MANOVA was computed for the four scales for extra-curricular activities for *importance* ratings and revealed a main effect for Group, $\underline{F}(4, 177) = 38.00$, $\underline{p} < .001$. The univariate analyses revealed that the non-native group rated the High Profile School Activities higher than the native group $\underline{F}(1, 182) = 5.12$, $\underline{p} < .05$, and Exotic Activities higher than the native group $\underline{F}(1, 182) = 6.30$, $\underline{p} < .01$. Conversely, the native group rated the Low Profile School Activities higher than the non-native group, $\underline{F}(1, 182) = 56.19$, $\underline{p} < .001$ (see Table 5 for means and standard deviations).

Table 5. Means and Standard Deviations For Native and Non-Native Adolescents On the Perceived Importance of the Four Extra-CurricularSchool Activities Scales[a]

	Group					
	Native			Non-Native		
	Mean	SD	N	Mean	SD	N
High Profile School Activities*	2.48	.98	100	2.81	.95	82
Sports Activities	2.31	.94	100	2.17	1.02	82
Exotic Activities*	2.05	.94	100	2.40	.99	82
Low Profile School Activities**	3.26	.83	100	2.20	1.08	82

a. *p < .05; **p < .01for the univariate analyses.

Multivariate Analyses of Variance for Participation Ratings

To determine participation ratings for each factor the items in each scale were assigned the value of 1 if the student participated and 0 if not. The scores were then summed and divided by the number of items in each scale, which generated a participation rating index for that category.

A MANOVA was then computed for the four scales for co-curricular participation ratings and revealed a main effect for Group, $F(4, 210) = 5.23$, $p < .001$. The univariate analyses revealed that the native group participated more in the High Profile Arts Clubs than the non-native group, $F(1, 213) = 13.34$, $p < .001$ (see Table 6 for means and standard deviations).

Table 6. Means and SDs For Native and Non-Native Adolescents On the Participation Scores of the Four Co-Curricular Activities Scales[a]

	Group					
	Native			Non-Native		
	Mean	SD	N	Mean	SD	N
High Profile School Endeavours	.33	.95	120	.39	.76	95
High Profile Arts Clubs**	.38	.72	120	.09	.29	95
Exotic Clubs	.13	.74	120	.03	.18	95
Sports	.42	.69	120	.37	.58	95

a. *p < .05; **p < .01 on the univariate analyses.

A MANOVA was then computed for the four scales for extra-curricular participation ratings and revealed a main effect for Group, $F(4, 210) = 7.41$, $p < .001$. The univariate analyses revealed that the native group participated more in the Low Profile School Activities than the non-native group, $F(1, 213) = 15.29$, $p < .001$, while the non-native group participated more in the Exotic Activities, $F(1, 213) = 6.62$, $p < .01$(see Table 7 for means and standard deviations).

Table 7. Means and SDs For Native and Non-Native Adolescents On the Participation Scores of the Four Extra-Curricular School Activities Scales[a]

	Group					
	Native			Non-Native		
	Mean	SD	N	Mean	SD	N
High Profile School Activities	2.48	2.88	120	3.16	3.57	95
Sports Activities	.87	1.30	120	.83	1.17	95
Exotic Activities*	.50	1.27	120	.94	1.19	95
Low Profile School Activities**	.74	.82	120	.36	.54	95

a. *p < .05; **p < .01, on the univariate analyses.

Cross Tabs Analyses for Team Sports (Varsity)

Cross tabs analyses were applied to the responses to the nine team sports for Atrying-out@ and Abeing selected.@ The percentages of native and non-native students are reported in Table 8. With respect to Atrying-out@ there were differences for soccer and golf with more non-natives trying-out for soccer, and more natives trying out for golf. With respect to Aparticipation,@ more natives participated in football, while more non-natives participated in soccer.

