THE FINANCIAL FAILURE OF FIRST NATIONS EDUCATION IN CANADA

Denise Humphreys, MPA
University of Manitoba
Winnipeg, Manitoba
humphred@myumanitoba.ca

Manreet Kaur-Nehal
Johnson Shoyama School of Public Policy
University of Saskatchewan
Saskatoon, Saskatchewan
mkn075@mail.usask.ca

Abstract

The underfunding of First Nations K-12 education in Canada has created a disparity in the quality of education received by First Nations students compared to non-First Nations students. Understanding the connection between funding and student outcomes might prove useful in confronting this disparity. Additional funding will not resolve all education problems, so those evaluating funding and policy interventions would benefit from considering factors such as efficiency, effectiveness, equity and the social context of learning.

To create social change and understand if policy is a suitable tool for intervention, it is helpful to understand why the gap in education exists. If the gap does result in disparity of education outcomes, it is a worthwhile subject to explore. In this case, the gap is suggested to affect student outcomes and Indigenous communities and organizations have reiterated this to the federal government (Assembly of First Nations, 2017).

Résumé

Le sous-financement de l'instruction pré-universitaire parmi les autochtones au Canada a créé une cassure entre élèves autochtones et allochtones en ce qui concerne la qualité de l'éducation. Comprendre le lien entre financement et réussite étudiante pourrait s'avérer utile afin d'affronter cette disparité. Des fonds supplémentaires ne régleront pas tous les problèmes en éducation, aussi les individus évaluant le financement et les interventions en politique de l'éducation profiteraient-ils d'un examen de facteurs tels que l'efficacité, les effets positifs, l'équité et le con-

texte social de l'apprentissage.

Afin de créer des changements sociaux et de comprendre s'il y a lieu d'intervenir en politique éducative, il est utile de comprendre pourquoi il existe une cassure en éducation. Il vaut la peine qu'on l'explore si ladite cassure aboutit à des cheminements distincts en éducation. Dans ce cas précis, on propose que la cassure a un effet sur la réussite étudiante, ce qu'ont répété au gouvernement fédéral diverses communautés et organisations autochtones (Assemblée des Premières Nations, 2017).

Introduction: Defining the Policy Problem and Objectives

A disparity in educational quality provided exists between K-12 First Nations students and non-First Nations students, where First Nations students have a substandard quality of education. The inadequate funding from the Canadian federal government plays a major role in the disparity of education. Based on the treaty relationship between Canada and First Nations, the federal government has financial responsibility for First Nations education (Rosen et al., 2016). The federal government went beyond their financial obligation and encroached on First Nations education through the creation of residential schools. The federal government is responsible for the injurious legacy of this encroachment, including the substandard condition of First Nations education today. In response, in 2015, the Truth and Reconciliation Commission (TRC) of Canada challenged the federal government to eliminate the funding gap for First Nations students on and off reserve (Truth and Reconciliation Commission, 2015). In order to address this call to action, the support of the federal government, policy makers, and the Canadian public is required.

Education funding affects the number, quality and retainment of teachers, student mobility, control of curriculum, educational resources, school facilities, graduation rates, student performance, and post-secondary enrolment. Witnesses reporting to the Senate Committee, as noted in the Report of the Standing Senate Committee on Aboriginal Peoples stated that an ineffective funding formula and constrained annual increases in federal funding for education has "resulted in education shortfalls in multiple areas, ranging from student and classroom support services to infrastructure" (Germain & Dyck, 2011, p.31). According to the Report, former Regional Chief of Ontario, Angus Toulouse, "The impacts of this cap can be felt everywhere, from antiquated education facilities, to day-to-day classroom operations, to the lack of resources available to fully develop and sustain First Nation structures that provide second and third level supports" (Germain & Dyck, 2011, p.31). Examining how expenditures as inputs contribute to the production of certain outputs is valuable when devising budget plans. With

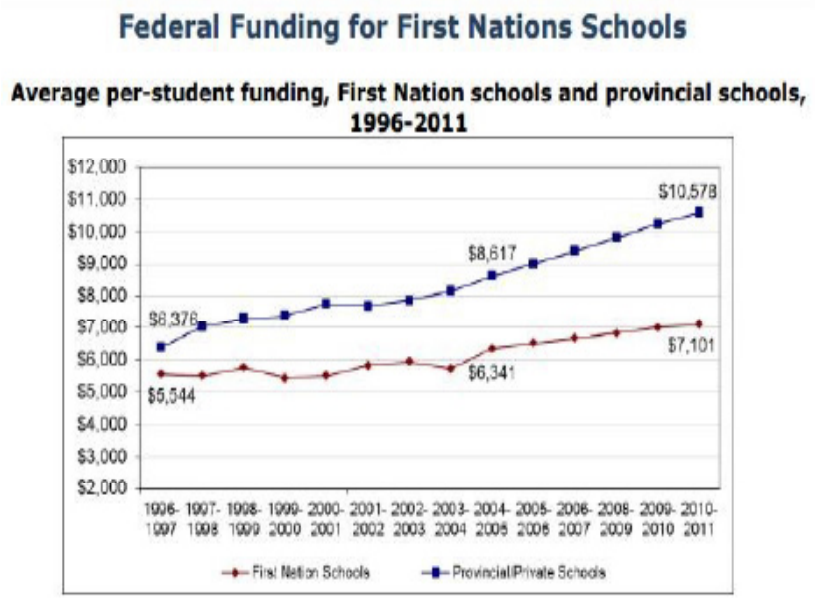
this information policy analysts can determine if inputs are correlated to education outputs and are provided with more knowledge as to how funding relates to student success. Student success is important as a societal goal as it contributes to student wellness and family income (Government of Canada, 2013). In order to address the outputs of funding and to improve quality of life, First Nation systems must have the financial resources to actualize their relative educational goals that lead to quality education.

The asserted negative repercussions of the K-12 funding gap and the insufficiencies of the federal funding formula assist in highlighting the relationship between education spending, education outputs and quality of life. To address the adverse financing of First Nations students, it is proposed that financial reform should be directed towards Indigenous governance processes, including the financial support of Indigenous education systems and jurisdiction. Through supporting the autonomy of First Nations in their control of education, funding can increase in accuracy and capacity because First Nations students and their support systems know their needs best. These steps to reform are advantageous implementations if the federal government is committed to equity.

