

BCCPAC

Richmond, British Columbia

Scott MacDonald

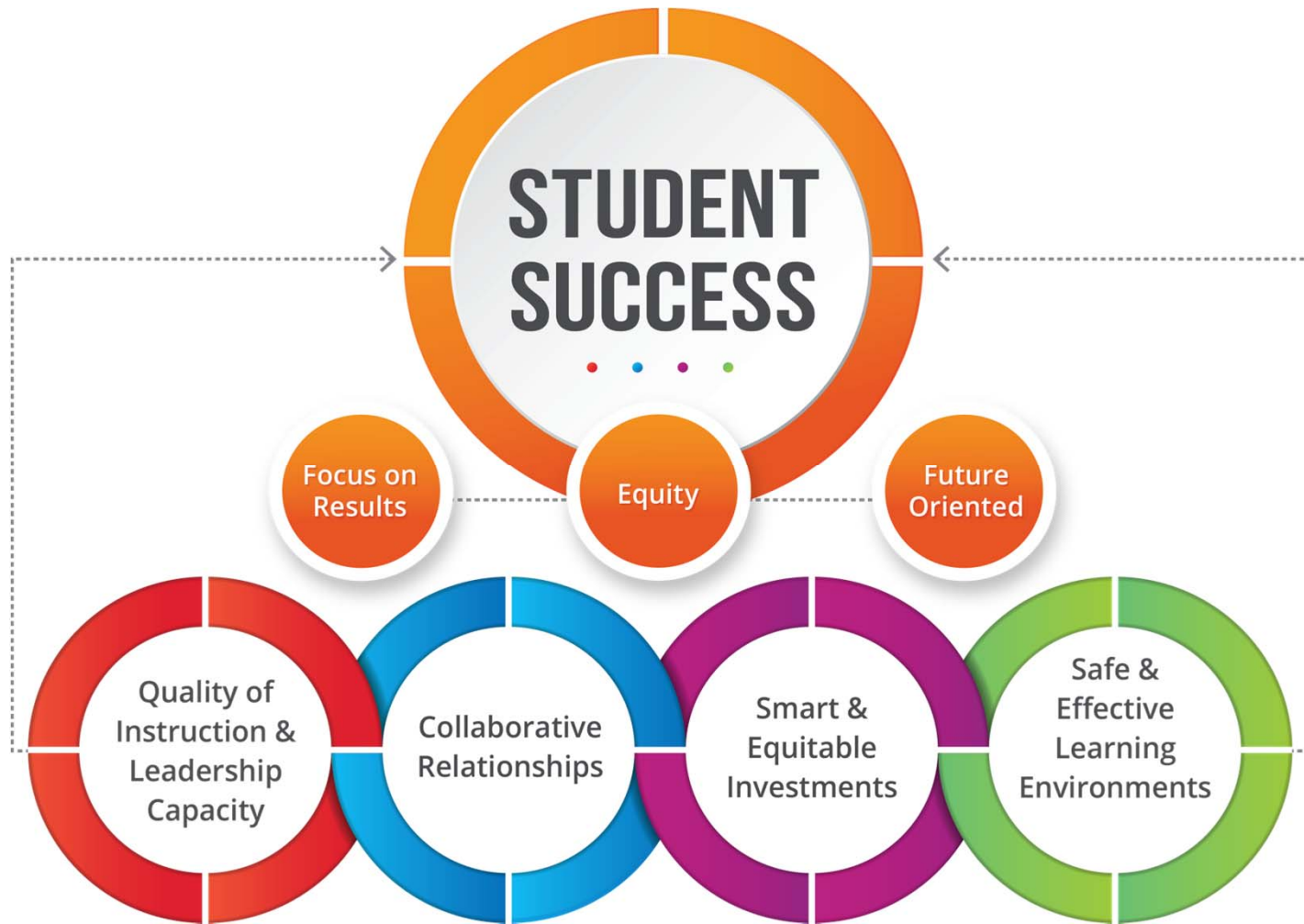
Deputy Minister of Education

November 24, 2017



BRITISH
COLUMBIA

Ministry of
Education



1. Drive for Continuous Improvement

BC has a great education system, and we can make it even better

2. Changing World

Our world is changing and this will require new approaches to learning and support structures

3. Current Challenges

There are challenges in our current system that require immediate and sustained action

Observations: Current System

15 year old students



"Tall buildings" is an article from a Norwegian magazine published in 2006.

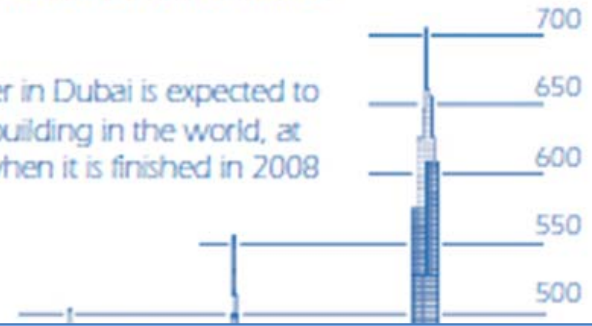
Figure 1: Tall buildings of the world

Figure 1 shows the number of buildings of at least 30 storeys that have been built, or are under construction. This includes buildings that have been proposed since January 2001.



Figure 2: Some of the world's tallest buildings

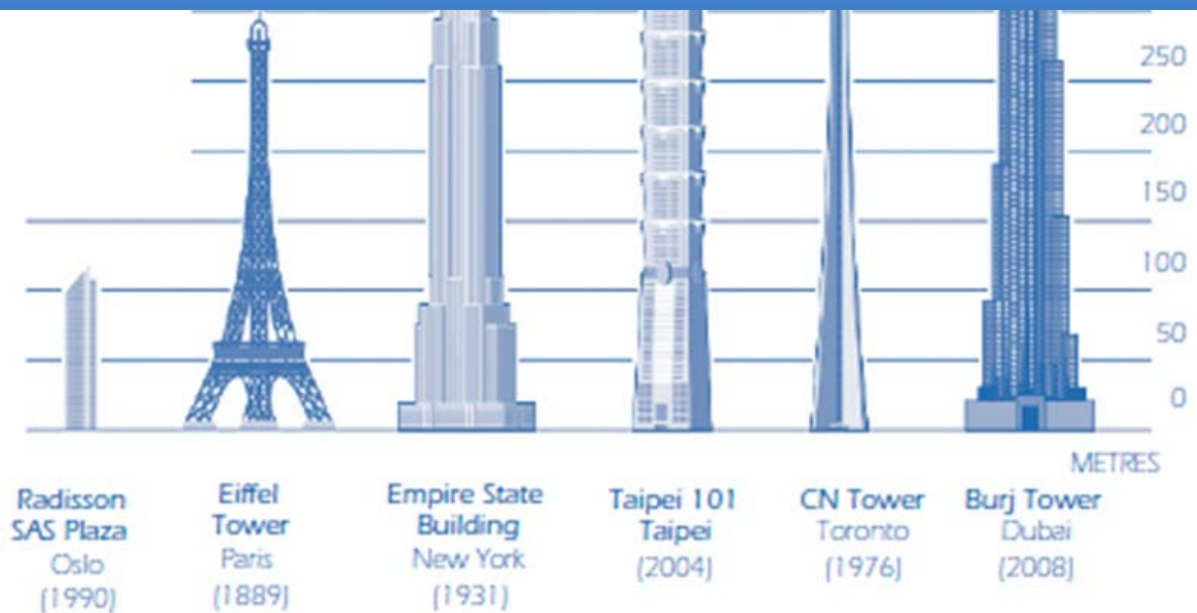
The Burj Tower in Dubai is expected to be the tallest building in the world, at 700 metres, when it is finished in 2008.



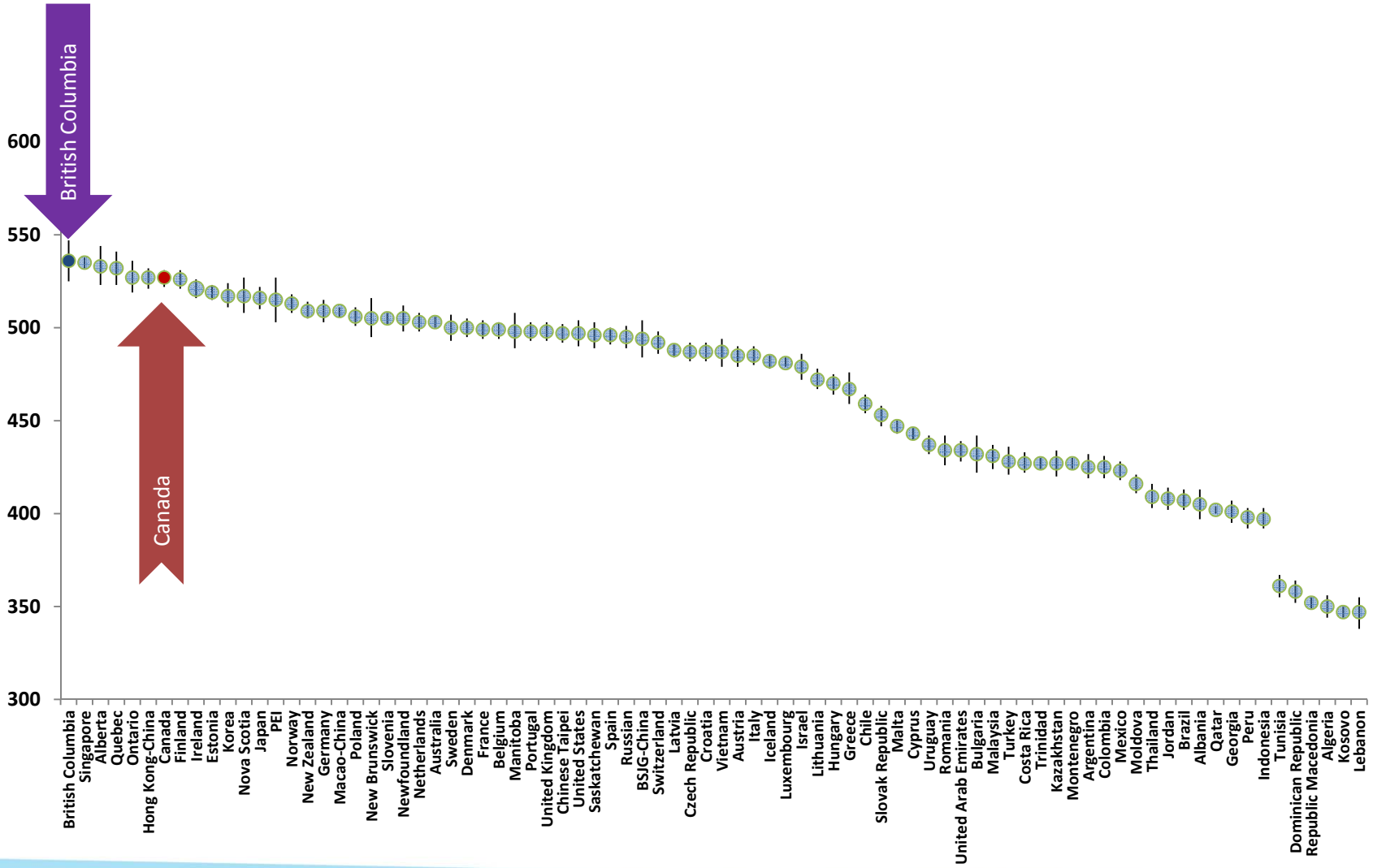
Question 1: TALL BUILDINGS

When the magazine article was published, which of the buildings in Figure 2 was the tallest completed building?