Table 8. Percentages of Native and Non-Native Students Who Tried-Out for Team Sports and Were Selected for Team Sports with the p-values From the Chi-Square Analyses

	Tried-Out			Selected		
	Native N=120	Non-Native N=95	p	Native N=120	Non-Native N=95	p
Basketball	9.2	12.6	ns	10.8	11.6	ns
Volleyball	13.3	15.8	ns	6.7	13.7	ns
Football	10.8	5.3	ns	13.3	5.3	< .05
Track & Field	5.0	2.1	ns	3.3	5.3	ns
Cross Country	0.8	1.1	ns	0.8	1.1	ns
Curling	0.0	1.1	ns	0.0	1.1	ns
Soccer	0.8	5.3	< .05	0.8	6.3	< .05
Badminton	3.3	3.2	ns	1.7	4.2	ns
Golf	5.0	0.0	< .05	3.3	0.0	.07

To better grasp the border crossing effects (border-fluidity, border-constriction, and border-crashing) the effects are presented graphically in Figures 1 through 6. In the figures a contrast captured by an oval indicates border-constriction, a contrast captured by a rectangle indicates border-crashing, a contrast not marked is indicative of border-fluidity. Of the 34 dependent measures six showed border-constriction, five showed border-crashing, and 23 showed no differences, or border-fluidity.

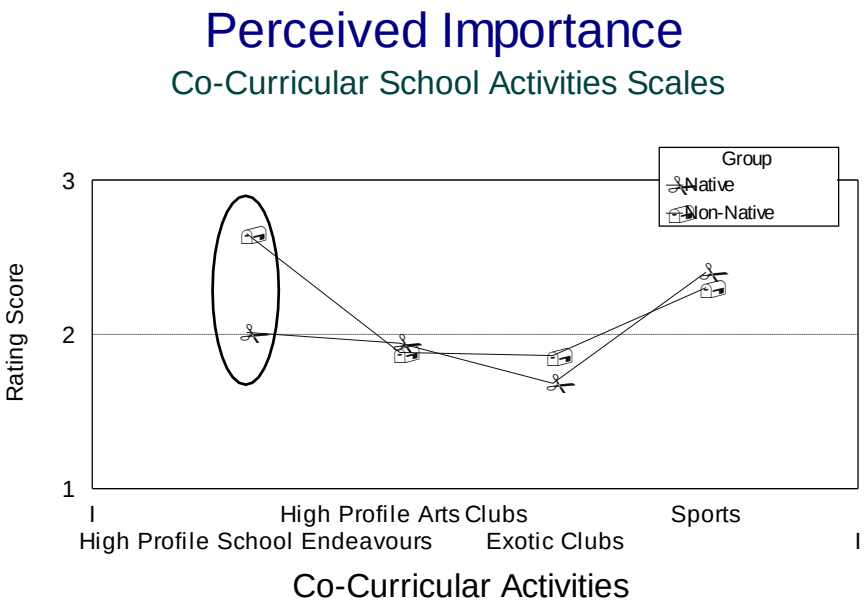

Figure 1. Oval shows border constriction for native students for the High Profile School Endeavours. Other variables showing no difference indicate border fluidity.

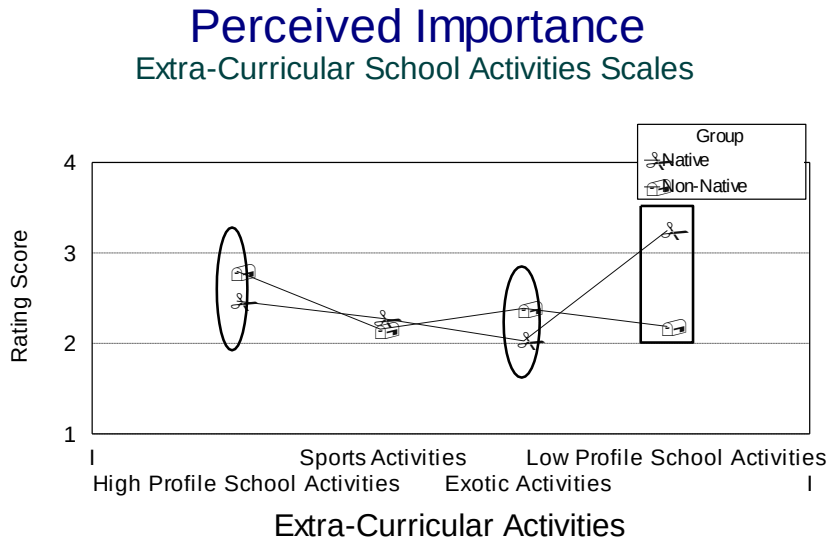

Figure 2. Oval shows border constriction for native students for High Profile School Activities and Exotic Activities. Rectangle shows border crashing for native students for Low Profile School Activities. Sports Activities show no difference indicating border fluidity.

