

## Case Study: A Comparison of Resources Available for Second-Level Education Services in Saskatchewan First Nations Schools and a Saskatchewan School Division

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### Setting the Context

In 1973, the Canadian government attempted to set a new direction regarding the control of First Nations education. In that year, the Minister of Indian and Northern Affairs Canada (INAC) notified the President of the National Indian Brotherhood (NIB) that he agreed “completely” with the NIB’s Indian Control of Indian Education paper (ICIE) which was a statement of educational philosophy, values, and future direction for First Nations educational jurisdiction. (Henderson, 1995). ICIE espoused Indian parental responsibility and local control in education in partnership with the Federal Government. INAC embarked upon a devolutionary plan to transfer educational administrative responsibility to First Nations within the parameters of the Indian Act. The transfer of schools to, for the most part, individual First Nations was accomplished within existing federal legislation, administrative arrangements, and policies without any significant increase in budgetary levels. Salary costs previously required for federally employed teachers offset requirements for teachers’ salary at the First Nations level.

INAC divested itself of teachers, educational superintendents, and other professionals as schools were devolved to First Nations. In 2002, the Department of Indian Affairs noted that what had devolved was “the specific operation of the school. What was not devolved was an [education] system which would support the school” and assist students in their educational goals (INAC, 2002, p. 5). Thus devolution resulted in the transfer of salaries for teachers, educational assistants, and school principals, for example, but did not include second-level services or an educational system similar to that established by provincial school boards/divisions to support those involved in the daily operation of the school. The further decision to cap federal funding at a 2% funding increase per year in effect guaranteed an inadequate funding formula for First Nations education since the cap did not take into account increased number of students or cost of living increases.

Ongoing concern regarding the quality of education for First Nations students has remained. In 2000 and in 2004, the Auditor General of Canada noted “we remain concerned that a significant educational gap exists between First Nations people living on

reserves and the Canadian population as a whole and that the time estimated to close this gap has increased slightly, from about 27 to 28 years” (Auditor General, 2004, p. 1). The annual *Indian and Northern Affairs Basic Department Data 2003* reported that over the past decade high school graduation rates have decreased annually from 33.9% in 1995-1996 to 29.6% in 2001-2002 (p. 40). While many factors intertwine in this dismal picture, issues related to the overall funding of First Nations education continue to exist. These concerns helped provide the impetus for this study.

The primary purpose of this paper is to compare available financial resources between second-level services in Saskatchewan First Nations schools and the Saskatchewan school system. This will be attempted through a case study that compares the financial resources of the Yorkton Tribal Council and a provincial school jurisdiction, the Prairie Valley School Division.

### The Relationship between Funding and Student Achievement

There has been substantive work presented on the importance of adequate resourcing of school programs in terms of their impact on student achievement, especially in cases involving disadvantaged socio-economic groups as illustrated in the work of Grissmer and Flanagan (2006).

Bell, et al. (2004) identified inadequate funding as a major factor affecting the quality of education among Aboriginal groups, especially in smaller school organizations funded under federal government programs as compared to funding provided by provincial government programs.

Fulford, et al. (2007) examined federally-funded school programs for Aboriginals as compared to provincially operated school systems in Eastern Canada and reached similar conclusions, especially with respect to the limitations to program planning and design precipitated by the conditional nature of some of the funding provided by Indian and Northern Affairs Canada and the disparities caused by disparate ability of Bands in accessing these funds.

There has also been research in funding efforts suggesting a linkage between the nature and amount of school funding mechanisms and student achievement as illustrated by the work of Bertolla and Checchi (2003). This research illustrated the linkage between funding levels and funding mechanisms and the “amount, quality and heterogeneity of education” (p. 1) and the further linkage between educational services and student achievement.

The role of school districts in affecting student achievement has been discussed in a Canadian context by Maguire (2003). He examined case studies of five Alberta school districts and their effect on student achievement, noting earlier studies by Moreau and McIntire (1995) which showed a relationship between spending levels and student achievement in school district in Maine.

