

# **The Importance of improving Aboriginal student success in the Sciences**

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**Science Ambassadors 2016**






# Outline

- Statistical Snapshots
  - Gaps in educational attainment
  - The payoffs for society and the individual for closing the gaps
  - Benefits of including Aboriginal perspectives to mainstream science
  - Part of the Truth and Reconciliation process
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# Saskatchewan has a high percentage of Aboriginal people

2006	% of population that was Aboriginal
Canada	<b>4%</b>
Saskatchewan	<b>15%</b>
Ontario	<b>2%</b>





● 60% of FN people live off reserve




# Aboriginals lag behind the non-Aboriginal population at all levels of education in Canada except for the trades

<i>2006</i> <i>(Ages 25-64)</i>	% of Aboriginals	% of Non- Aboriginals
Less than H. Sc.	<b>34%</b>	<b>15%</b>
Trades cert/diploma	<b>14%</b>	<b>12%</b>
University degree	<b>8%</b>	<b>23%</b>

Percentage of the **SASK** population, **ages 25-44**, by  
area of study

Major area of study	% of <b>Aboriginals</b>	% <b>Non-Aboriginals</b>
<b>Appl tech-Trades</b>	<b>23.9</b>	<b>23.2</b>
<b>Comm-Mgt-Bus adm</b>	20.2	21.4
<b>Soc Sci</b>	18.5	8.4
<b>Ed-Rec-Counselling</b>	14.6	11.4
<b>Health</b>	10.0	14.2
<b>Ag-Bio-Nutr Sci</b>	4.6	6.8
<b>Math-Comp-PhySci</b>	<b>0.7</b>	<b>2.4</b>
<b>Eng App sci</b>	<b>0.5</b>	<b>2.1</b>



**In 2012, the education and employment statistics for **off** reserve FNs, Inuit, and Métis were similar to the 2006 FN data.**

**(from the 2012 Aboriginal Peoples Survey)**






# **Employment and earnings**


**(off-R FN people)**

- **Adults aged 18 to 44 who had finished high school were more likely to be employed than those who did not finish**


**72% for HSc completers versus 47%**


- **The median employment income for HSc completers was \$10,000 higher**
  - **See also Dr. Eric Howe's report:  
HSc completers lifetime earnings are about \$500,000 greater**
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- “Education is one of the most effective tools a society has to assist the disadvantaged, and it in addition fosters economic growth.”

Andrew Sharpe, Executive Director, Centre for the study of Living Standards  
– as reported in the Star Phoenix, Nov 26, 2007






# **Investing in Aboriginal education will lead to substantial payoffs for the individual as well as for Canada**

- If the gap in high school completion rates in 2001 for Aboriginals was closed by 2017, the gain in GDP would be \$62 billion and \$8.3 billion for 2017 alone.




# **“Bridging the Aboriginal Education Gap in Saskatchewan”**

**GDI and Prof Eric Howe (UofS), Nov 2011**

- Closing the gap could yield savings up to \$90 billion – the lost benefits are greater than all sales of potash in the history of Sask!
  - Aboriginal people in SK are an even greater resource than potash.
  - Closing the gap could produce an economic boom more sustainable than resource development.
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# Other benefits of education

- Breaking the poverty cycle
  - Better health
  - Longer lifespan
  - Greater self-esteem
  - More 'respect' (closing the equity gap)
  - Greater contribution to society
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# Opportunity for Positive Change

- Aboriginal youth who constitute the majority of the population are now getting more education.
  - The Aboriginal Baby Boomers are going to change the overall well-being of Aboriginals.
  - The education system now realizes that it must respect who they are, their language, their traditional knowledge.
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# **The importance of education for FN people is recognized by the Elders.**

Education is our buffalo.

L' éducation est notre bison.


Paskwaw mostoswa ka-kisk-inwaha-ma-kehk

(re: Darren Okemaysim)





# 'Dual' education

- Mainstream and Aboriginal
  - Walking in both worlds
  - Two-eyed seeing (Elder Albert Marshall, N.S.)
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# Members of the APC visiting Onion Lake FN Cree school Fall 2010







# Visiting schools in N.S.




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- Good teachers are one of the key ingredients in student success.
  - Inclusive curricula incorporating both mainstream and Aboriginal concepts, languages, cultures and knowledge systems.
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# How Mainstream science can benefit from Indigenization

- Indigenous peoples still maintain a strong cultural and spiritual connection to the environment – to Mother Earth, the air, the water.
  - Unlike ‘pure’ mainstream science which claims to be only logical and thus does not see the importance of protecting the environment in the same way.
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## Recent example: oil spill into the N. Saskatchewan river

- An Aboriginal engineer-company might not build the pipeline or might have built the pipeline differently
    - More reinforced near water
    - More warning systems
    - Quicker response procedures
    - More attention to clean-up, containment
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- Indigenous scientists would ask Q's from a different perspective than mainstream scientists.
  - This enriches scientific inquiry – asking Q's and seeking the A's is the fundamental aspect of the scientific method.
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# Examples of Aboriginal insights

- Medicines


- The hantavirus story



- A sand painting depicted a major clue -
  - a deer mouse






Whenever I ask someone how they became inspired to go on to university or got into their particular career, they always say it was a teacher or a professor who took an interest in them and encouraged them.



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- As Science Ambassadors, you are science teachers.
  - you have my admiration and gratitude for the difference you make in the lives of the students you've mentored.
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# Science Ambassadors: fulfilling the Reconciliation process

- The non-Aboriginal science ambassadors and the Aboriginal communities have been learning from each other since 2007 and both are positively changed by the interactions.
  - This is what the 2015 TRC report envisions as part of reconciliation.
  - Learning from each other and bridging the divide between the settler and Indigenous communities.
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