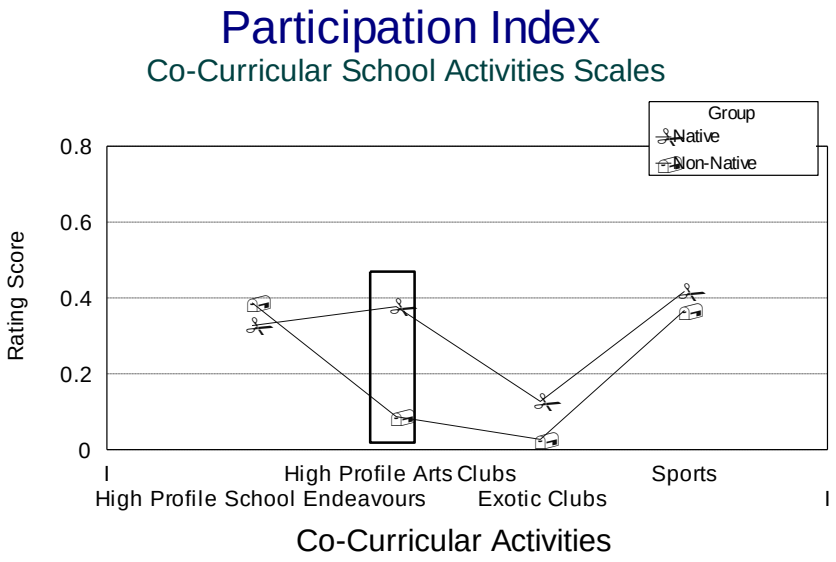

Figure 3. Rectangle shows border crashing for native students for the High Profile Arts Clubs. Other variables showing no difference indicate border fluidity.

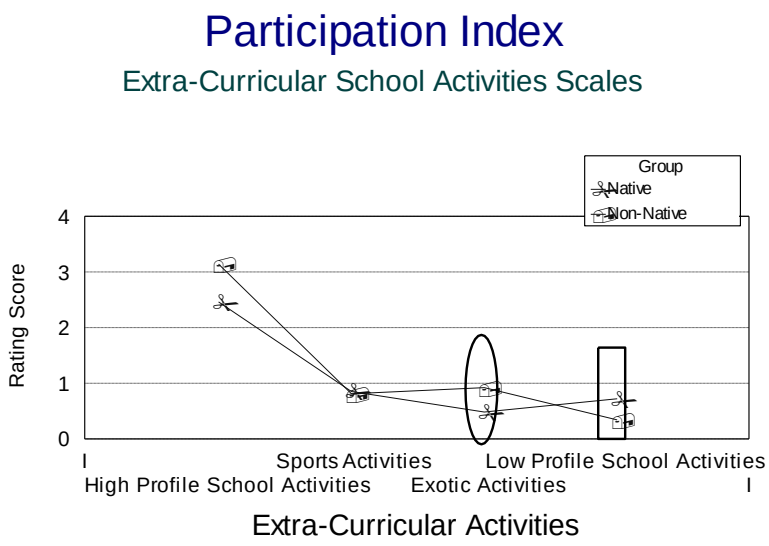

Figure 4. Oval shows border constriction for native students for Exotic Activities. Rectangle shows border crashing for native students for Low Profile School Activities. Other variables showing no difference indicate border fluidity.

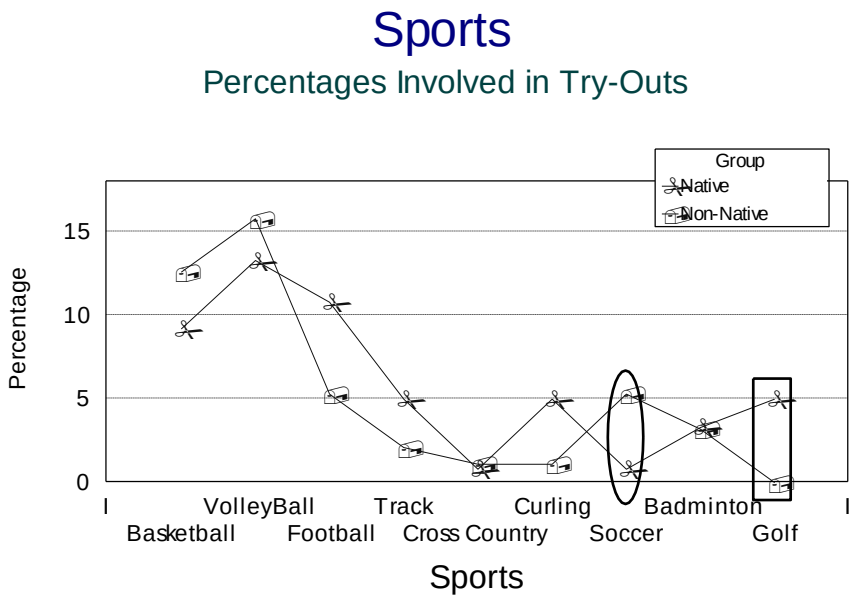

Figure 5. Oval shows border constriction for native students for Soccer. Rectangle shows border crashing for native students for Golf. Other sports showing no difference indicate border fluidity.