Panama City	113
New York	112
Seoul	112
Miami	103
Chicago	98
Toronto	92
Singapore	86
Jakarta	77
Sao Paulo	68



Reading Performance (PISA) – Idea.1, Mean score (2015)





Question 1: CLIMBING MOUNT FUJI Mount Fuji is only open to the public for climbing from 1 July to 27 August each year. About 200 000 people climb Mount Fuji during this time.

On average, about how many people climb Mount Fuji each day?

A 340

B 710

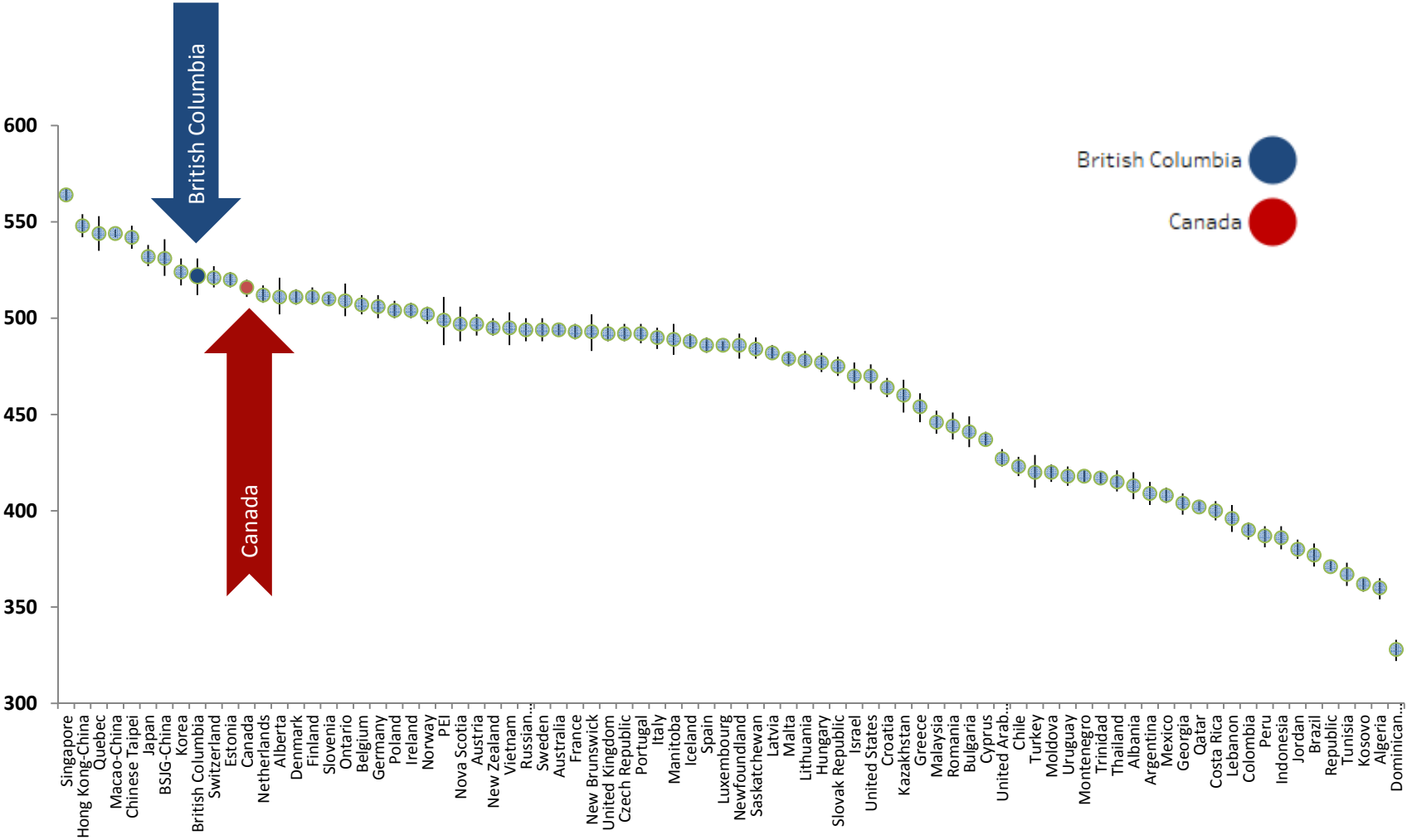
C 3400

D 7100

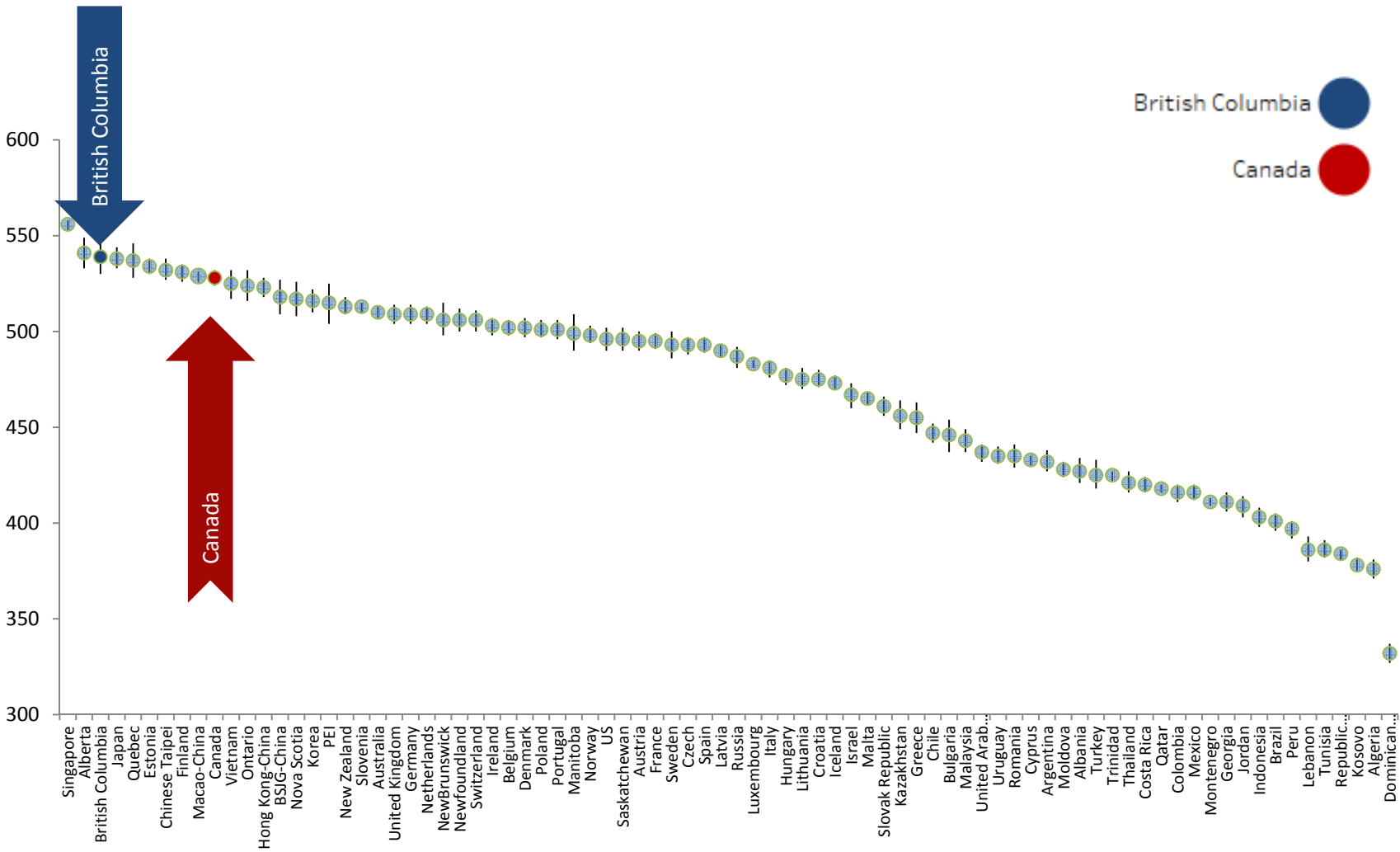
E 7400



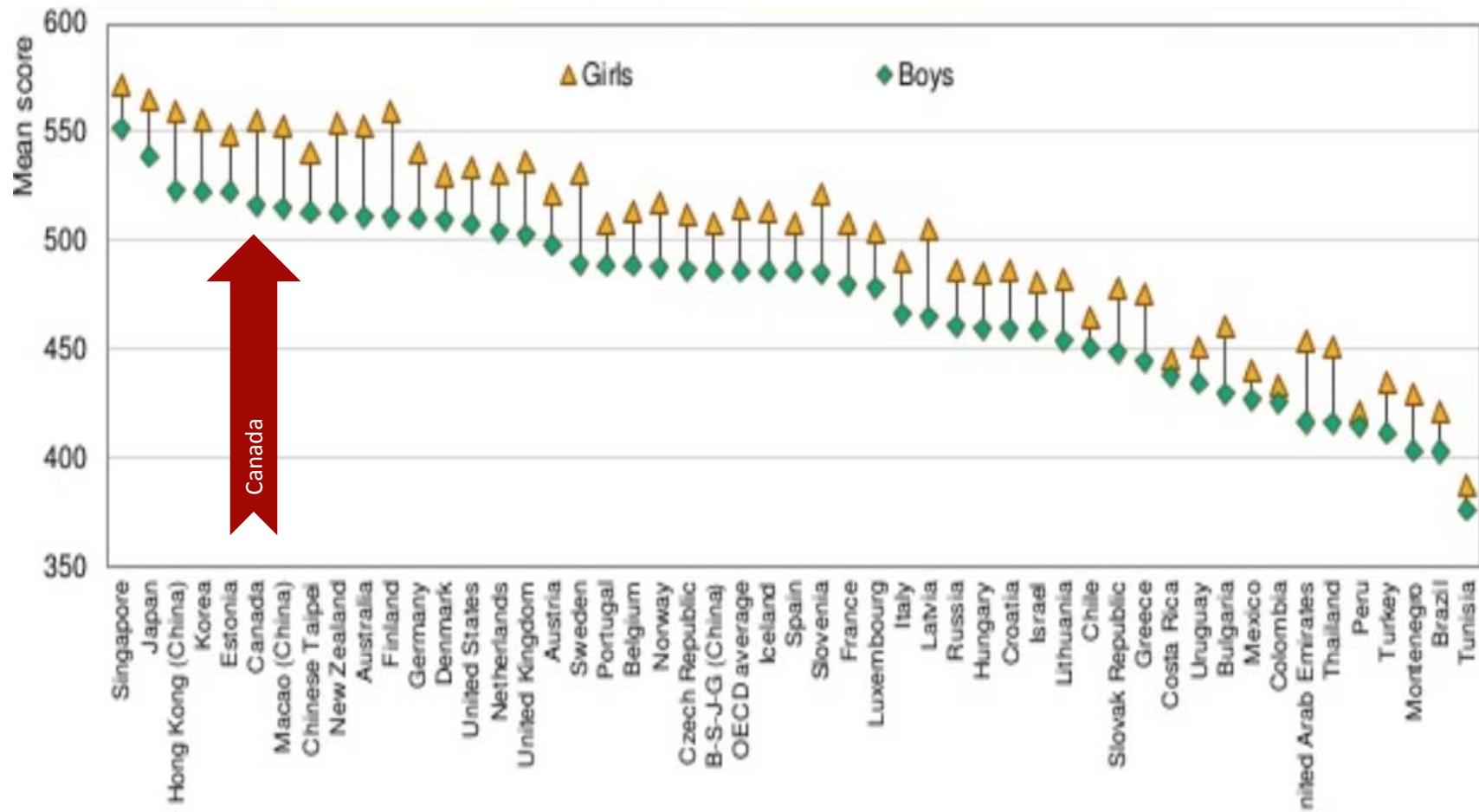
Mathematics Performance (PISA) – Idea.1– Mean score (2015)



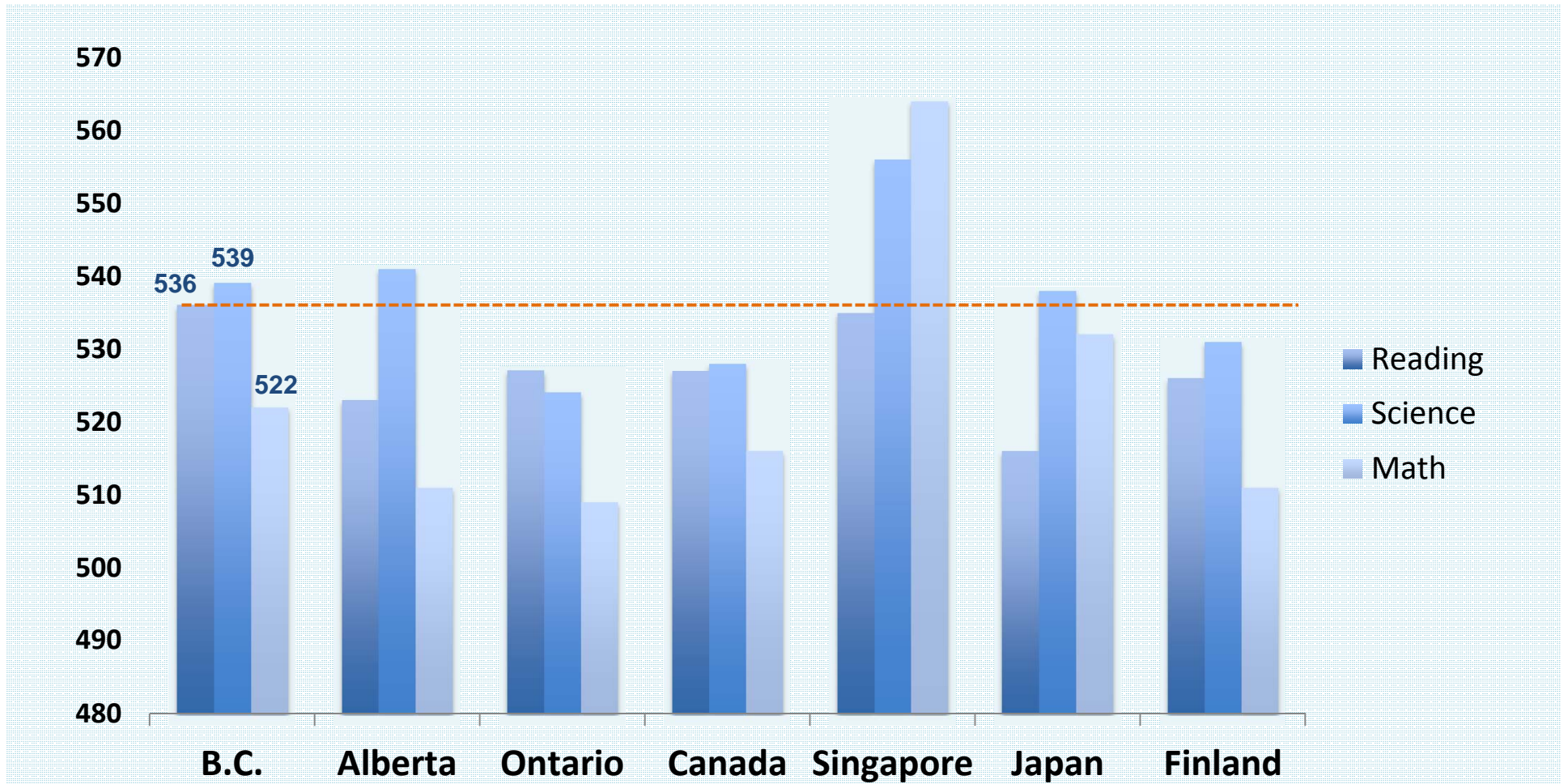
Science Performance (PISA) – Mean score (2015)