Bidwell and Kasarda (1975) examined the relationship between school district organization and student achievement noting the particular importance of district decisions, especially that, since instructional (classroom) technologies were common to all school districts, structural variation across school district was primarily influenced by “professional staff support to the teaching function” (p. 58). This support included achievement testing and diagnosis of learning difficulties, speech therapy and counselling.

Swanson (1988) also noted the important role in improved quality of education played by computer managed instruction and computer-assisted instruction. This led to an expectation that improved outcomes would be generated through another central or district-wide activity from information technology support, also included in second-level services.

These works establish a clear linkage between improved education services and improved student services and improved student outcomes, especially in the case of Aboriginal students. Further, there is an established linkage between improvements and additional resources in second-level services and student outcomes. This indicates that, since such services are generally concentrated at the district operating level, comparisons of district effort on second-level services is legitimate in forming expectation of future student achievement.

With this background, data was collected to allow comparisons between second-level services resources available to the schools operated by one group of Saskatchewan First Nations, those operated with the involvement of the Yorkton Tribal Council Department of Education, and those available in a geographically coincident public school division operated under the Saskatchewan Ministry of Education, the Prairie Valley School Division.

### The Yorkton Tribal Council Schools

The Yorkton Tribal Council represents five First Nations in Eastern Saskatchewan including The Cote First Nation, Keeseekoose First Nation, Ocean Man First Nation, Sakimay First Nation and the Kahkewistahaw First Nation.

The Council serves a total population of 1915 members and the member First Nations provide education services to approximately 1000 students in eight schools through the Yorkton Tribal Council Education Department.

Specific pre-Kindergarten to Grade 12 services provided by the Yorkton Tribal Council Education Department include supervisory services in program instruction; co-ordination of all professional development activities; and, educational psychology and speech pathology support for the member schools. In addition, Director services are also provided to three other First Nations School in the area served by the Yorkton Tribal

Council. These schools are operated by White Bear First Nation, Cowessess First Nation and Ochapowace First Nation.

Table 1, shows the schools provided with either second-level services or director services and their enrolments in 2006.

Table 1

*Enrolment in Schools Served by Yorkton Tribal Council Education Department in 2006*

First Nation School	2006 Enrolment
Cote First Nation	162
Keeseekoose First Nation	162
Ocean Man First Nation	30
Saskimay First Nation	29
Kakewistahaw First nation	207
White Bear First Nation(Unaffiliated)	132
Ochapawace First Nation (Unaffiliated)	134
Cowessess First Nation (Unaffiliated)	117
<b>Total</b>	<b>973</b>

Note: “Unaffiliated” schools are operated by First Nations which are not affiliated with the Yorkton Tribal Council but receive some or all second-level services through contracts with the Yorkton Tribal Council Education Department.

Source: Indian and Northern Affairs Canada.

### The Comparator

For this case study, a neighbouring school division operating within the Saskatchewan school system was considered an appropriate comparator. The Division chosen was the Prairie Valley School Division #208 (PVSD).

PVSD operates 38 schools in 38 communities in the east central part of Saskatchewan with the boundaries illustrated in Figure 1.