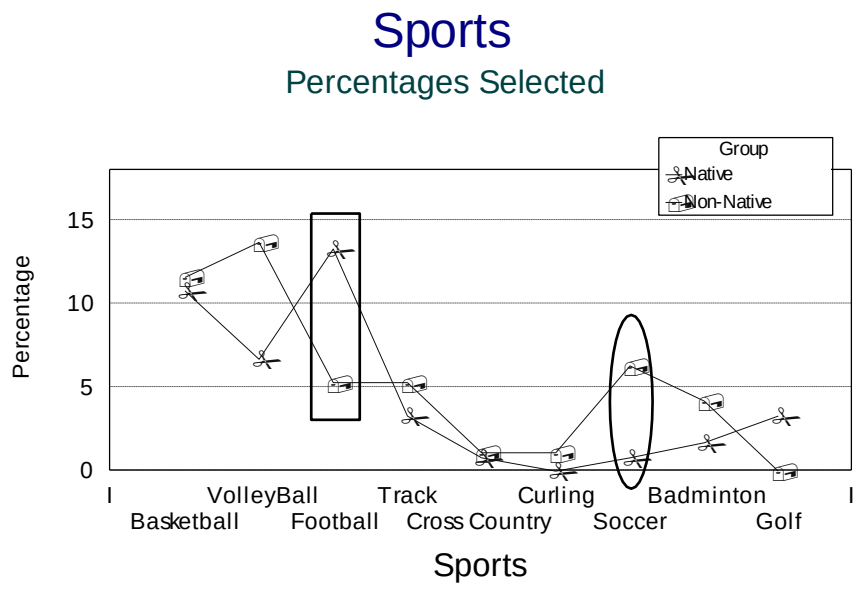

Figure 6. Oval shows border constriction for native students for Soccer. Rectangle shows border crashing for the native students for Football. Other sports show no difference indicating border fluidity.

Discussion

Border-Constriction

First, our working hypothesis predicting a prominence of border-constriction contrasts for the native students was not supported. Only six of the 34 dependent measures showed border-constriction. Border-crashing was also a minimal effect. The prominent effect, inferred from the fact that most activities showed no differences between groups, we take to be a type of border-fluidity.

Considering first the effect of border-constriction we note that the native students did not perceive the High Profile School Endeavours and the High Profile School Activities to be as important as the non-native students did (see Figures 1 and 2). These borders, then, were constricted. Nevertheless, when it came to participation there was no statistically significant difference between the two groups (see Figures 3 and 4). In effect, then, the participation measures suggest border-fluidity. If these effects prove to be reliable (supported by future research) and valid, then we have here evidence that the border-constriction related to high profile endeavours and activities is cognitive, or perceptual (perceived importance), not structural or social (participation index). Some might argue from this (i.e., the importance ratings) that efforts should be directed to attempts to help native students see the personal, social and cultural value (both mainstream and aboriginal cultural value) in such high profile activities and endeavours. But the argument is weakened somewhat since participation rates are not different, and those borders appear to be fluid. Moreover, surely others could argue that the native perception is realistic and the mainstream perception is out of proportion to the true value of such endeavours and activities. If so, then why not argue for “corrective” activities for the mainstream students—that is, a shift in

focus, perhaps a focus placing more value on science, mathematics, language, or physical activity, for example. The point here is that a more fine-grained and nuanced approach may be warranted.

The border-constriction evident for Exotic Activities, both Perceived Importance (Figure 2) and Participation (Figure 4) has a certain resonance consistent with a Western view of First Nations cultural interests. Would native students be predicted to have interests in "Computer Cupids," "Carnation Sales," "Spring Formals," and so on? And even more poignant, should native students be encouraged to develop such interests in the interest of border-fluidity? Such border-constriction is likely trivial.