The Current Condition of Education Funding in Canada

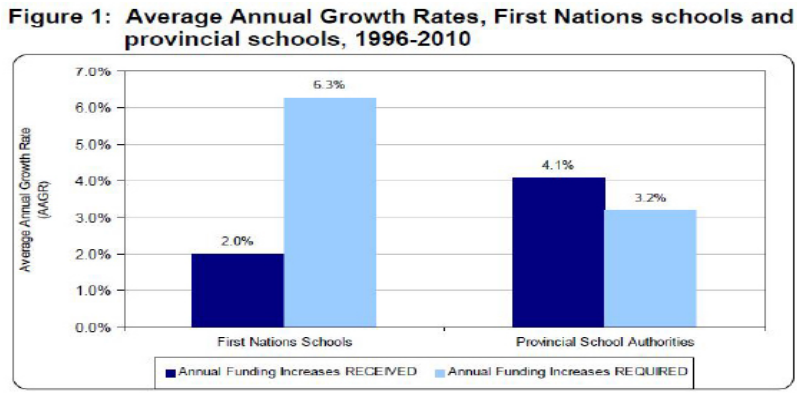
The current condition of education funding and spending in Canada helps provide evidence of the K-12 funding gap. Between 1996 and 2011, the gap between per-student funding for First Nations students and non-First Nations students has increased over time (MacEwen, 2015). In 1996, there was a 13% difference in per-student funding for First Nation students on reserve and non-First Nations students, and in 2011, the gap widened to 33% as seen in Figure 1 (Assembly of First Nations, 2017). The per-student expenditure gap averaging 30% (Dart, 2019), contributes to the inequity in per-student expenditures. The average 30% difference is [approximately] "$3,500 per-student in First Nation schools compared to per-student funding in provincial schools" (MacEwen, 2015, para. 3). The increase from 13% in 1996 to 33% in 2011 shows the longevity of the growing funding gap. In the future if no intervention is implemented, it is probable the funding and spending gap will continue to grow over time. According to the Assembly of First Nations, probability of the gap growing can be mainly attributed to the oversight of First Nations student population growth and the cost of inflation. Considering these factors could help close the gap.

Figure 1: Average per-student funding for First Nations school versus provincial schools



Note. Reprinted from *First Nations Education is critical social infrastructur*e, by MacEwen, A.(2015, September 30). http://www.progressive-economics.ca/2015/09/30/first-nations-education-is-critical-social-infrastructure/

Figure 2: Annual and historical funding shortfall for First Nations education (2005-2010)



Note: Reprinted from *Fact sheet First Nations education funding,* by Assem-

bly of First Nations (2017). Source: Government of Canada (1996-2010), Statistics Canada (1996-2008), Statistics Canada (1996-2010) and Indigenous and Northern Affairs (1996-2010). https://www.afn.ca/uploads/files/education/fact_sheet_-_fn_education_funding_final.pdf

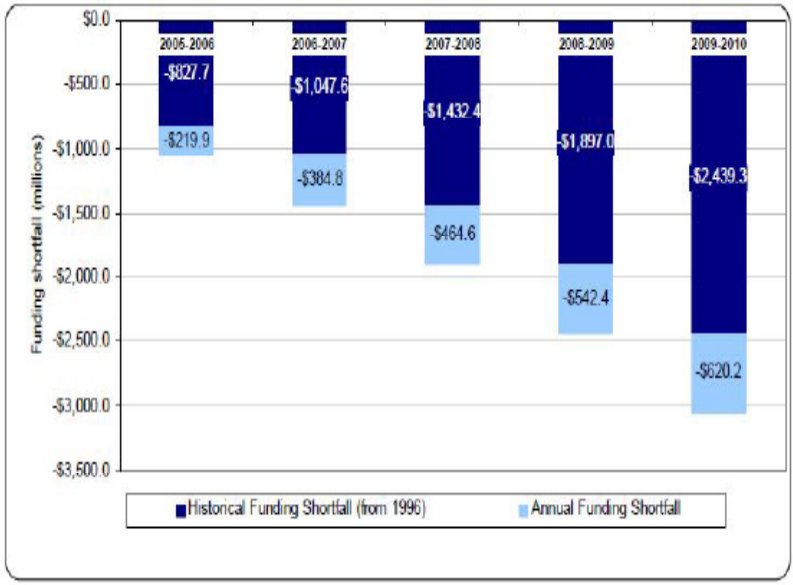
In addition to unequal funding, unequal capacity for spending can mostly be attributed to the budget cap instituted to lower federal debt (Warick, 2018). In 2017-2018, the federal deficit surged due to increased federal spending on defence, veterans, transfers and infrastructure (McGregor, 2018). Even with a recent rise in federal debt and an increased urgency to address it, the benefits of First Nations students succeeding, and the costs of debt must be weighed against the cap.

So, what is the history of the cap? Between 1996 and 2010, First Nations schools received only a 2% increase in annual funding due to the cap, though 6.3% has been required since 1996. Provincial schools received a 4.1% increase, yet only required 3.2% due to decline in student enrolment as shown in Figure 2 (Assembly of First Nations, 2017). Seemingly to draw attention away from the cap, in 2012, former Prime Minister Stephen Harper proposed $275 million towards the Federal Control of First Nations Education Act, the new legislative basis for funding First Nations education. However, it was rejected by many First Nations as it lacked adequate prior consultation, legislated unilateral funding, and was supported by Indigenous and Northern Affairs Canada who made the controversial statement that funding for native schools was already on par with the rest of the country (The Canadian Press, 2012). To address the funding issue in 2016, then Prime Minister, Justin Trudeau proposed a $2.6 billion increase of funding for First Nations schools. Though funding increased, Trudeau did not address the cap, and as of 2017, only $1.939 of this $2.6 billion was spent (Warick, 2018). Today, the cap has yet to be lifted.

Why should the cap be lifted? Lifting the cap for long term and sufficient investments in education could help reduce some of the high cost of short term and insufficient investments. Increased education quality can reduce the risk of involvement in health sectors, social services and the justice system, where costs are expensive to serve high need populations. Education also helps prepare students for employment, voting and environmental stewardship (Behrman et al., 1997). For example, in 2019, Statistics Canada linked tax data to the Youth in Transition Survey and to the Programme for International Student Assessment (PISA) scores. Statistics Canada reported youth with higher PISA scores generally have higher earnings than their counterparts with lower scores, although background factors of students also played a role in earnings (Gibson, L. 2019). Lifting the cap and increasing funding for First Nations students will help make meaningful investment, though funding above the per-student expenditures will also be required to meet stu-

dent needs and reap the full benefits of long-term investment.

Figure 3 Average annual growth rates for First Nations schools versus provincial schools



Note: Reprinted from *Fact sheet First Nations education funding,* by Assembly of First Nations (2017). Source: Government of Canada (1996-2010), Statistics Canada (1996-2010) and Indigenous and Northern Affairs (1996-2010). https://www.afn.ca/uploads/files/education/fact_sheet_-_fn_education_funding_final.pdf

The Effect of Current Conditions on First Nations Students

The current condition of funding has an obstructive effect on First Nations students and their communities. The plan of the federal government to address the effect is not adequate for First Nations students, where their distinct needs are still not being met. This limits the capacity of First Nations to support these needs as well. Because of colonization, including poverty, intergenerational trauma and forced dependency, meeting the needs of First Nations students are a prerequisite for their wellbeing and its contribution to academic success.