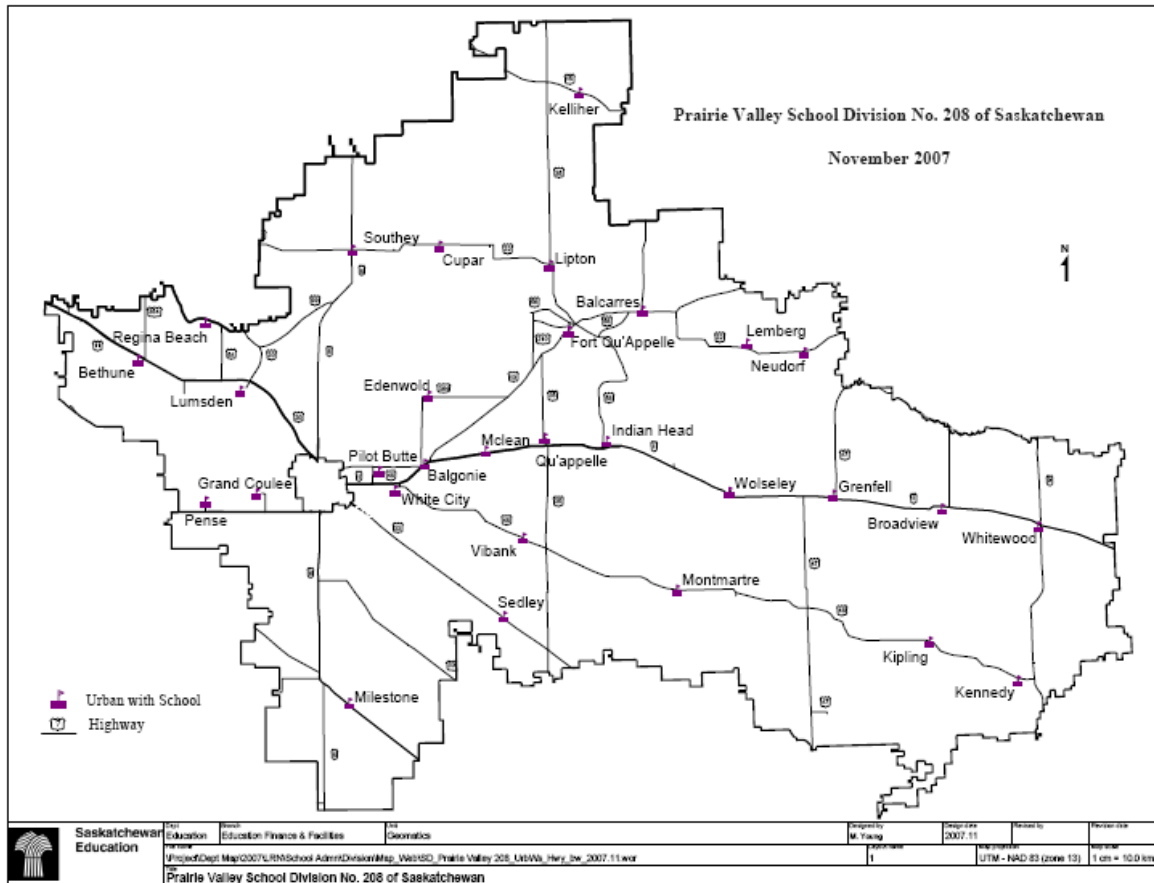


Figure 1. Map of Prairie Valley School Division

PVSD was chosen as a comparator largely because, like the area served by the Yorkton Tribal Council, it comprises a largely rural area in the same geographic area. In fact, of the eight First Nations schools served by the Yorkton Tribal Council Education Department, four (Sakimay, Kahkewistahaw, Ochapowace and Cowessess) with 487 of the 973 students (50.0 %) in the Council area are located within the boundaries of the Prairie Valley School Division.

In 2006, PVSD's total enrolment included 8,036 students (Saskatchewan Ministry of Education, 2009) with an estimated 18.5% of the students within the division being self-declared as belonging to a First Nation (Prairie Valley School Division, 2008).

The division employed 368.3 classroom teachers and 56.23 special education teachers along with 162 education/teacher assistants. In addition, the Division used 7.25 educational psychologists, 8.4 speech pathologists, 3.6 social workers, 1.98 occupational therapists and 6 student counselors in delivering second-level services to the students. (Prairie Valley School Division, 2008).

## Methodology

For the case study, the actual expenses for second-level services for the Yorkton Tribal Council schools were compared to the activity levels for the Prairie Valley School Division. The latest available full year of data (2006-07) was chosen for comparison purposes to ensure that comparison was done on the basis of actual accounts, as opposed to budgeted amounts.