The border-constriction in soccer (see Figures 5 and 6) is more intriguing. Why would the non-native students be more likely to try-out for soccer and be selected for playing soccer? One suggestion is that a growing interest in soccer occurred during the 1990's as an after-school organized activity for children (both boys and girls). Such endeavours were typically driven by the community rather than the schools. This interest for non-native children likely carried over into high school with non-native students opting for soccer in increasing numbers. In support of this speculation, in December of 1999 Professionally Speaking (the Teacher's Magazine in Ontario) noted in its news section:

> "Soccer registrations continue to increase at a dramatic rate, and Ontario accounts for almost half of the more than 600,000 annual registrations with the Canadian Soccer Association. The low cost of participation is one reason for the sport's popularity. Acceptance by girls – almost one-third of Canadian players are female – is also a factor. That's just about the highest female-to-male ratio in the world."

With soccer showing such dramatic increases, even eclipsing Little League Baseball for American children in 1999 (Walters, no date), the border-constriction evident in the current study may be indicative of a cultural lag on the part of the native students. Such a lag could be tied to (1) a lack of parental interest, involvement, and "pushing," in after-school organized soccer activities, or (2) an elementary school education that did not facilitate an interest in soccer. It is possible that the border-constriction in soccer has now (2007) diminished or disappeared.

Border-Crashing

Border-crashing was evident at five points: Low Profile School Activities (Perceived Importance and Participation Index), High Profile Arts Clubs, and Sports (Golf and Football). The border-crashing for the Low Profile School Activities makes sense in that those activities were specific in their appeal to native students (e.g., mini pow-wow).

The border-crashing for the High Profile Arts Clubs is striking and encouraging. What the higher involvement of native students in such clubs shows is involvement in technology (Computer Club and Radio Club) music (Band) and cultural issues (Culture Club).

The genesis of the border-crashing on sports (trying out for Golf and participation in Football) is less clear. The two sports are clearly different, and no commonality is immediately evident that would explain, even partially, why border-crashing would be manifest for these two sports, and only these two. However, looking at Figure 5 (and excluding the anomaly of soccer) one wonders if native students are drawn more to

outdoor sports. As golf and football are both outdoor sports that may be a commonality if not the commonality.

Border-Fluidity

The prominence of border-fluidity is inferred from the lack of group differences on the majority of the dependent measures (23 of 35). It would seem there are far more similarities between the two groups rather than differences. This is certainly a positive aspect of the study, and bodes well for future cultural border crossing.

Overall, the cultural border crossing we see is predominantly positive. On the clear majority of borders the two groups were similar and thus the borders are viewed as fluid—a positive effect. Similarly, the evidence of border-crashing is for the most part a positive effect. Even the border-constrictions can be viewed as reasonable, non-pejorative, and potentially positive.

Our extension of the conceptualization of cross cultural border crossing in the educational domain is seen to advance this valuable metaphor. Clearly, Aikenhead's (1996) metaphor of cultural border crossing is seen to have potential and value as a broad cross cultural research construct.

Pushing the metaphor beyond the educational domain and into the political domain may be more problematic, but equally enlightening. To illustrate, VanWynsberghe (2002) in a thorough study at Walpole Island explored the issues of environmental justice which could be cast in terms of cross cultural border crossing on many levels. One primary border is that which exists between the First Nations

environmentalist group on Walpole Island and the major industries north of Walpole Island which are often responsible for "spills" into the river upstream of Walpole Island (550 chemical spills between 1986 and 1992 according to VanWynsberghe, p. 3). Could this issue be illuminated, or ameliorated, by a cross-cultural border metaphor? Border-fluidity, border-constriction, border-crashing, border-careening, border-colouring, border-construction, and so on, are conceptual tools with the potential to facilitate thinking, direction, and action. For example, at what points might we find border-fluidity? How about economic reciprocal profits or reparation? At what points might we find border-crashing? How about the government, the courts, the police on one side, or demonstrations, sit-ins, encampments on the other side? At what points might we find border-careening? How about diversions related to equivocal language, or vague laws, different ethical principles or worldviews? At what points might we find border-construction? How about blockades, protests, revolt, or laws, at one level, or biases, prejudice, stereotyping at another level?

It is possible that "border analysis" might, indeed, be a metaphor worth considering in some detail. To illustrate some directions that might be possible using this metaphor consider the various aspects of borders captured in Table 4.