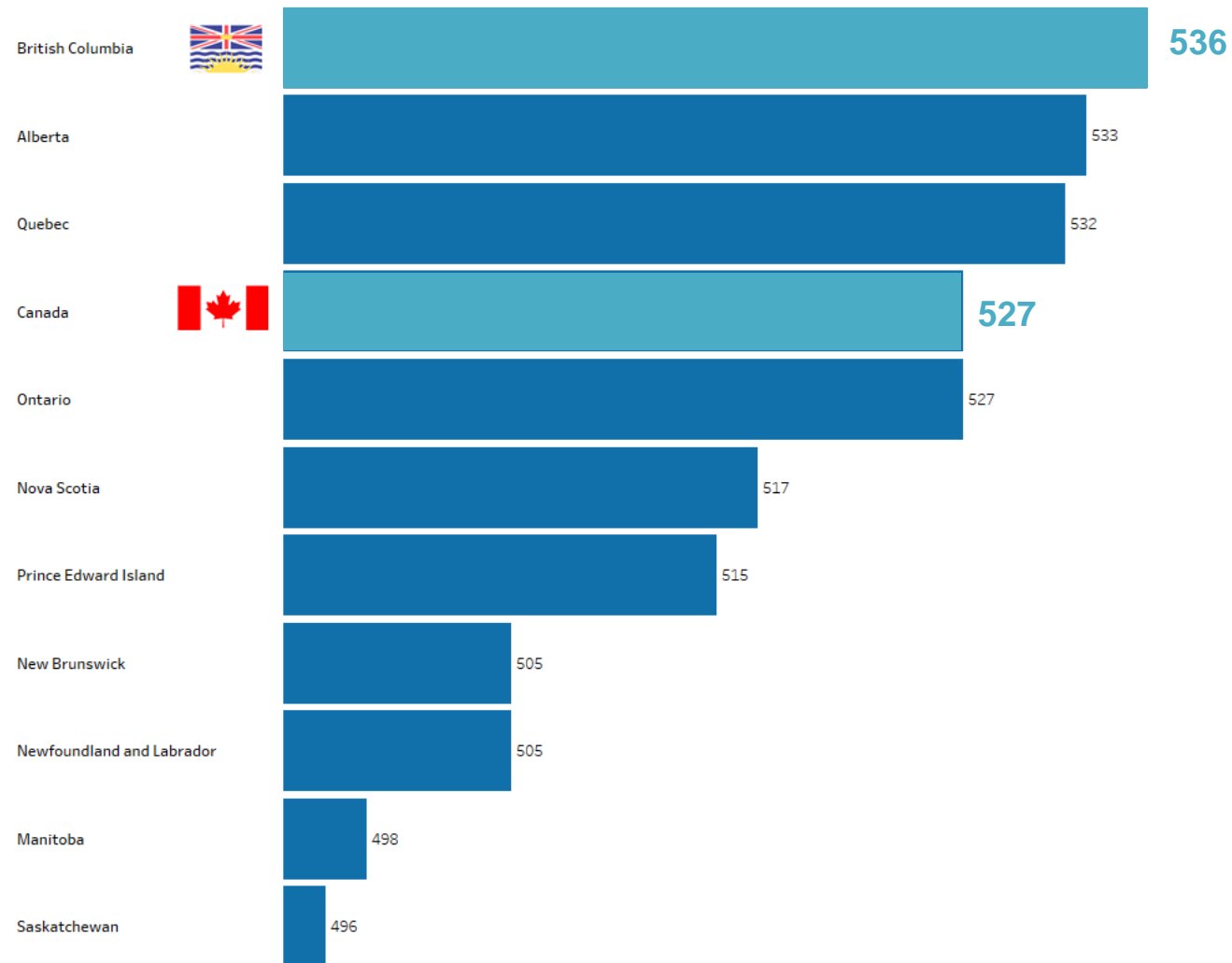
Collaborative Problem Solving



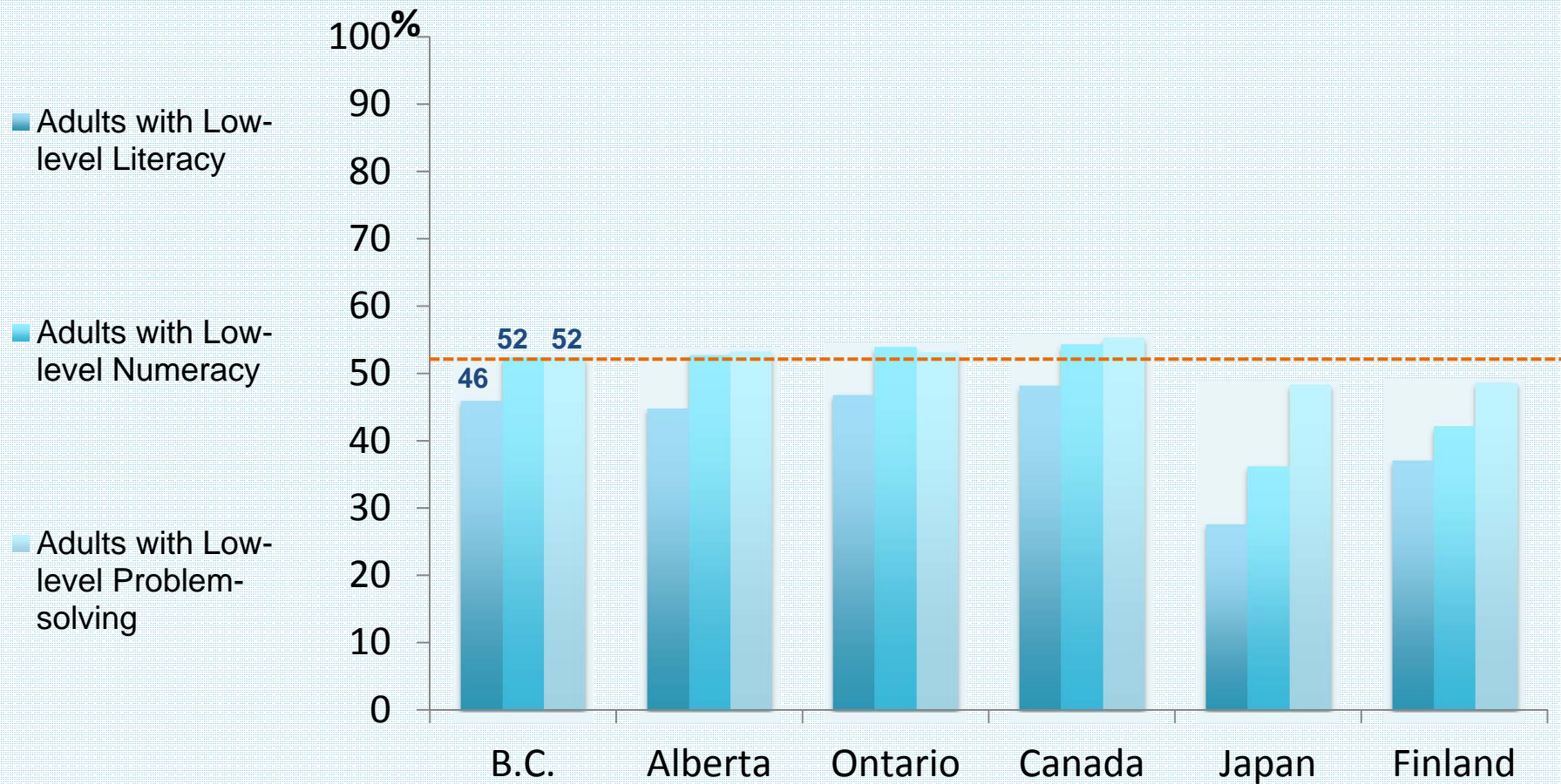
Programme for International Student Assessment (PISA) 2015



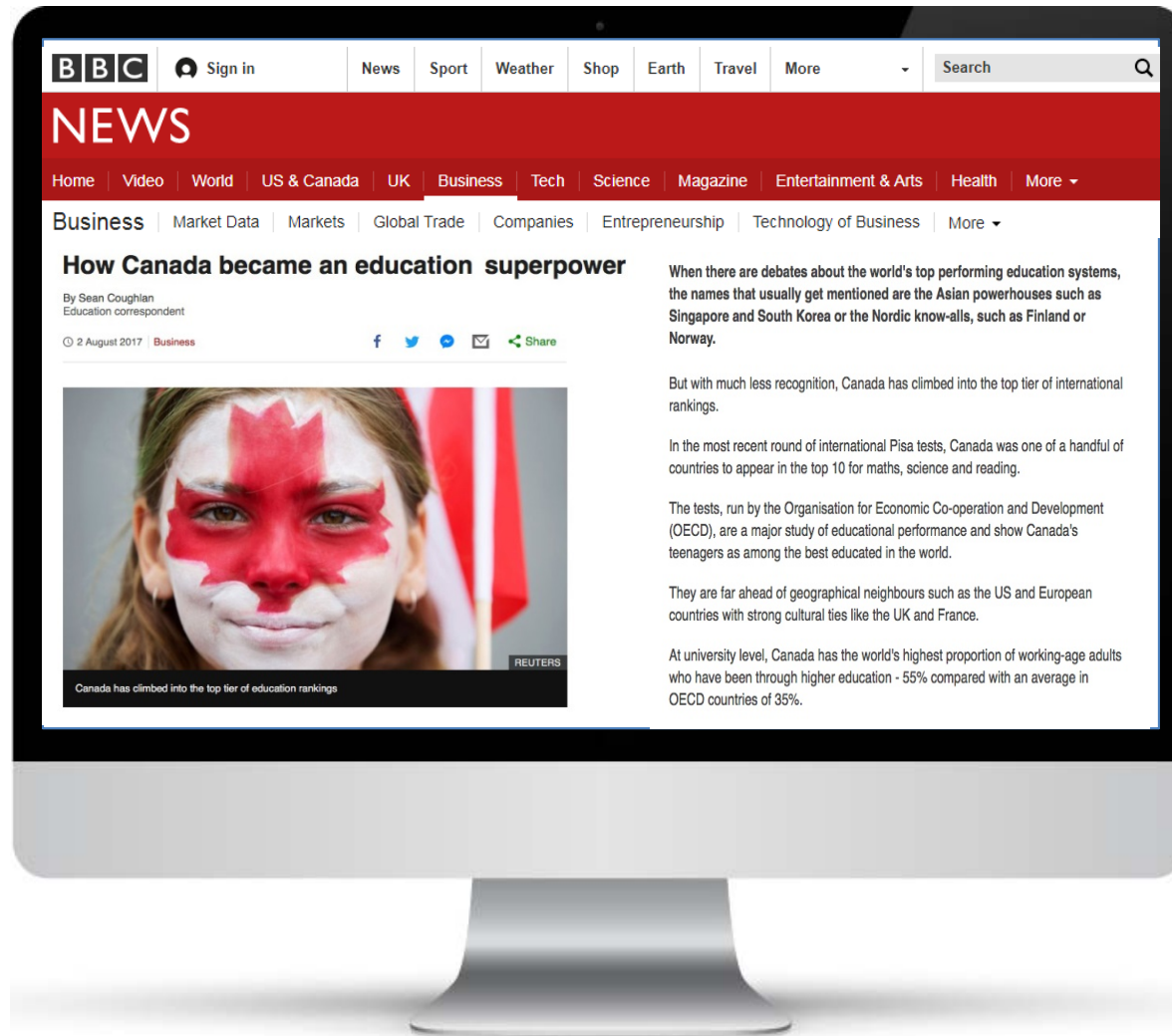
Reading Performance (PISA) – Mean score (2015)



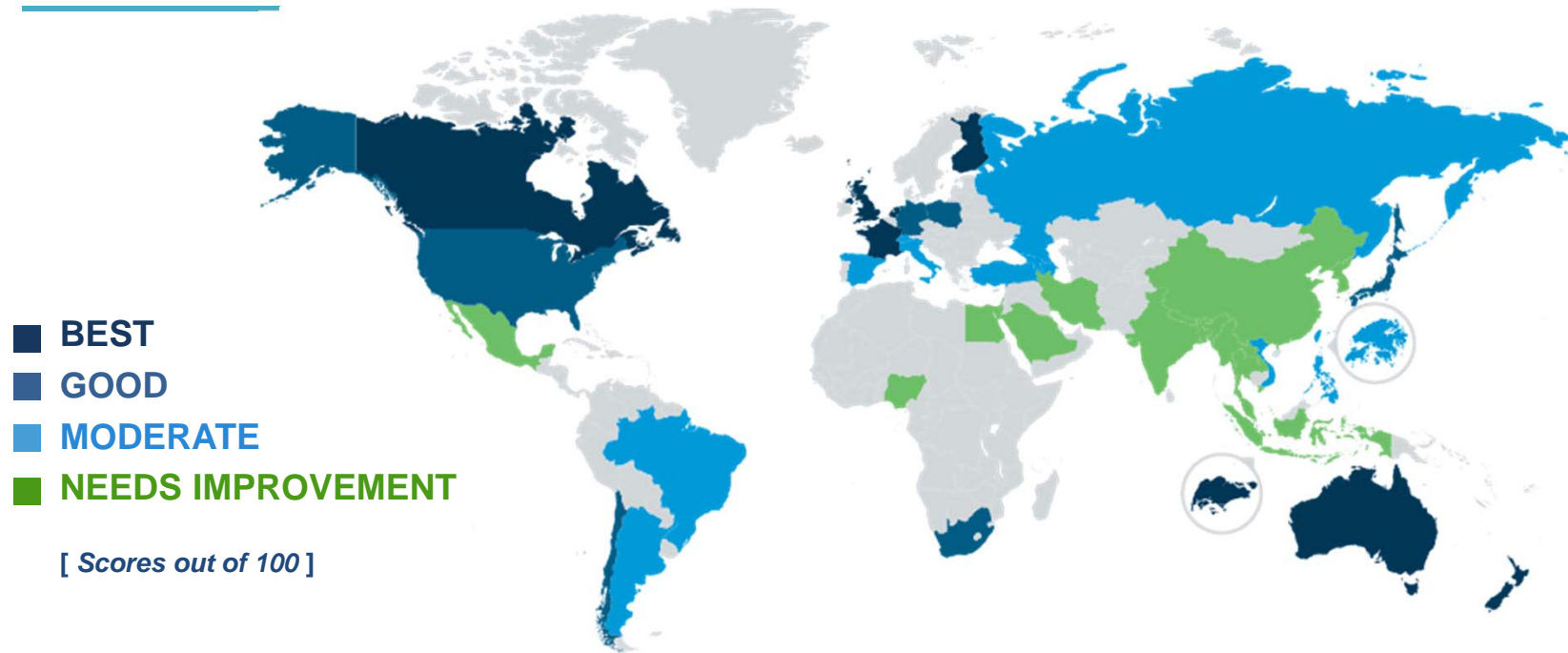
Programme for International Assessment of Adult Competencies (PIAAC) 2012