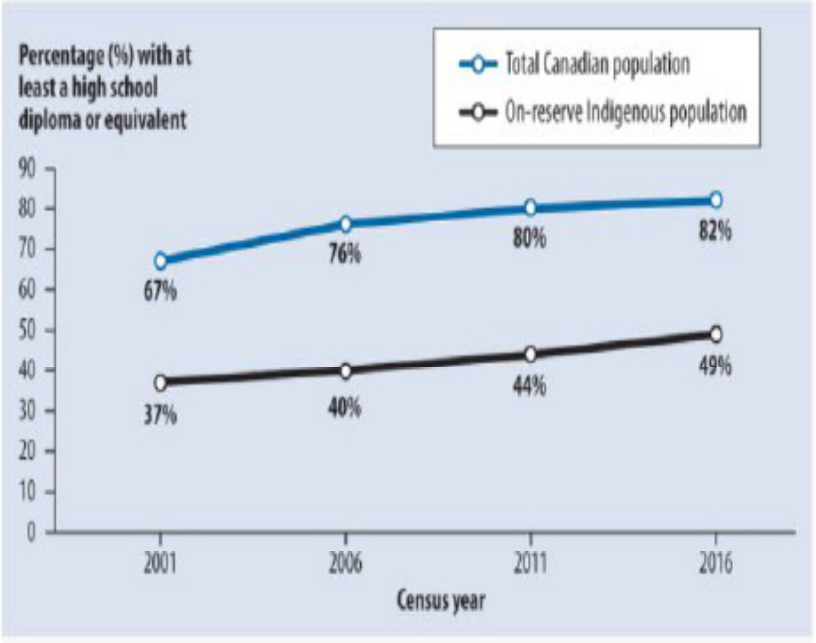
Lower graduation rates of First Nations students are a key piece of evidence that the current funding plan is not working to meet the education needs of First Nations students as it is for non-First Nations students. Financial inequity is strongly related to education quality and in turn to graduation rates (Statistics Canada, 2013). According to Niigaan

Sinclair, former head of Native Studies at the University of Manitoba, chronic underfunding by the federal government is responsible for the low high school graduation rates of on-reserve students (University of Manitoba, 2016). The chronic underfunding includes the persistent need for investment in infrastructure required to construct schools, maintain and repair schools on reserve (Indigenous Services Canada, 2018). Sinclair stresses that First Nations students cannot succeed when they must attend a school with inadequate classroom resources, under-resourced libraries, and moldy classrooms (University of Manitoba, 2016). In addition to substandard resources and infrastructure, if competitive salaries are unavailable on reserve, fewer and less distinguished teachers will be available to students, which may result in lower levels of student achievement (Tucker et. al., 2005). The rationale behind lower graduation rates for First Nation students could effectively illustrate second-class financial administration.

In combination with scarce funding, lack of efficiency and effectiveness of financing can also be responsible for lower graduation rates. Inefficient and ineffective financing can be largely attributed to unreliable proposal based funding, the 2% budget cap, lack of focus on Indigenous educational governance and lack of clear performance indicators (which are currently inadequately assessed and collected by Indigenous Services Canada), for improving educational outcomes (White-Eye, 2019; Auditor General of Canada, 2018). However, one performance indicator that the government has used to measure outcomes are graduation rates.

The government itself has found graduation rates to be lower for First Nations students than non-First Nations students, yet this gap continues to widen over time. Figure 4 depicts the widened gap between high school graduation rates of First Nations students on reserve and non-First Nations students until 2016. With the increasing gap, in 2018, according to Jane Philpott, then Minister of Indigenous Services, 44% of First Nations on-reserve students graduate from high school in comparison to 88% of other Canadian students (Indigenous Services Canada, 2018). This helps to show that outputs that lead to education outcomes are not being produced at similar

Figure 4: Percentage comparison of high school graduates: on-reserve Indigenous population versus Canadian population



Note: Reprinted from *Census program data,* by Indigenous services Canada (unaudited). Source: Statistics Canada (2001, 2006, 2011, and 2016). https://www.oag-bvg.gc.ca/internet/English/parl_oag_201805_05_e_43037.html

Analyzing the influence inputs have on graduation attainment could be helpful when strategically planning academic output projections. When considering inputs to outputs, it has been found that when funding increases for First Nations schools, academic attainment rises (Friesen et al., 2012). One school that demonstrates this evidence is the Waywayseecappo reserve school, located three and a half hours drive from Winnipeg. Since equal funding was administered in 2011, student literacy improved 44% for grade one, 33% for grade two, 54% for grade three and 23% for grade four (Sniderman, 2016). Another example of the positive effect of investment on academic attainments includes the creation of separate schools based on language and religion, which includes French and Catholic school systems in Canada. There are successful autonomous francophone school boards (Richards et al., 2004), and similar funding for First Nations to create their own school boards and to control funding allocations could "suggest that separate schools [such as separate First Nations school boards], controlled by cultural

minorities produce increased educational attainment among the children" (Evans et al., 1995 and Neal, 1997 as cited in Widdowson & Howard, 2013, p.149). Based on the results, needs-based funding above this would likely increase improvement more than unilateral funding. Increased funding to support First Nations self-determined approaches to spending could be a meaningful source of intervention to better meet the realities of First Nations students. However, this depends on the choice of First Nations as to pursue this option.

Current Conditions on Obtaining Quality Education: Pedagogies of Place

It has been asserted that insufficient funding is a contributing factor to the inadequate education provided to students on reserves. Not surprisingly, First Nations students perform better in off reserve schools where 8 in 10 Métis students and 7 in 10 First Nations students receive high school diplomas (University of Manitoba, 2016). Approximately 60% of First Nations students living on reserves leave their home communities, familiar surroundings and learning in their own language to pursue overall improved educational opportunities (Drummond, 2013). Pedagogies of place affect how students learn, as learning links curriculum to their lived experiences and connects them to their local communities in meaningful ways (Taylor, 2010). Leaving reserve can prevent First Nations students from connecting their own experiences and communities. This might happen because they may not have strong ties to urban areas where they attend provincial school. Though not all First Nations children may have the same experience, the Thunder Bay tragedies discussed below show that not only can students be displaced and prevented from making connections to their learning environment, they may experience racism and tragic fates in their new metropolis (Kassam, 2016).

Due to lack of quality high school education on reserves, many students from remote northern First Nations attend high school in Thunder Bay. Seven students belonging to remote First Nations communities in northern Ontario (Kassam, 2016) lost their lives between 2000 and 2011, and many families are still searching for answers regarding their children's deaths (Tagala, 2017). Due to limited and often non-existing options for secondary school education, these students (like many other First Nations students) travelled hundreds of kilometers to gain access to more educational opportunities (Kassam, 2016). From an inquest into the students' deaths, almost one hundred and fifty witnesses described "the systemic failure" (para. 5) that left the students to deal with loneliness and "overt racism in the city" (para. 5) on their own (Kassam, 2016). In her book *Seven Fallen Feathers*, author Tanya Talaga gives insight into

the difficulties faced by the students' families including the use of their own resources for search operations (Troian, 2019). For many northern First Nations families in Ontario it is daunting to send their children to complete high school in communities that "cannot guarantee their safety" (Troian, 2019, para.6). It makes sense that K-12 First Nations students should be able to have their education where they are safe and connected to their own families and culture.

Obtaining Quality Education: Case Study of Chief Whitecap school

As discussed, education on reserve is generally lower quality than education off reserve. Even though education on reserve is not yet benefiting First Nations students as it should, there are some steps that have been made to try to link home and quality education for students. Chief Whitecap School is an example of linking places of belonging to a higher quality of learning. Chief Whitecap School is the first on reserve school to become a part of a Saskatchewan school division due to a unique education agreement between the Whitecap Dakota First Nation and Saskatoon Public Schools made in 2014 (Whitecap Dakota Alliance, n.d.