Table 4. Border Crossing Concepts		
	Border Fluidity	Refers to ease of border crossing. Such ease could be related to similar ideologies, economics, porosity, absence of policing, etc.
	Border Crashing	Refers to militancy. Crossing borders in contravention of a law, a policy, a taboo, a convention, and so on.
	Border Constriction	Refers to tight borders, or borders well-defended, again whether by law, a policy, a taboo, a convention, and so on.
	Border Consensus	Refers to agreement about aspects of the border by those on either side of the border.
	Border Construction	Refers to building borders. Various mechanics might draw upon borders like the iron curtain, the Berlin Wall, the Palestinian partition, race, the Great Wall of China, Class and Caste, grade levels in a school, etc.
	Border Careening	Refers to deflections from border crossing as a result of attempts at border crashing. It's like getting off on tangents as a result of misunderstanding, language, equivocations, intentions,
	Border Colouring	Colours like red, green, and orange, can signal various aspects or qualities of a border.
	Border Collapsing	Borders may collapse, or disappear, for various reasons. Atrophy, expediency, economics, and so on…. The collapsed border may be neutral, negative or positive.
	Border Bubbling	A large pool of water upon drying in severe weather conditions might bubble into multiple smaller pools. It is a form of fragmenting.
	Border Shifting	Shifts could occur as a result of rezoning, "squatter's rights," power, war, expropriation, re-designation (e.g., wetlands), earthquakes, tectonic plate shifts, and so,…
	Border Conventions	

The list could go on, but the point is made that such a metaphor has potential to facilitate conceptual analysis, thinking, and direction.

Are there conceptual borders or philosophical borders that might be better understood, or mediated, through metaphor? VanWynsberghe writes, "Myth or circumstance may provide the roots of one's notion of history, for what is important is not so much verisimilitude as narrative consistency (p. xiii)." So there is a conceptual border here between verisimilitude and narrative

consistency. At what points might we find border-fluidity, as this is a conceptual border likely to function as a border-constriction? The scientific, technical, modernistic community is looking more for verisimilitude (as approximations to knowledge, truth, and accuracy) rather than "narrative consistency." Perhaps border-fluidity could be achieved here by multiple-perspective-taking, debate, argument, tolerance, methodological harmonizing, and so on. Can one make the case that "narrative consistency" is an effort to approximate the truth and thus equal to verisimilitude rather than opposed to it?

The "Three Fires Confederacy" (VanWynsberghe, 2002, page 66) is an example of border-collapsing within a First Nations community. Smaller groups merge into one larger group, which could be viewed as a positive collapse, where bubbles are merging. Old History verses New History might be an example of border constriction, as would researcher versus researched, tribal council versus local community council, individual versus group, or even elders versus youth. It would be border constriction if there was difficulty crossing such borders. Using a "borders" metaphor, one might ask about the importance and function of existing borders (which, when and where), the construction of new borders (which, when and where), the crossing of borders, the maintenance of borders, the fluidity of borders, the atrophy of borders, and so on.

The metaphor could be pushed even further conceptually if used with pairings presented by Flanagan (2000). For example, he lists 14 pairings that are historically and politically relevant in terms of aboriginal issues: (1) Aboriginality—Civilization, (2) Civilization—Sovereignty, (3) Sovereignty—Nation, (4) Nation—Government, (5) Government—Aboriginal Rights, (6) Aboriginal Rights—Treaties, (7) Treaties—Economy, (8) Economy—Aboriginality, (9) Aboriginality—Government, (10) Economy—Nation, (11) Civilization—Aboriginal Rights, (12)

Sovereignty—Treaties, (13) Economy—Government, (14) Aboriginality—Nation (p. 193-194). Flanagan (2000) does present these connections in the graphic form of an octagon with connecting lines showing various connections. Applying the metaphor of borders to these connections, and thus "border analysis" could prove beneficial.

Take the first pairing, that is, Aboriginality versus Civilization. Flanagan writes: "Because all cultures are functionally equivalent ways of meeting human needs, and because there is no hierarchical scale of civilization, being first does not mean being primitive (2000, p. 192)." Border analysis could lead one to posit in temporal terms, border constriction since a line can be drawn between first and second, in terms of a linear history. But border crashing would be evident where more recent technological innovations are adopted by native groups, and where older aboriginal practices (e.g., forms and practices of discipline and punishment) are adopted by mainstream groups. Border fluidity might be evident where one can document commonalities between aboriginal and modern civilization (e.g., family, health care, recreation, art, music, etc.). Indeed, cross cultural border analysis may prove to be a tool with applications far beyond its original application in science education.

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