Education Superpower



Worldwide Education Index



Overall Results

1. New Zealand - 88.9
2. **Canada – 86.7**
3. Finland – 85.5
4. Switzerland – 81.5
5. Singapore – 80.1
6. United Kingdom – 79.5
7. Japan – 77.2
8. Australia – 77.1
9. Netherlands – 76.2

Education Policy Environment

1. Singapore – 88.8
2. New Zealand – 87.5
3. **Canada – 87.0**
4. Finland – 85.3
5. United Kingdom – 78.3
6. South Korea – 73.7
7. Taiwan – 71.8
8. France – 70.2
9. Australia – 69.3

Teaching Environment

1. New Zealand - 88.4
2. **Canada – 87.1**
3. Switzerland – 87.1
4. Japan – 86.9
5. South Korea – 82.0
6. Hong Kong – 80.7
7. Finland – 80.0
8. Singapore – 78.7
9. Germany – 78.5

Socio-economic Environment

1. Finland – 99.5
2. New Zealand – 92.2
3. United Kingdom – 88.1
4. Australia – 86.5
5. Switzerland – 86.2
6. Germany – 85.3
7. **Canada – 85.2**
8. Netherlands – 84.3
9. Spain – 79.8

Equity of Access



World Bank (2012):

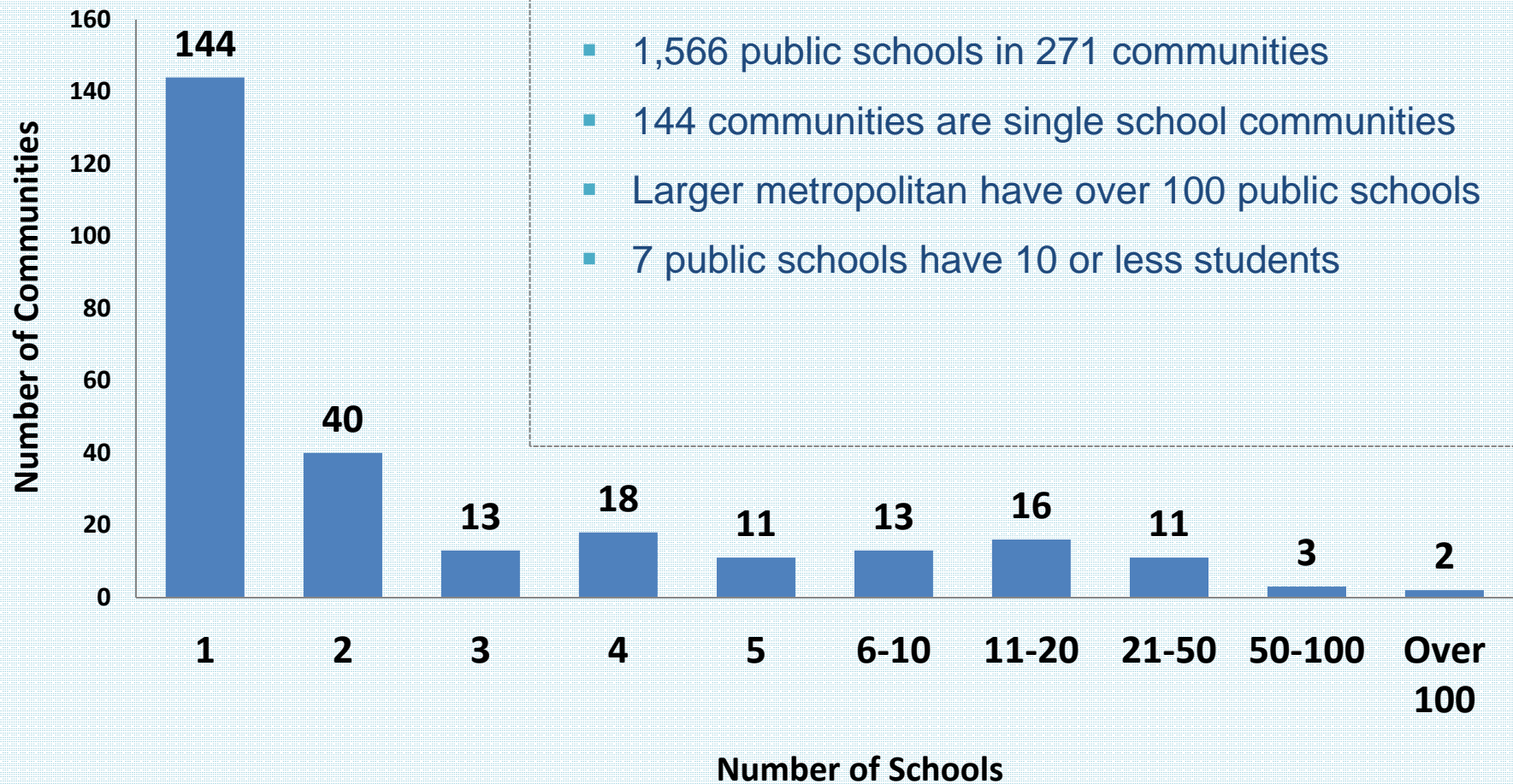
- ✓ B.C. has almost **universal grade school enrolments** at **99.96%**, compared with the global rate of 89%



Conference Board of Canada

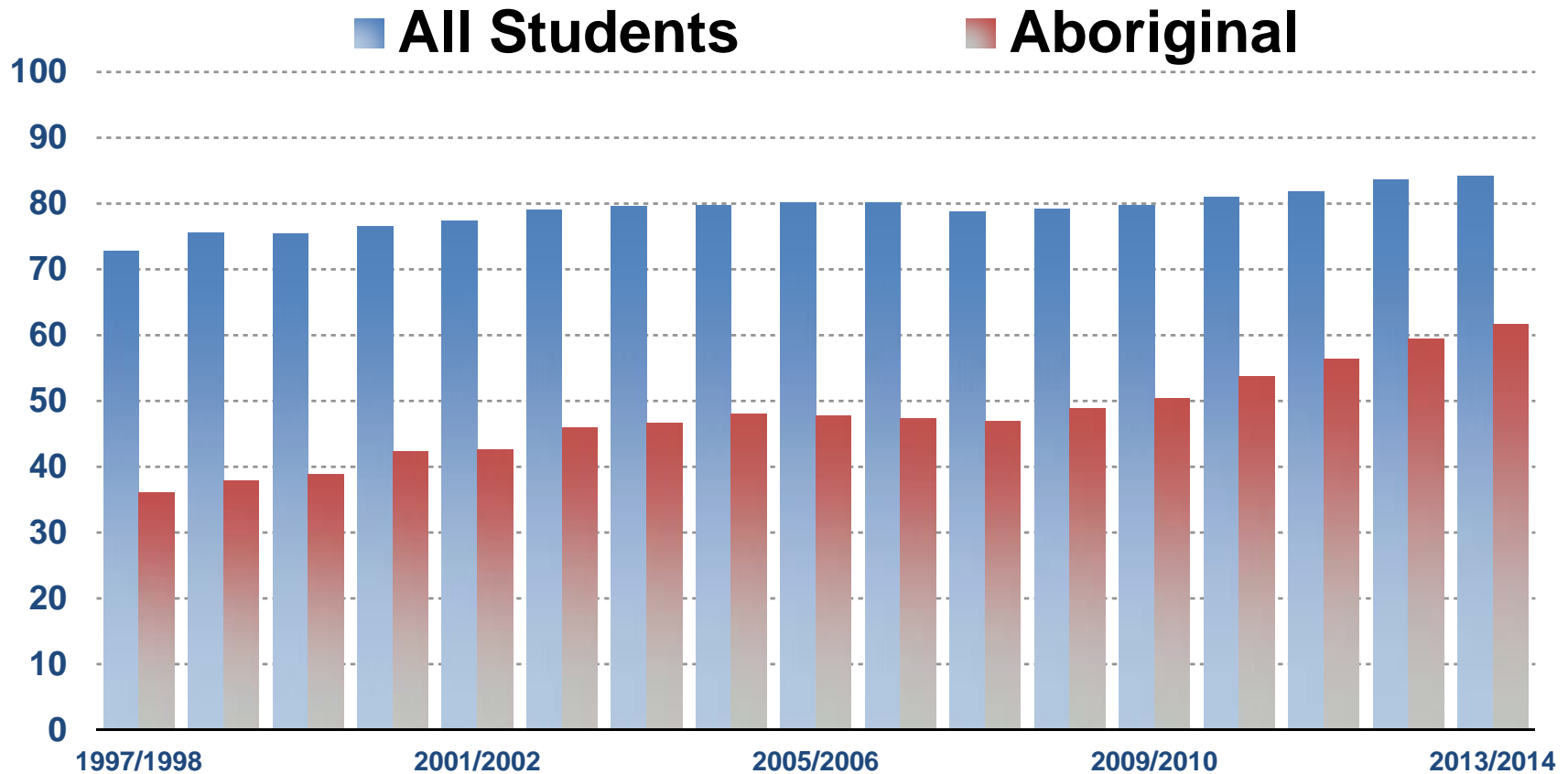
- ✓ Report Card benchmarking the Provinces and Canada against 15 international peer countries, **focused on equity of access**