The agreement between Saskatoon Public Schools and Whitecap Dakota First Nation was signed in September 2014, with provisions for renewal, as a companion funding agreement between the school division and Indigenous and Northern Affairs Canada (Whitecap Dakota Alliance, n.d. b). With this agreement, Whitecap Dakota First Nation students begin school in Saskatoon and study at Chief Whitecap School from grades 5 to 8 (Whitecap Dakota Alliance, n.d. a). Saskatoon Public School Division operates the school, but the Whitecap Dakota First Nation maintains jurisdiction over education provided on reserve (Narine, 2014). As part of this agreement, $2.7 million was provided as federal funding to support additional space and amenities for Chief Whitecap School (Whitecap Dakota Alliance, n.d. a). With improved resources and maintaining learning on urban reserve land, The Chief Whitecap school model has been successful in providing education to First Nations students in an environment reflective of their history, and it does not require students to move away from their homes and families.

The Relevance of PISA Scores to Current Conditions

Outcomes of education funding can be seen in the example of graduation rates and through which a student is able to find meaningful learning. Performance indicators and their relationship to funding can also play a compelling role in the study of quality education. PISA

scores help measure this relationship through comparing student expenditures to student performance in reading, mathematics and science knowledge (OECD, 2000). PISA scores are one of the leading international tools for studying education quality. Comparing student expenditures to performance can help examine whether current inputs of education are relevant to outputs and outcomes. Between 2000 and 2015, costs for Canadian per-student expenditures have increased by 41%; the increase in costs can be attributed to Baumol's cost disease theory (Mou et. al., 2019). Baumol's cost disease theory can be explained as when "gains in technology or knowledge boost productivity in some sectors of the economy, wages in those sectors rise. To keep workers from fleeing sectors where productivity is comparatively stagnant, wages in those sectors need to increase as well" (Gillen, 2019, p.1). How do the PISA scores relate to cost disease theory? Figure 5 shows that even though more funding has been allocated to per-student expenditures as based on Baumol's cost disease theory, the PISA scores have declined. As education is one of the relatively stagnant sectors, wages have increased to keep workers from fleeing. As wages increase, per-student expenditures must rise to help pay for these wages. Alas, the increase in funding is not only used directly for better resources, but to keep workers in education. Therefore, if more funding is allocated, but cost disease is not considered, it may have little effect on student performance.

In this case, efficiency has dropped in Canadian education. With the effects of cost disease and a decrease in efficiency, even less funding is available to students. The last three columns of the table in Figure 5 emphasizes the technical, allocative and overall efficiency of the ratio of inputs to outputs. Between 2000 and 2015 there was a decline of overall efficiency by 20% (Mou et. al., 2019). Figure 5 shows that efficiency has decreased over time and input costs have increased where outputs are reduced. This decrease in efficiency in Canada has contributed to a decrease in student performance and a reduced quality of education. This is because student performance is one of the main indicators of education quality. The reduction in performance indicates that not only is it important to compare expenditures to outputs, but efficiency must also be a variable used to measure how expenditures translate to these outputs.

Figure 5: Funding allocation expenditure for per-student

Table 1. Average inputs, outputs, and efficiency scores by PISA years.

Year	Per student expenditure	Enrolment	PISA_ Reading	PISA_ Math	PISA_ Science	TE	AE	OE
	Constant 2000 $	million	score	score	score	score	score	score
2000	$5,763	0.51	526	524	522	100%	100%	100%
2003	$6,307	0.50	518	522	510	98%	95%	94%
2006	$6,633	0.49	513	515	524	96%	92%	88%
2009	$7,431	0.47	509	511	517	94%	90%	85%
2012	$7,486	0.47	508	503	515	94%	89%	83%
2015	$8,107	0.47	515	501	517	94%	85%	80%
Change	+41%	−7%	−11	−23	−4	−6%	−14%	−20%

Note: Reprinted from *Budgeting for efficiency? A case study of the public K-12 education systems of Canada* by Mou et al. (2019). 10.1080/00036846.2019.1584380

Comparing per-student expenditures, PISA scores, and efficiency in relationship to their performance and attainment of education outcomes with the added variables of First Nations students and non-First Nations students is helpful in determining student demographic differences in the relationship. Note that even as the goal is to have spending result in the greatest value of money, effectiveness and equity of spending must also be considered to produce adequate outcomes. To achieve effectiveness of funding, additional funding will be needed for First Nations students to achieve similar results for non-First Nations students. This is based on the premise that spending is correlated to academic achievement, which has been highlighted with the example of graduation rates. Finally, and most importantly, equity considers differences in learning, methods, and desired outcomes. PISA scores are one part of the picture in determining if funding and spending is suitable for the success of all student demographics. So far, it is difficult to find a measurement of spending and efficiency, effectiveness and equity of First Nations education. Addressing social determinants of academic success and gaining information on the money outcome relationship through PISA scores would be a good start.

Challenges: Obtaining First Nations PISA Scores

To find performance measurement in terms of PISA scores, more information on the results of per-student expenditure on academic achievement is needed for First Nations students. However, it has been difficult to obtain these results in the data and literature. The lack of

PISA scores or similar tools for First Nations students indicates that the budgeting process for First Nations students likely does not consider student performance in funding decisions as it does for provincially funded students.

The use of PISA scores would strengthen the argument that funding for First Nations education is not meeting the same standards as that of non-First Nations students through comparing the input to educational outcomes relationship. At the same time, since demographic variables between First Nations students and non-First Nations students vary, the PISA standards may not offer the *most* accurate comparison of learning outcomes. Nonetheless, more information available for measuring the relationship of funding to education outcomes is a good start for comparison. Further, demographic variables which need to be considered along with PISA scores include (but are not limited to) socio-economic status, health factors, culture differences, urban/rural factors, etc. At this time, the logical next step is to build off education funding evaluations already studied, including PISA scores of non-First Nations schools and variables relevant, including social and contextual variables, to First Nations student education outcomes.

Policy Recommendations

The policy options chosen to address this policy problem include lifting the budget cap, adjusting the funding formula, increasing funding allocations, sharing financial responsibilities between federal and provincial governments, supporting Indigenous educational governance and systems, and extending research. In addition to lifting the cap and adjusting the formula, increased allocations more explicitly for regional specific funding concerning First Nations per-student expenditures, for classroom resources and school infrastructure, for Indigenous jurisdiction and reporting, for shared financial responsibilities and for research initiatives, as demonstrated above, can be highly expected to aid in ameliorating First Nations student education outcomes. Research regarding First Nations PISA scores would provide more data as to how inputs and outputs of First Nations relate to education outcomes.

Lenses of Equity, Efficiency, Effectiveness and Political Feasibility

The policy recommendations put forth pertaining to the reformation of financing First Nations education have been made in the context of certain policy perspectives. When making the recommendations noted above, the use of the criteria of equity, efficiency, effectiveness and political feasibility are used to measure the projected success of pol-

icy objectives (Mou, 2019a). As a result of this analysis, it is apparent the policy objectives presented would likely be successful based on the weigh in of each policy lens.