The basis of comparison included salary expenses for the superintendent of curriculum and instruction, department head, and secretary for second-level services, school psychologists and speech pathologists paid for by the Yorkton Tribal Council while the unaffiliated schools of First Nations, provided their own services.

The schools served by the Yorkton Tribal Council include a much smaller number of students (973 or 12.1% of the enrolment in Prairie Valley School Division) and, while the two comparators are similar in geographic location and dispersion, allowing for the large disparity in the size of the comparators was accommodated by comparing the activities on a per student basis. There are a number of implications to this approach that will be discussed below.

To allow for differences in the accounting for second-level services in the two administrative systems, it was decided to adopt the accounting protocols of the Yorkton Tribal Council and to realign the detailed accounts of the Prairie Valley School Division to this protocol. While this approach allows a line-by-line comparison of activity levels between the two comparators, the summation of effort indicators will allow a smoothing of any discrepancies in codification of effort which may exist within the two sets of accounts.

This method of comparison, between two widely disparate sized entities requires a common assumption about the nature of the activity levels within each organization: that the production functions employed within the entities are identical, continuous and homogeneous. It is assumed that both comparators are using similar methods in providing second-level services and that the value of this is reflective of the level of service provided and that any additional resources (or partial resources) added in the provision of second-level services either in PVSD or in the Yorkton Tribal Council would be equally as productive as previous resources employed and would also be as productive whether added to either entity.

While it is difficult to assume that, with such small numbers of (particularly human) resources employed in the two entities, all resources are equally as productive as all others, neither is there any *a priori* reason to assume that any given resource is more or less productive than any other nor that the resources within one comparator are any more or less effective than those employed within the other.

For this reason, the assumption of identical, continuous, homogeneous production functions will be considered reasonable for the time being, although the caution above will be reconsidered in the conclusion section following the analysis.

### Data

Data were provided by the Yorkton Tribal Council, Indian and Northern Affairs Canada (INAC) and the Prairie Valley School Division on expense for second-level services in the respective organizations in their 2006-07 fiscal year.

Differences in accounting treatments between the organizations required some standardization for comparison purposes. For example, benefits paid to employees are charged to each office in the accounts provided by the Yorkton Tribal Council while they are paid out of separate object codes in the public school systems and costs of benefits are shared between the Province and the individual school divisions. For this reason, it was necessary to restrict the comparison to actual salaries paid.

Similarly other operating and capital expenses, being treated separately and differently in each of the two accounting systems, were left out of the comparison.

Another adjustment was made to reflect the fact that three of the First Nations served by the Yorkton Tribal Council Education Department (White Bear, Ochapowace, and Cowessess) receive direct funding, \$57,083 from Indian and Northern Affairs Canada to provide second-level services and they contract with the Yorkton Tribal Council to cover a portion (18.9 %) of the costs of the office of the department head but otherwise provide their own second-level services within their respective schools. To adjust for this, the \$57,083 was reduced by the amount paid to the Yorkton Tribal Council (\$35,000) to approximate the amount spent by each these First Nations on their own second-level services.

Finally, the student enrolment as at September 30 of 2006 as provided by the Saskatchewan Ministry of Education and Indian and Northern Affairs Canada was used to calculate the second-level services salary expense of the two comparators on a per student basis.

The results of this comparison are shown in Table 2.