Community Reach



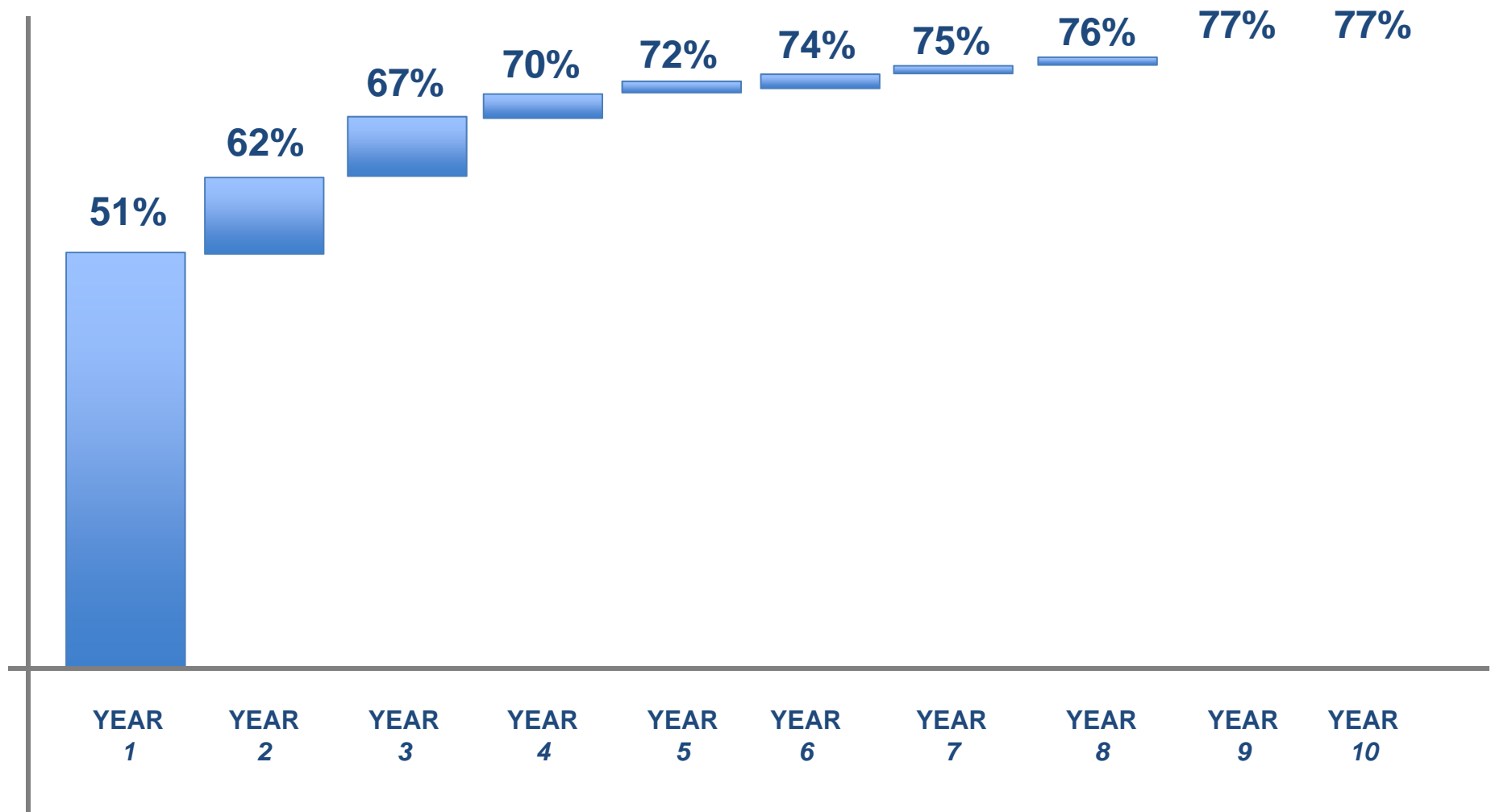
Six Year Completion Rates

Province – Public & Independent Schools Combined

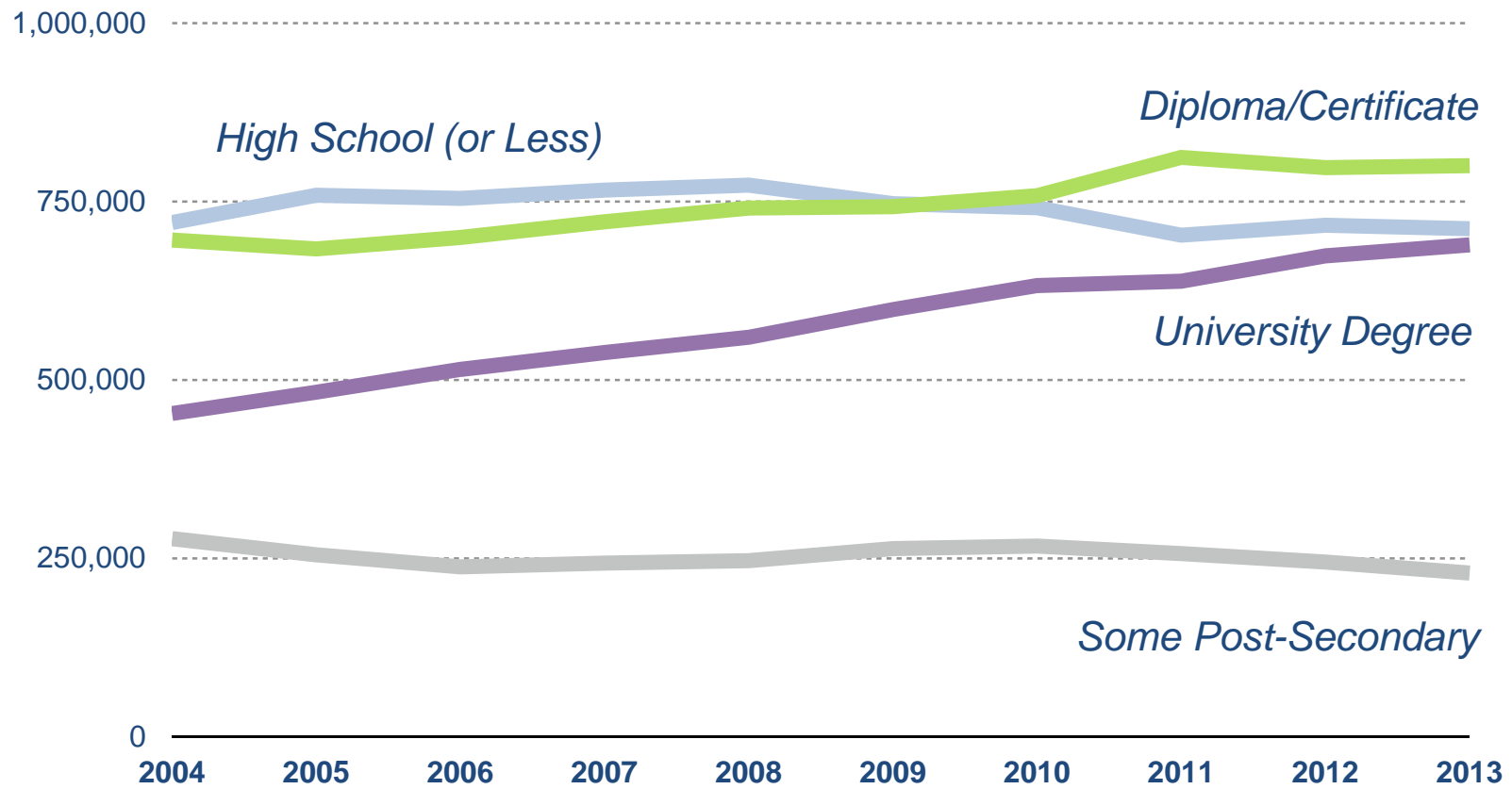


Non-Resident Students

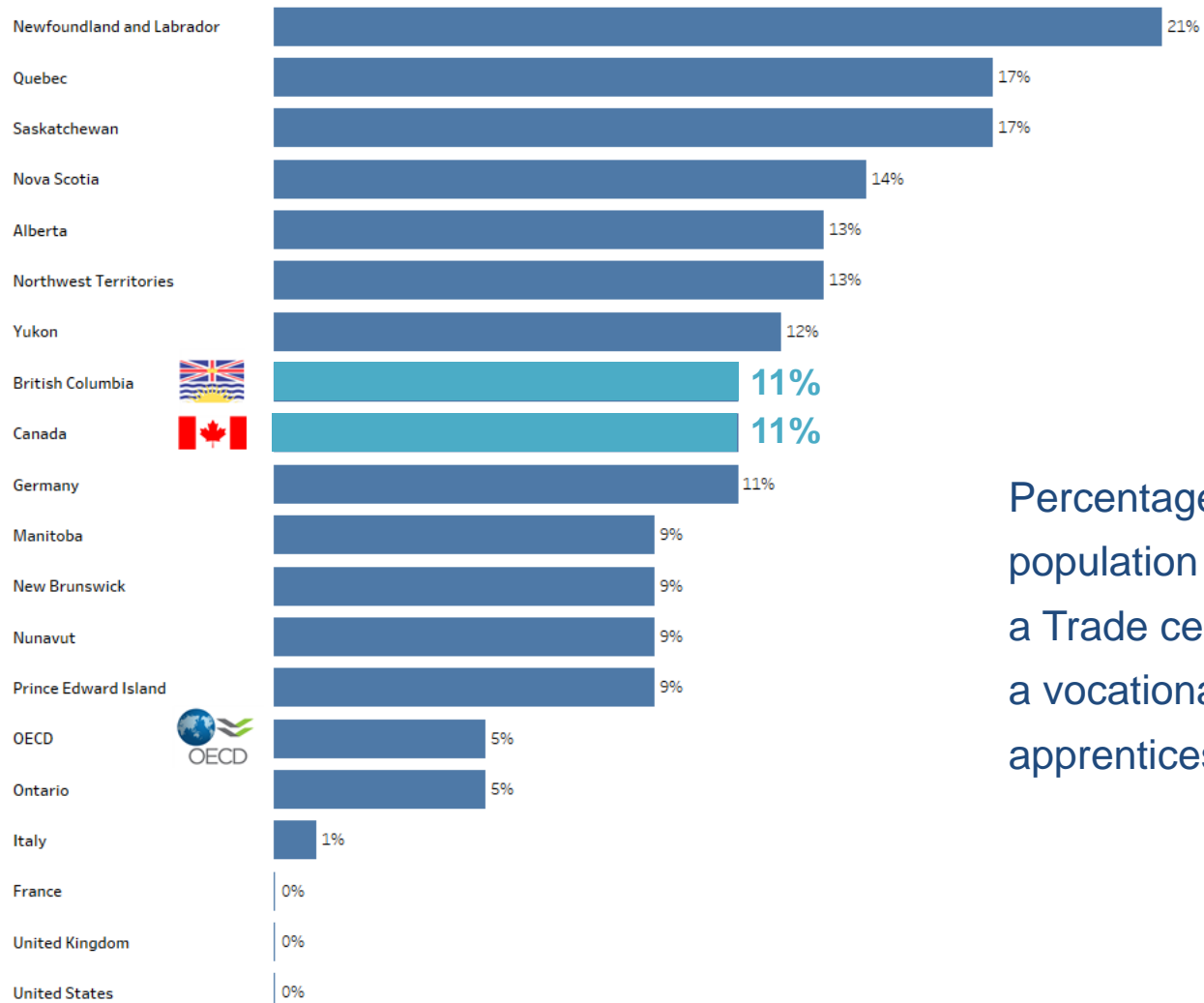
Post-Secondary Transitions



BC's Educated Workforce

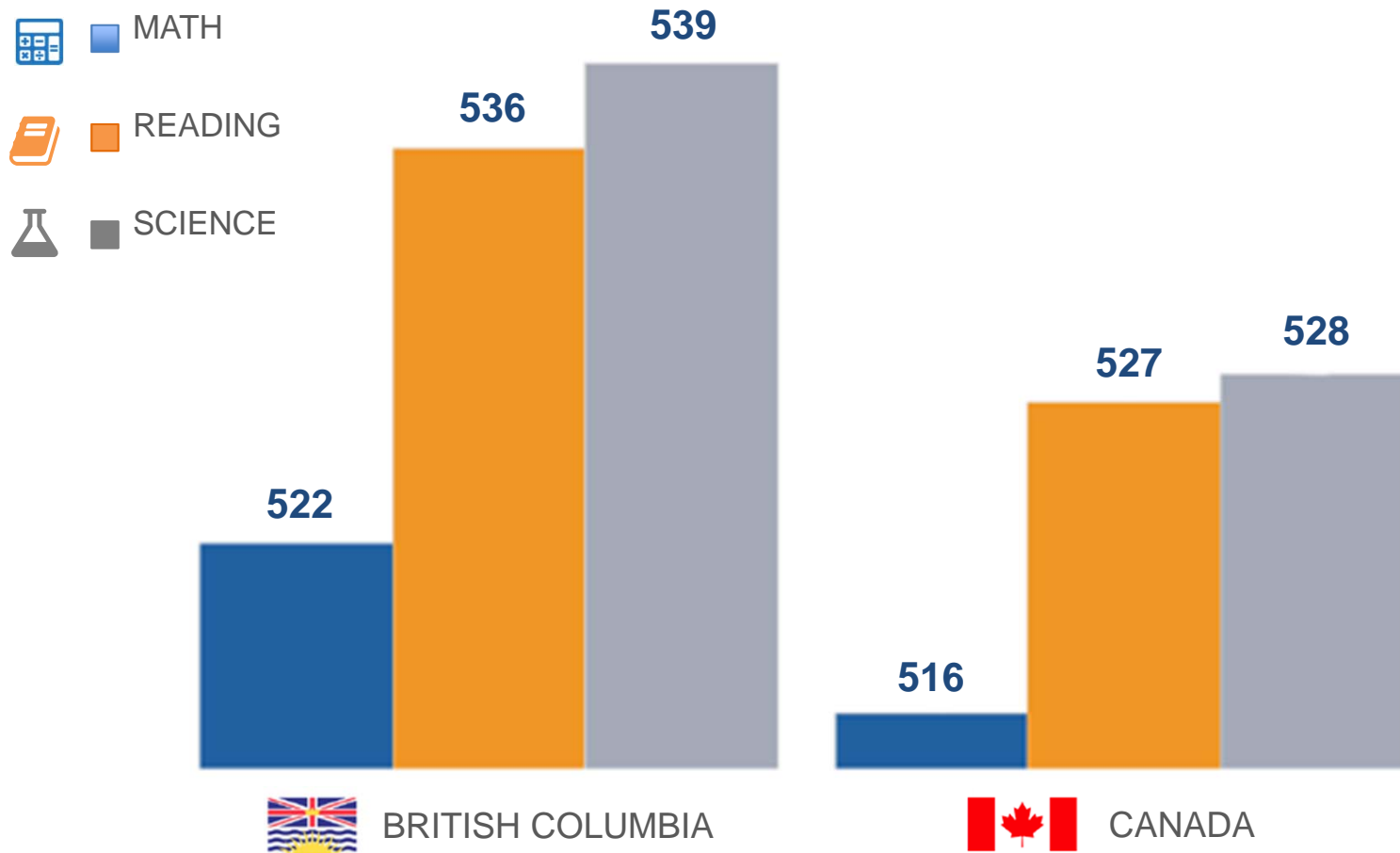


Opportunity: Education for Labour Market



Percentage of 25 to 64 year-old population who had attained a Trade certificate or diploma from a vocational school or apprenticeship training (2015)

Programme for International Student Assessment (PISA) 2015



BC Teacher Quality



B.C. educates & employs quality teachers with strong regulatory standards set by the BC Teachers' Council