The policy recommendations from the lens of equity: Vertical equity can be described as "the distribution of burdens fairly across people with different abilities to pay" (Rosen et al., 2016, p.336). Horizontal equity can be described as such that "people in equal positions should be treated equally" (Rosen et al., 2016, p.329). The recommendations presented have the characteristics of being vertically equitable as their implementation accounts for the financial support of some of the main components of First Nations education including regional differences, language, culture, governance and reporting. The policy recommendations have characteristics of being horizontally equitable as they help support wealth neutrality. First Nations students would have equal access to quality education, regardless of the wealth level in their jurisdictions.

The policy recommendations from the lens of efficiency and effectiveness: When measuring efficiency, it is important to analyze which policy options will minimize excess burden, deadweight loss and maximize social welfare (Mou et. al., 2019). According to Mou et. al. (2019), efficiency can be measured in terms of inputs and outputs. Per-student expenditures are indicative of current inputs. As mentioned, current expenditures for First Nations students are much higher than non-First Nations. In addition to the consideration of inputs, technical and allocative efficiency can also be improved through First Nations increased control of education, where knowledge on their specific needs of education can be used towards overall efficiency. In this way spending will better meet the strategic goals of First Nations students, reduce waste and performance indicators will be more comprehensive. Investment in the control and administrative capacity of First Nations to accomplish efficient spending could help limit deadweight loss of spending and maximize the social welfare of students.

Lifting the budget cap and adjusting the formula to account for efficiency and effectiveness and increasing funding as a whole will help contribute to realistic per-student funding allocations, and in turn an effective funding formula for improving education outcomes for First Nations students. Lifting the spending cap of 2% per year for First Nations education would allow for increased funding to flow through to student expenditures and in turn address the funding shortfall and its inequity. The funding formula adjusted to reflect the growth in First Nations population, inflation, and other relevant variables, including social variables, would help funding achieve its intended purpose in the success relevant to the actual students themselves.

The policy recommendations from the lens of political feasibility: These options will likely help encourage endogenous behaviour through gaining the support of citizens for education of all students. This can be achieved

through incentivizing citizens by providing them with the understanding that education leads to developing human capital as labour supply and in turn a growth in their economy. Their support in educational investment will also help mitigate costs associated with lower levels of education, including poverty and crisis management. (Mihai et al., 2015; Rumberger, 2011 as cited in Rumberger 2013; Wils et al. as cited in Imchen, 2020). When recognizing the positive externality of education to Canadian society, implementing the recommended policy options can help distribute the benefits across all groups of citizens both provincially and federally. This is because the taxes of citizens can help contribute to economic productivity and/or managing the cost of poverty. However, in the end political will is required to bring any changes.

Importance of Indigenous Governance and Systems

Complete reporting, increased support for Indigenous educational governance and control of jurisdiction are crucial to improving educational outcomes. These factors assist in enabling the determination of real education costs and the accountability mechanisms necessary to measure change and funding allocations against strategic planning. In addition to clear underfunding, archaic blanket-approaches to funding will not reform the system to meet the educational needs of First Nations students (Government of Canada, 2011). Instead, reporting and funding must be determined by First Nations themselves in order to accurately meet educational needs and achieve transformational change. First Nations will benefit from their own annual reporting by ensuring a more complete and accurate account of performance indicators for strategic planning.

For First Nations to actualize their self-determined education needs, funding is required for valid reporting and further allocations towards Indigenous governance implementation. This can include funding allocations to individual First Nations, Indigenous Nations or other self-determined configurations with the possibility of increasing secondary and tertiary Indigenous school boards/autonomous systems.

Indigenous communities self-determining First Nations school authorities/systems are taking form as autonomous systems or in partnership with or under the province. Some formalized Indigenous educational governance examples include the Manitoba First Nations School System, the Mi'kmaq Education School Act, the Treaty Six Education Council, the Treaty 4 Education Alliance, and Chief Whitecap School. As previously discussed, Chief Whitecap School exemplifies Whitecap Dakota First Nation's partnership with the province. In this case, financial responsibility lies both with the provincial and federal government, and the Saskatchewan Public School Division operates the schools,

while the Whitecap Dakota First Nation maintains jurisdiction over the education provided on reserve. This example is unique, with an urban reserve accounting for much of its success. Replication of a similar model for remote First Nations may be challenging owing to geographical location, jurisdiction concerns, and lack of amenities. Even though this example represents a response to the call for increased opportunity and support of First Nations education, it is not recommended on a widespread basis due to the combination of unique circumstances and the maintenance of limited agency of First Nations' control of education. This agreement demonstrates the issue of gaining short term financial sustainability under a provincial model, but losing a level of control, versus keeping federal fiduciary responsibility and lower standards of funding per student in order to have improved governance of education for First Nations students (Dart, 2019). In this case, Whitecap Dakota First Nation made some sacrifices on both fronts. It is recommended that shared financial responsibility of federal and provincial governments work towards financially supporting First Nations education, with Indigenous education systems maintaining full jurisdiction and autonomy over their students. Ideally, with the quality education that comes from this autonomy and which benefits First Nations students, Indigenous learners would be better equipped to sustain and be sustained by their own communities, both on and off reserve.

However, increased initial steps need to be taken to move in this direction on a widespread basis. Policy developments of the Canadian government have been slow to recognize the inherent rights of Indigenous Peoples to govern themselves and the treaty rights to education. Moreover, there is the perpetual problem of the politics of recognition (Coulthard, 2014) that will need to be transcended in order for the government of Canada to engage their commitment to sharing the benefits of treaty territory with its original inhabitants.

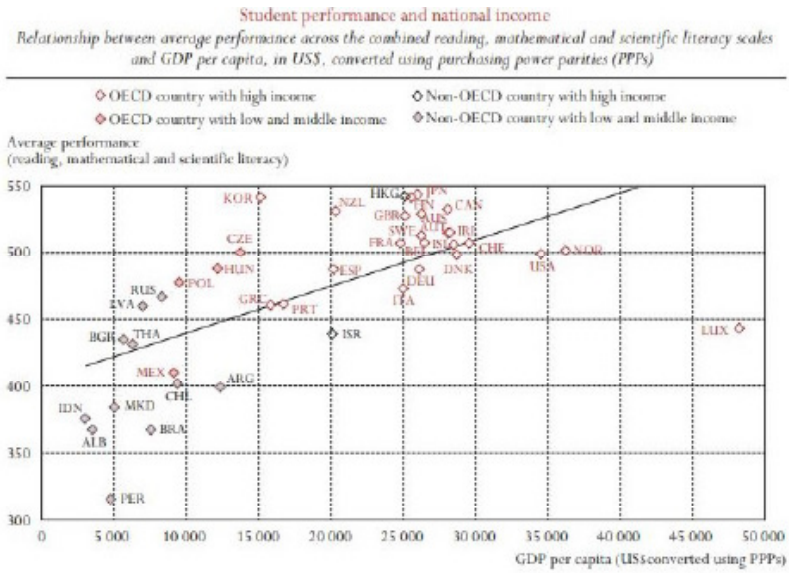
PISA Scores and the Legitimization of Policy Recommendations

With regards to the extended research recommended as intervention, PISA scores can help show evidence as to how funding may affect the success of students in their learning. The OECD established PISA scores as evidence for the correlation between investment in education and educational outcomes. When national income and its distribution are analyzed on an international level, as is the case with PISA scores, it helps researchers compare investments to educational outcomes on a global, standardized basis (OECD, 2000). The use of PISA scores with the GDP and Gini index of a country highlights its performance, national income and its distribution more specifically.