Table 2

*Salary Expense for Second-Level Services, by Type, Yorkton Tribal Council Schools and Prairie Valley School Division, 2006-07*

<b>Expense Category</b>	<b>Description</b>	<b>Yorkton Tribal Council</b>	<b>Prairie Valley School Division</b>
1-2-12-115-102	Supportive Instructional Salaries - Out of Scope (LEADS)*	\$104,569	\$700,059
1-2-12-115-104	Supportive Instructional Salaries - Teacher Contract	\$0	\$0
1-2-12-115-140	Program/Technical Support Salaries- Teacher Contract	\$0	\$1,092,174
1-2-12-116-107	Educational Administrative Support Salaries**	\$29,705	\$407,571
1-2-12-116-108	Program/Technical Support Salaries ***	\$138,038	\$847,657
<b>Total for Second-level</b>		<b>\$272,312</b>	<b>\$3,047,461</b>
<b>September 2006 Enrolment</b>		973	8,036
<b>Cost per Student</b>		<b>\$280</b>	<b>\$379</b>

\* includes \$79,567 for "Department Head" and \$25,000 for "Superintendent - Curriculum and Instruction"

\*\* includes \$29,705 for "Salary - Secretary"

\*\*\* includes \$115,955 for "Consultants - Psychologist" and an additional \$22,083 (net) in funding used by the unaffiliated schools.

Source: Yorkton Tribal Council, Indian and Northern Affairs Canada, Prairie Valley School Division and Saskatchewan Ministry of Education.

From Table 2, it appears that the Yorkton Tribal Council and the unaffiliated schools in the Council area expensed a total of \$272,312 on second-level services in 2006-07. By comparison, the expense on salaries of the Prairie Valley School Division, with its much higher enrolment, was over \$3.0 million in the comparable fiscal year. The Yorkton Tribal Council schools spent only 8.9% as much on second-level services in 2006-07 as did the Prairie Valley School Division.

On a more fair per student basis, the Yorkton Tribal Council second-level services salaries amounted to \$280 per student in 2006-07, compared to a per student salary cost of \$379 in the Prairie Valley School Division. In this case the Yorkton Tribal Council budget for second-level services salaries was only 73.9% of the comparable spending level in the Prairie Valley School Divisions.

### Implications

Had the Yorkton Tribal Council been engaged in second-level services at a rate similar to the Prairie Valley School Division in 2006-07, it would have incurred salary expenses of \$99 per student more or a total of \$96,327 more than it actually expensed to salaries for these services, a 35.4 % increase in activity levels.



Since this analysis has by necessity been confined to the salary portion of this service category, full matching of the activity levels between the two comparators would also require similar adjustments to other service cost categories such as personnel benefits, travel costs, office operating costs and, possibly, capital costs.

It has been demonstrated that the 2006-07 salary expense of the Yorkton Tribal Council area was significantly below the proportion that would be required to provide services on a comparable basis with the Prairie Valley School Division. In that comparison, a salary budget of \$368,639 would be required to achieve service levels comparable with the Prairie Valley School Division as compared to the 2006-07 Yorkton Tribal Council area salary budget of \$272,312. While this would represent an increase in the salary budget for the Council area of \$96,327 (or 35.4 %), it is calculated assuming constant returns to scale, or an assumption that there are no scale disadvantages in operating a small enrolment organization relative to a much larger one such as Prairie Valley.

While this discussion and analysis has focused on salary expense, it must also be remembered that these data have been used only as a proxy for service levels with the two comparator organizations. A simple increase in the salary expense of the Yorkton Tribal Council will not necessarily match service levels provided in other organizations unless it is directed towards service activity level increases. Given the assumptions about homogeneous and continuous production functions discussed above, there is every reason to expect an increase in inputs to yield a concurrent and proportionate increase in levels of service, outputs and outcomes.

The analysis above has been confined to salary expense and has not addressed the other operating costs associated with second-level services, mainly because differences in accounting systems between the Yorkton Tribal Council and the provincially mandated schools makes identification of overhead or operating costs difficult. This is especially compounded by differences in the funding of staff benefits and the sharing of those costs between a school division and the provincial government and between the Yorkton Tribal Council and Indian and Northern Affairs Canada.

It is possible, however, to derive a ratio for ancillary costs of operation relative to salary costs from the accounts of the Yorkton Tribal Council as in Table 3.