~70,000
Teachers
Most with
Degrees or
equiv.

- BC's 9 Teacher Education Programs prepare teacher candidates and our rigorous certification process ensures that all BC teachers, both in and entering our education system, are of the highest calibre.
- Professional Standards, Certification Standards and Teacher Education Program Approval** standards are the foundation of teacher regulation (*currently being reviewed – recommendations in 2018*).

Observations: Changing Context



Changing World



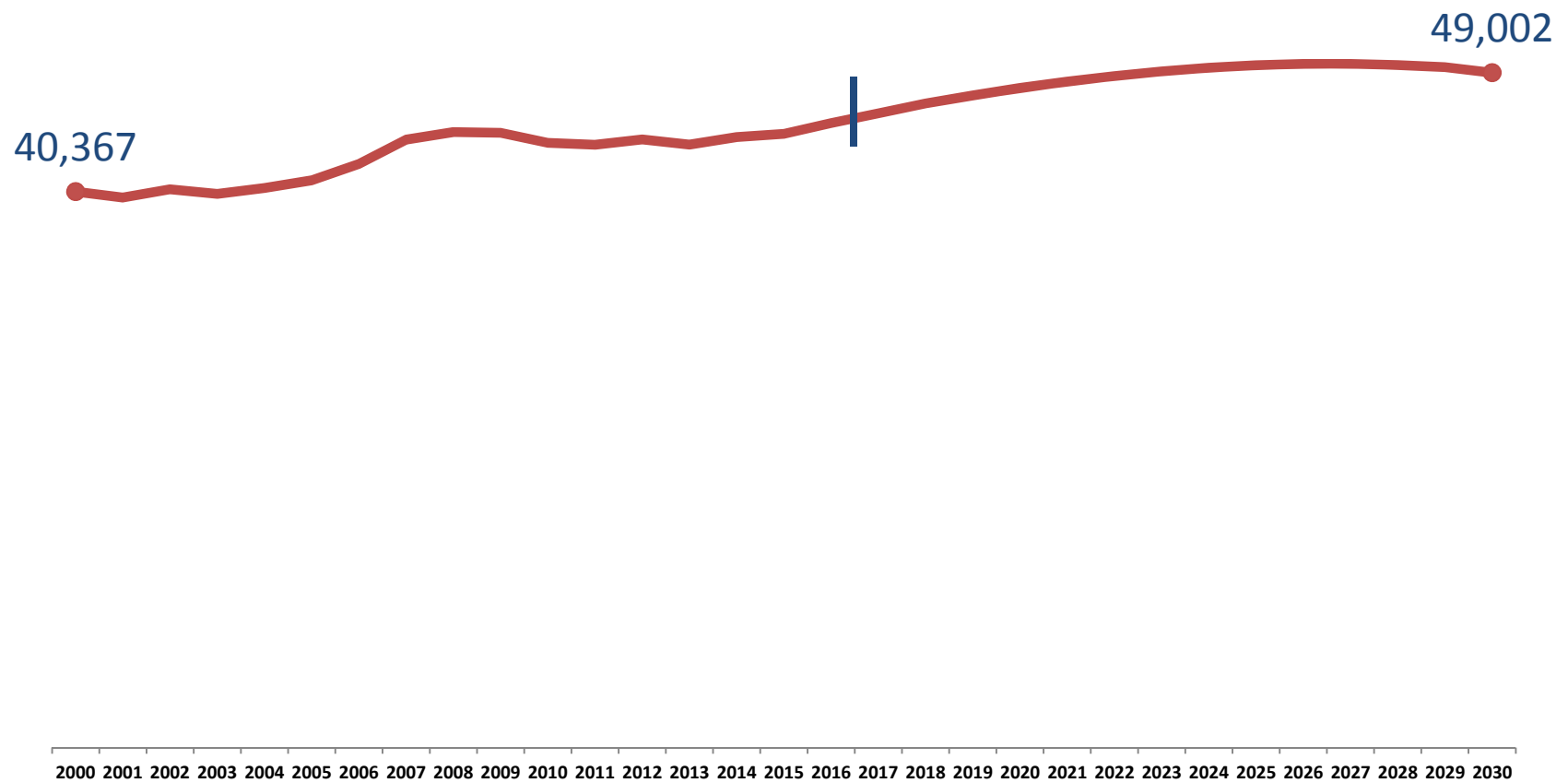
Changes in Education

- Increasing expectations on schools
- Performance Plateaus
- Science of Learning
- Labour relations environment