Economic condition is important when considering PISA scores as this factor is correlated with the capacity of student learning. Measuring student performance against the GDP of a country and the Gini index of inequality demonstrates the effect the economy of a country has on the education sector (OECD, 2000). When it comes to GDP, a country can spend more on education if they are wealthy, and the opposite can generally be observed for countries with a low national income (OECD, 2000) Student performance appears to have a relatively strong correlation with these factors.

In Figure 6 we can see the average performance of students' relationship to GDP per capita. "The scatter plot suggests that countries with higher national income tend to perform better on the combined reading, mathematical and scientific literacy scale than countries with lower national income" (OECD, 2000, p.111). Correlation does not equal causation. Many factors are responsible as well, including actual investments in education (OECD, 2000). Along with investments, the efficiency and the effectiveness of these investments are strongly correlated with the impact the maximization of these investments have on student performance.

Figure 6: Student performance and national income

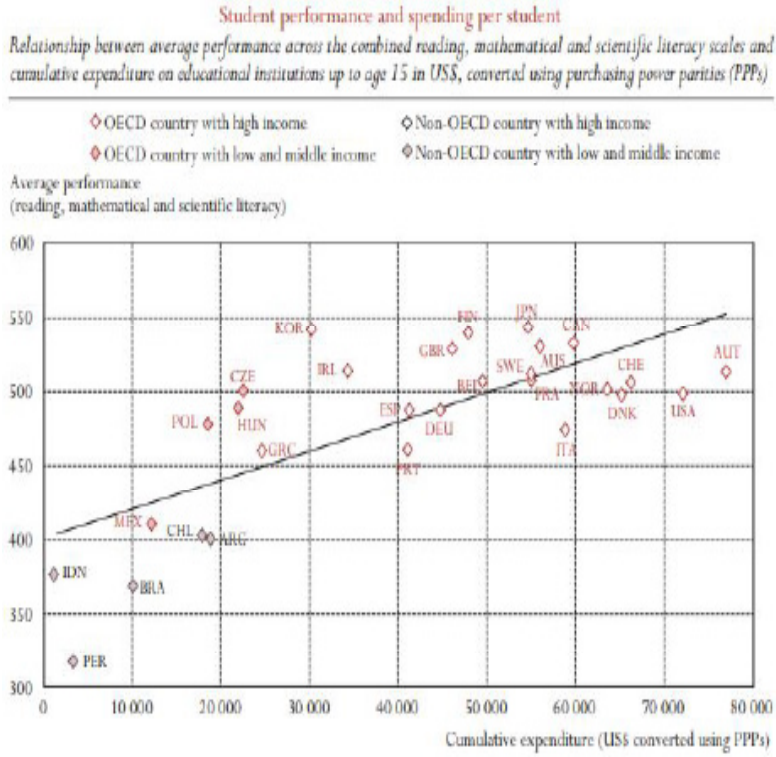


Note: Reprinted from *Figure 3.7a in Literacy skills for the world of tomorrow-further results from PISA 2000*, by Organisation for Economic Co-operation and Development (2000). Source: Organisation for Economic Co-operation and Development (2003). OECD PISA database. Table 3.3. https://www.oecd.org/education/school/programmeforinternation-

alstudentassessmentpisa/33690591.pdf

To begin comparing investments of education to student performance, not only the capacity of spending should be considered, but the actual spending of national income is more indicative of the investments to education. Figure 7 compares "the money that countries spend per student, on average, from the beginning of primary education up to the age of 15, with average student performance across the three assessment domains" (OECD, 2000, pp. 112-113). There is a positive relationship between spending per student and a country's performance (OECD, 2000). Again, this is correlation not causation and many factors need to be considered, including the effectiveness of investments (OECD, 2000). The distribution of national income builds on what compromises effectiveness of investments.

Figure 7: Student performance and spending per student

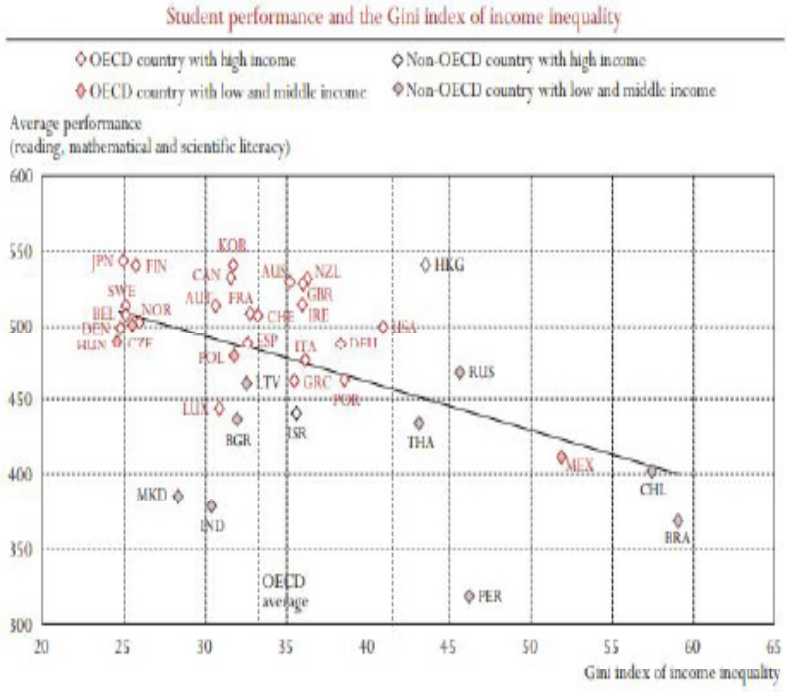


Note: Reprinted from *Figure 3.7b in Literacy skills for the world of tomorrow-further results from PISA 2000*, by Organisation for Economic Co-operation and Development (2000). Source: Organisation for Economic Co-operation and Development (2003). OECD PISA database. Table 3.3.

https://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33690591.pdf

The neutralization of wealth among students and their socioeconomic context of schools are a part of the capacity of these students to participate in learning. The Gini index helps demonstrate "...inequalities in the distribution of national income can also impose constraints on financing and, by implication, the quality of educational outcomes" (OECD, 2000, p.114). This is shown in Figure 8. The figure shows a negative relationship where we see that the higher level of inequality, the lower levels of performance (OECD, 2000). Figure 9 shows the negative relationship between Gini index of income inequality to student expenditures (OECD, 2000). This purchasing power of educational institutions contributes to per-student expenditures towards learning outcomes. This is an important background piece as to why the student expenditures noted in PISA scores are determined as presented.