Table 3

*Yorkton Tribal Council Operating Costs for Second-Level Services, 2006-07*

<b>Item</b>	<b>2006-07 Expense</b>
Administration	\$32,107
Rent	\$6,000
Professional Development	\$9,000
Travel	\$20,000
Employee Benefits	\$24,673
Other Operating	\$23,000
<b>Total Operating Overhead</b>	<b>\$114,780</b>
<b>Total Salary Budget</b>	<b>\$272,312</b>
<b>Total Operating Cost</b>	<b>\$387,092</b>
<b>Ratio of Overhead to Salary</b>	<b>42.15%</b>

Thus, 42.15 %, the ratio of operating overhead to salaries, can be used to estimate an appropriate operating budget for second-level services for the Yorkton Tribal Council using the results of the earlier comparative analyses of the average cost per student in the Yorkton Tribal Council to the PVSD. This calculation is shown in Table 4 and compared to the total operating expense for the Yorkton Tribal Council's second-level services for 2006-07.

Table 4

*Estimation of 2006-07 Yorkton Tribal Council Second-Level Service Total Expense Using Prairie Valley School Division Comparables*

	<b>Prairie Valley School Division Case Study Basis</b>
Salary Expense	\$368,639
Overhead (42.15% of Salary)	\$155,381
Other: Student Evaluations	\$17,775
Student Incentives	\$6,000
Student Youth Support	\$21,000
<b>Total Comparable Operating Expense</b>	<b>\$568,795</b>
2006-07 Yorkton Tribal Council Actual	\$387,092
<b>Difference</b>	<b>\$181,703</b>

This analysis would suggest that the total operating budget for second-level services in the area of the Yorkton Tribal Council would have to have been \$181,703 higher than the actual expense in 2006-07 to have provided a level of student services comparable to that provided by PVSD using the average cost per student in the PVSD.

It should be noted at this time, that these calculations were conducted under the assumption of continuous, straight-line production functions with homogeneity of degree one.

But earlier cited work by Swanson (1988) as well as works in Ontario by Dawson (1972) and in Oklahoma by White and Tweeten (1973) provide evidence of economies of scale in school and school district operations, suggesting that there is at least a range of operations scale in which decreasing average costs per student can be expected.

To the extent that such economies of scale exist in operation of school divisions and to the extent that the range of available economies of scale exceeds at least the 1000 students served by the Yorkton Tribal Council, the comparisons above with the 8,000 student PVSD, may significantly understate the resource level that would be required by the Yorkton Tribal Council to match the per student service levels achieved by PVSD, especially in the provision of division-centred services such as second-level services.

The existence of such economies of scale and their implications for service delivery in small scale districts such as that operated by the Yorkton tribal Council and, more importantly, for achievement of student outcomes in such operations, would be an important consideration for further research.

## Conclusion

In 1973, the government of Canada attempted to set a new direction for the control of First Nations education in Canada, by transferring educational administrative responsibility to First Nations communities. However, a failure to ensure that meaningful second level educational services were available to these communities lessened the positive impact of this decision.. Research evidence links student achievement with the availability of education services and especially for disadvantaged populations, including Aboriginal students in Canada. There is also strong evidence to suggest that district-centred services including speech therapy, school counseling, student testing, supervisory support and information technology support all have a positive effect on schooling outcomes, again, especially in the case of disadvantaged youth. This means that strong second level educational services are necessary for success in student achievement.

A comparison of resource levels for such second-level services between a provincially funded school division and a First Nations organization providing parallel functions to First Nations schools in Saskatchewan, reveals that funding for second-level services lags significantly behind resource commitments in provincially-operated school divisions, even without considering the likelihood that the smaller First Nations organizations are not as likely to be able to access economies of scale in such division-centred services as their provincial counterparts.

This significant shortfall in services to First Nations students can be expected to exacerbate their disadvantages in the long run and needs to be addressed for significant improvement in student achievement to be realized. If the promise of Indian Control of Indian Education (ICIE) is to be realized, more substantial support for second level services within First Nations education is necessary.

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