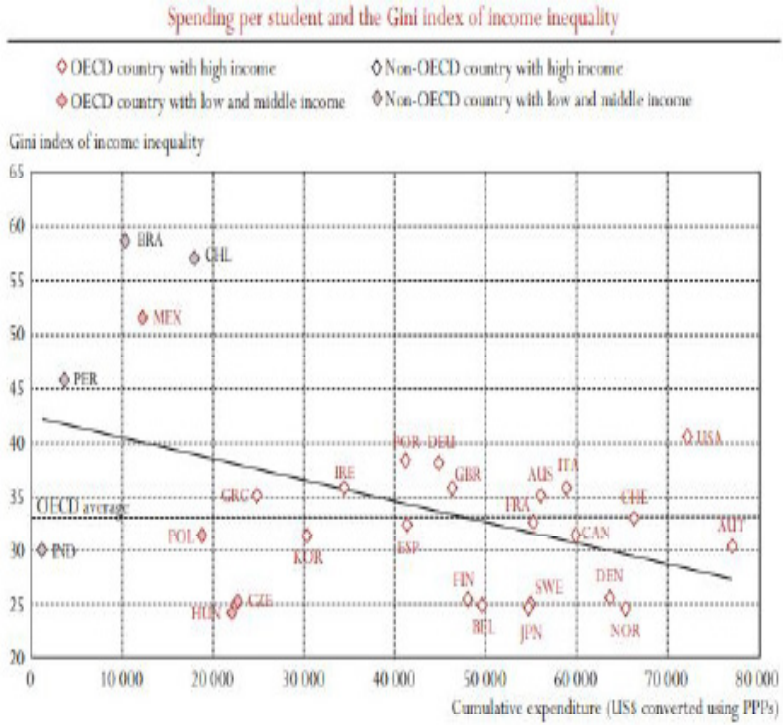
Figure 8: Student performance and the Gini index of income inequality



Note: Reprinted from *Figure 3.8a in Literacy skills for the world of tomorrow-further results from PISA 2000*, by Organisation for Economic Co-operation and Development (2000). Source: Organisation for Economic

Co-operation and Development (2003). OECD PISA database. Table 1.4. https://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33690591.pdf

Figure 9: Spending per student and the Gini index of income inequality



Note: Reprinted from *Figure 3.8b in Literacy skills for the world of tomorrow-further results from PISA 2000*, by Organisation for Economic Co-operation and Development (2000). Source: Organisation for Economic Co-operation and Development (2003). OECD PISA database. Table 1.4. https://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33690591.pdf

A country's capacity to spend, its investments of national income and the distribution of this income all play a role in their effects on the performance of students, and in turn their education outcomes. This is relevant to First Nations students as the information presented demonstrates that Canada has a relatively high capacity for spending, but as highlighted, Canada's resource allocations do not appear to be as efficient as they could be. Canada also has generally low-income equality, however, the income equality measured is an average of the whole

country, not specifically between First Nations students and non-First Nations students. Research shows that in 2006, First Nations families and non-First Nations families had an income inequality of approximately 30% (Wilson et. al, 2010). This income inequality could start to form the basis of comparison.

The data from PISA scores of both these populations would help legitimize these probable conclusions, but none was available to the public at this time. It would also bring more validity to the policy recommendations presented above.

Conclusion

This research paper has attempted to raise more awareness on the funding gap between First Nations K-12 education and non-First Nations K-12 education and discussed the consequences that affect the success of First Nations students. Insufficient funding inhibits the ability of First Nations to provide adequate education resources in on reserve schools and spending of students off reserve. As a result, First Nations families often send their children out of reserve, removing them from familiar surroundings and exposing them to potential racism which sometimes may prove to be fatal (such as the tragic cases in Thunder Bay). Lack of funding on reserves also results in lower graduation rates of First Nations students, owing to a complex web of factors and the lower quality of education available. Further reform is needed in the financial responsibility and leadership of First Nations K-12 education. A unified approach such as that of Chief Whitecap School has shown the success of a model which is operated with Indigenous principles and supported by a funding agreement between the federal government and the school division. Urban reserves may be able to model their educational provision on this model, but it is hard to say if remote First Nations reserves will find such an arrangement useful. Instead education systems led by Indigenous communities are needed to address the different levels that are the machinery of quality education.

When weighing these policy recommendations, national and international policy approaches should be considered in closing the gap in access to education. Voices of First Nations, First Nations organizations and international policy instruments such as the use of PISA scores are all important in the policy cycle for First Nations K-12 education in Canada.

References

Assembly of First Nations (2017). *Fact sheet First Nations education funding*. https://www.afn.ca/uploads/files/education/fact_sheet_-_fn_education_funding_final.pdf

Auditor General of Canada (2018). *2018 spring reports of the Auditor General of Canada to the Parliament of Canada.* Chapter 5-Socio-economic gaps on First Nations reserves. https://www.oag-bvg.gc.ca/internet/English/parl_oag_201805_05_e_43037.html

Behrman, J., and Nevser, S. (1997) *The social benefits of education.* University of Michigan Press.

Blatchford, A. (2019, January). *Feds move to close funding gap for on-reserve schools.* Huffington Post. https://www.huffingtonpost.ca/2019/01/21/first-nations-education-on-reserve-school-funding_a_23648961/

Carr Stewart, S. (2007) *First Nations education: financial accountability and educationalattainment.* Canadian Journal of Education. S.29(4). P.998-1018. https://files.eric.ed.gov/fulltext/EJ766899.pdf

Coulthard, G.S. (2014). *Red skin, white masks: rejecting the colonial politics of recognition.* Minnesota Press. https://books.google.ca/books?hl=en&lr=&id=oy90DwAAQBAJ&oi=fnd&pg=PT8&dq=politics+of+recognition&ots=ogFWzxl0e2&sig=dxcz5SQB78DWOaVdCJZmx-1aqvE0#v=onepage&q=politics%20of%20recognition&f=false

Dart, C. (2019a). *First Nations schools are chronically underfunded.* CBC News. https://www.cbc.ca/cbcdocspov/m_features/first-nations-schools-are-chronically-underfunded

Drummond, D. and Kachuk Rosenblum, E. (2013). *The debate on First Nations education funding: mind the gap.* Working paper 49. School of Policy Studies. Queen's University. https://qspace.library.queensu.ca/bitstream/handle/1974/14846/Drummond_et_al_2013_Debate_on_First_Nations.pdf?sequence=1

Friesen, J. and Kauth, B. (2012) *Key policy issues in Aboriginal education: an evidence-based approach*. Council of Ministers of Education, Canada (CMEC). https://www.cmec.ca/Publications/Lists/Publications/Attachments/295/Key-Policy-Issues-in-Aboriginal-Education_EN.pdf

Garrow, P. (2017) *Ontario First Nations special education review report.* First Nations Caring Society. P.26-27. https://fncaringsociety.com/sites/default/files/Ontario%20First%20Nations%20Special%20Education%20Review%20Report%20-%20May%202017.pdf

Germain, G.S., Dyck, L.E. (2011, December). *Reforming First Nations education: from crisis to hope.* Report of the Standing Senate Committee on Aboriginal Peoples. https://sencanada.ca/content/sen/committee/411/appa/rep/rep03dec11-e.pdf

Gibson, L., Rodriguez, C., Ferguson, S., Zhao, J., and Hango, D. (2019). *Does reading proficiency at age 15 affect employment earnings in young adulthood?* Statistics Canada. Insights on Canadian Society.https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00015-eng.htm

Gillen, A. (2019) *Does the Baumol effect explain rising college costs?* Education Next. P.1. https://www.educationnext.org/does-baumol-effect-explain-rising-college-costs/#

Giroux, D. (2012, August) *Closing the gap in First Nations education*. Policy Options. https://policyoptions.irpp.org/fr/magazines/policy-challenges-for-2020/closing-the-gap-in-first-nations-education/

Government of Canada. (2013, January). *What Makes Canadians Healthy or Unhealthy?* Public Health Canada. https://www.canada.ca/en/public-health/services/health-promotion/population-health/what-determines-health/what-makes-canadians-healthy-unhealthy.html

Indigenous Services Canada (2018, January). *Quality education.* https://www.canada.ca/en/indigenous-services-canada/news/2018/01/quality_education.html

Indigenous Services Canada (2019, January). *New funding and policy approach for First Nations* kindergarten to grade 12 education. https://www.canada.ca/en/indigenous-services-canada/news/2019/01/new-funding-and-policy-approach-for-first-nations-kindergarten-to-grade-12-education.html

Indigenous Services Canada (2019, April). *First Nations education transformation.* https://www.sac-isc.gc.ca/eng/1476967841178/1531399315241#wb-cont

Kassam, A. (2016). *Mysterious deaths highlight troubling lengths First Nations youth must go for an education.* The Guardian. https://www.theguardian.com/world/2016/jun/30/ontario-inquest-first-nation-students-thunder-bay-racism

MacEwen, A. (2015) *First Nations Education is critical social infrastructure.* The Progressive Economics Forum. http://www.progressive-economics.ca/2015/09/30/first-nations-education-is-critical-social-infrastructure/

McGregor, G. (2018, October). *Federal deficit reached $19B in last fiscal year.* CTV News. https://www.ctvnews.ca/business/federal-deficit-reached-19b-in-last-fiscal-year-1.4141195

Mou, H. (2019a). *JSGS 802 assignment 3 term project instruction.* Course

Material. Course Tools. Blackboard. PAWS. University of Saskatchewan. Doc. https://bblearn.usask.ca/webapps/blackboard/execute/content/file?cmd=view&content_id=_2497511_1&course_id=_142958_1&framesetWrapped=true

Mou, H. (2019b) *Session 9_consumption tax.pptx.* Course Material. Course Tools. Blackboard. PAWS. University of Saskatchewan. Ppt. https://bblearn.usask.ca/webapps/blackboard/execute/content/file?cmd=view&content_iz=_2532053_1&course_id=_142958_1&framesetWrapped=true

Mou, H., Atkinson M. & Marshall, J. (2019). *Budgeting for efficiency? A case study of the public K-12 education systems of Canada.* Applied Economics. P.5.10.1080/00036846.2019.1584380.

Narine, S. (2014). *On-reserve school becomes part of a Saskatchewan school division.* Saskatchewan Sage. S.9. P.32. https://ammsa.com/publications/saskatchewan-sage/reserve-school-becomes-part-saskatchewan-school-division

Organisation for Economic Co-operation and Development (OECD) (2000). *Literacy skills for the world of tomorrow-further results from PISA 2000.* Statistics Canada. https://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33690591.pdf

Organisation for Economic Co-operation and Development (OECD) (2003). OECD PISA database. Tables 3.3 and 1.4. As cited in Organisation for Economic Co-operation and Development (OECD) (2000). *Literacy skills for the world of tomorrow-further results from PISA 2000.* Statistics Canada. Figures 3.7a, 3.7b, 3.8a and 3.8b. https://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33690591.pdf

Richards, J. and Vining, A. (2004, April). *Aboriginal off-reserve education: time for action*. C.D. Howe Institute. No. 198. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.486.7342&rep=rep1&type=pdf

Rosen, H., Wen, J. and Snodden, T. (2016). *Public finance in Canada.* United States. McGraw-Hill Education. Print. pp.158-336.

Sniderman, A. (2016, April). *Equal education funding gets big results on Manitoba reserve.* Maclean's. https://www.macleans.ca/news/equal-education-funding-gets-big-results-on-manitoba-reserve/

Statistics Canada (2001, 2006, 2011, and 2016). *Census program data*. Indigenous Services Canada (unaudited). https://www.oag-bvg.gc.

ca/internet/English/parl_oag_201805_05_e_43037.html

Statistics Canada (2013). *Education indicators in Canada: an international perspective.* Canadian Education Statistics Council. http://www.cmec.ca/Publications/Lists/Publications/Attachments/322/Education-Indicators-Canada-International-Perspective-2013.pdf

Tagala, T. (2017, November) *Death of 7 Indigenous students in Thunder Bay the responsibility of all Canadians*. CBC News. https://www.cbc.ca/news/canada/manitoba/tanya-talaga-author-seven-fallen-feathers-1.4408984

Taylor, A. (2010, May) *Pedagogies of place.* Ppt. https://www.slideshare.net/eamonnkelly/place-based-pedagogies

The Canadian Press. (2012, October) *Harper government's First Nations education plans collapse.* CBC News. Politics. https://www.cbc.ca/news/politics/harper-government-s-first-nations-education-plans-collapse-1.1229582

Troian, M. (2019). *The lost Indigenous youth of Thunder Bay*. The Walrus. https://thewalrus.ca/the-lost-indigenous-youth-of-thunder-bay/

Truth and Reconciliation Commission of Canada (2015). *Truth and Reconciliation Commission of Canada: calls to action*. P.2. http://trc.ca/assets/pdf/Calls_to_Action_English2.pdf

Tucker, P. and Stronge, J. (2005). *Linking teacher evaluation and student learning.* Association for Supervision and Curriculum Development. Chp. 1. http://www.ascd.org/publications/books/104136.aspx

University of Manitoba (2016, February). *Poor on-reserve graduation rate partly due to funding shortfall, says education professor.* UM Today News. Winnipeg Free Press. https://news.umanitoba.ca/poor-aboriginal-on-reserve-high-school-graduation-rate-partly-due-to-funding-shortfall-says-education-professor/

Warwick, J. (2018). *Trudeau not honouring $2.6B education promise, First Nations leaders say.* CBC News. https://www.cbc.ca/news/canada/saskatoon/trudeau-not-honouring-2-6b-education-promise-first-nations-leaders-say-1.4822749

Whitecap Dakota Alliance. (n.d. a). *About our school*. Chief Whitecap School. Saskatoon Public Schools. https://www.spsd.sk.ca/school/chiefwhitecap/About/whitecapalliance/Pages/default.aspx#/=

Whitecap Dakota Alliance. (n.d. b). *Division information.* Saskatoon Public

Schools. https://www.spsd.sk.ca/division/whitecapalliance/Pages/default.aspx#/=

Whitecap Dakota First Nation. (n.d.). http://whitecapdakota.com/

White-Eye, L. (2019, April). *Education and crown paternalism: reviewing the new on-reserve education funding model.* Social policy, Yellowhead Institute. https://yellowheadinstitute.org/2019/04/29/education-and-crown-paternalism-reviewing-the-new-on-reserve-education-funding-model/

Widdowson, F. and Howard, A. (2013) *Approaches to Aboriginal education in Canada: searching for solutions.* Brush Education Inc. P.149. https://books.google.ca/books?id=8WBxAQAAQBAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Wilson, D. and MacDonald, D. (2010, April). *The income gap between Aboriginal Peoples and the rest of Canada.* Canadian Centre for Policy Alternatives. https://www.policyalternatives.ca/sites/default/files/uploads/publications/reports/docs/Aboriginal%20Income%20Gap.pdf