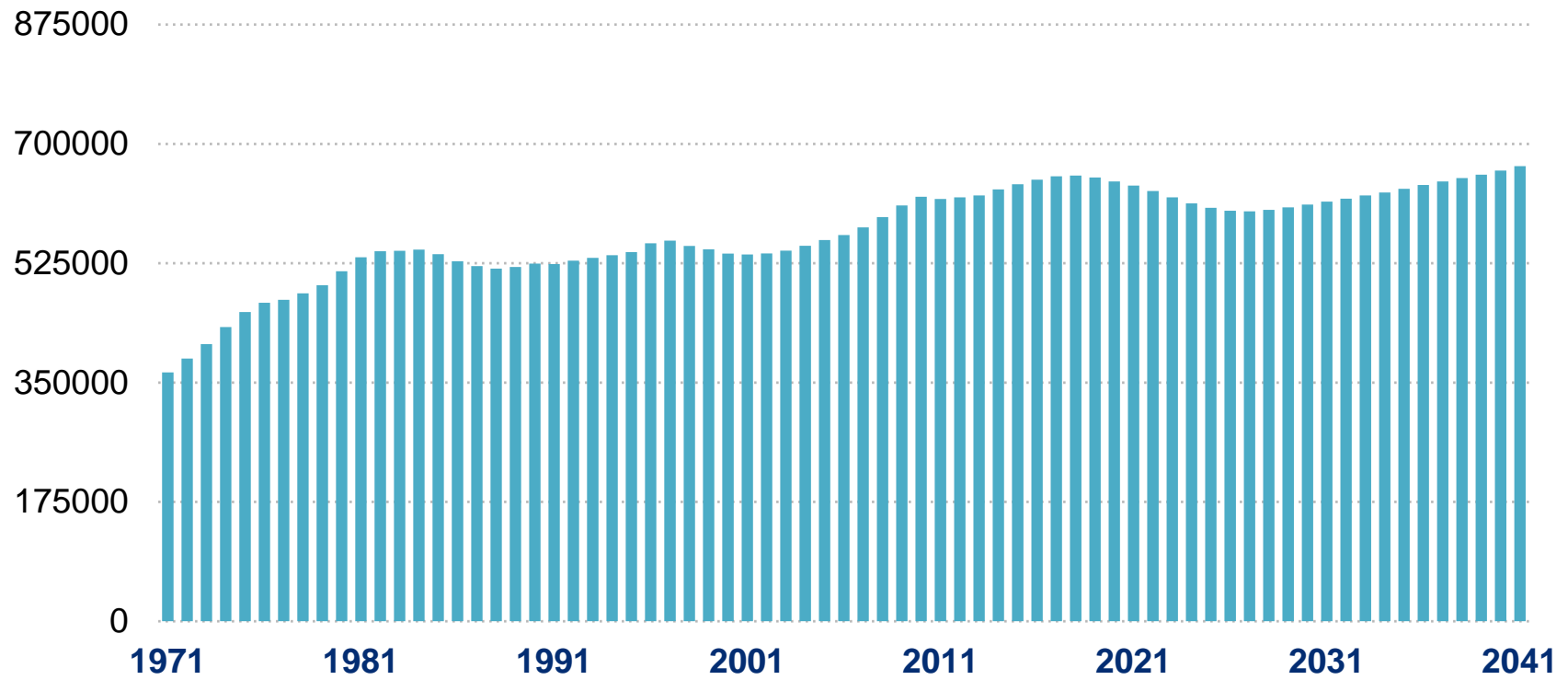
Macro Changes

- Demographics
- Urbanization
- Technology
 - ✓ *Access to Information*
 - ✓ *Automation*
- Labour Market

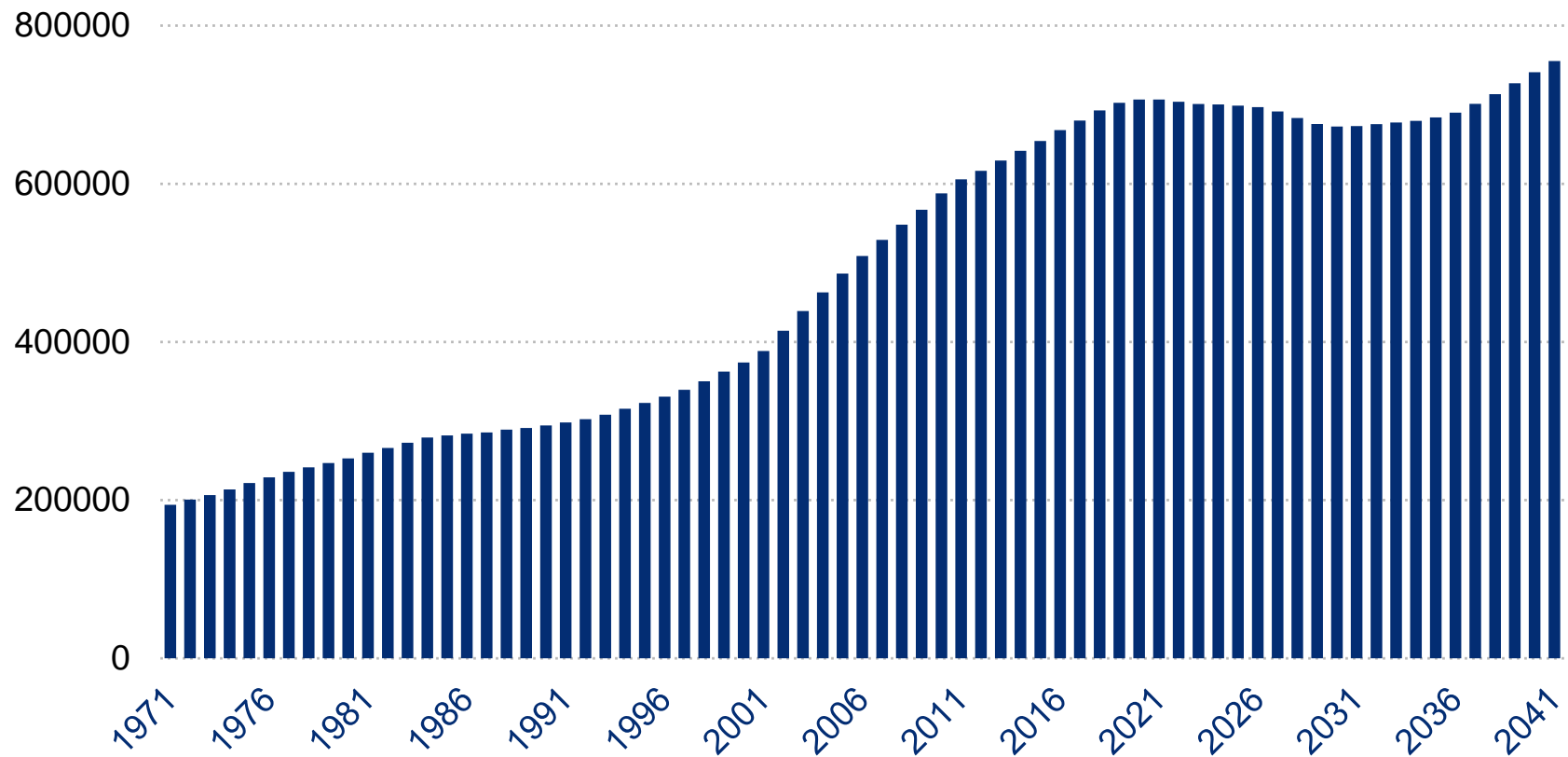
BC Births Actual and Projected



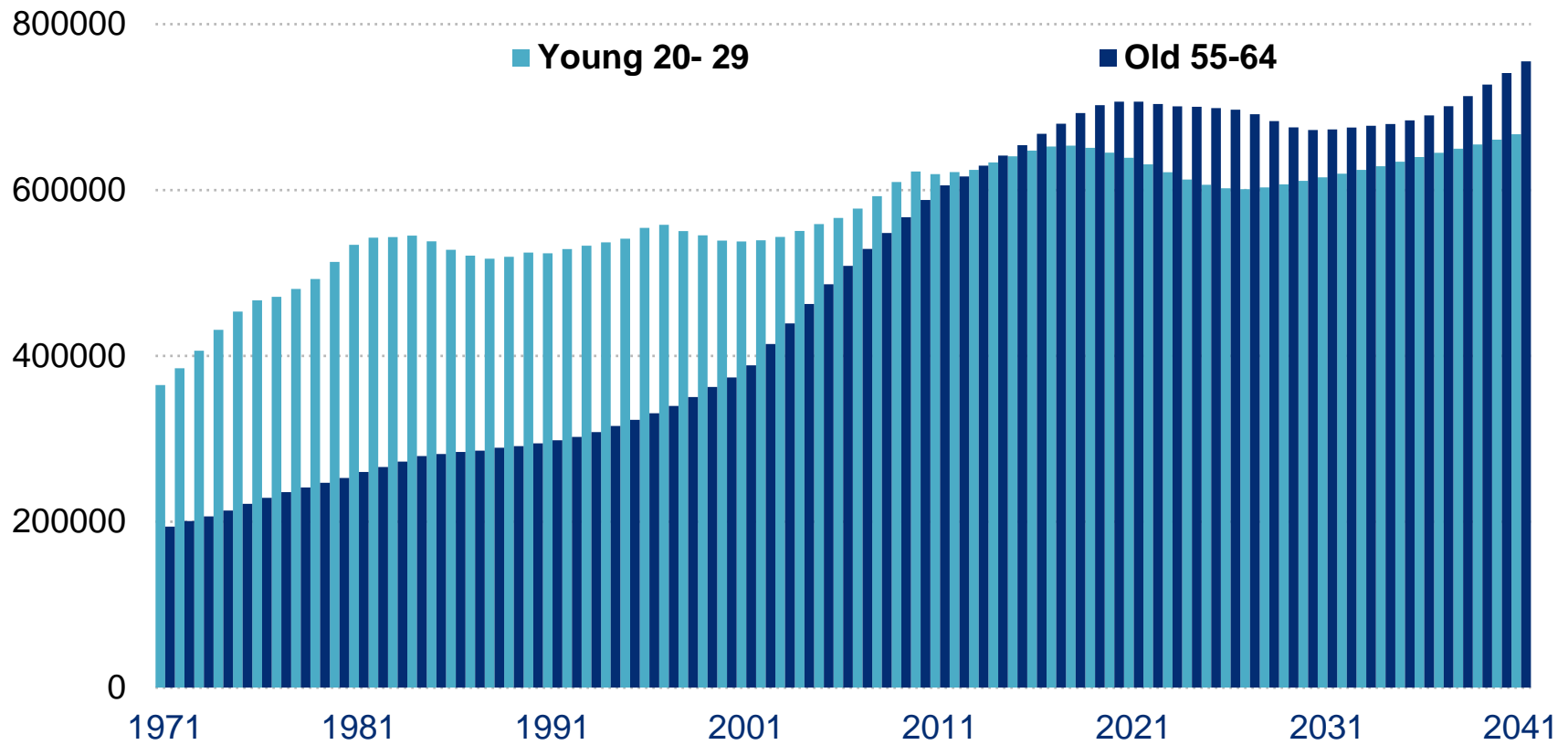
The Young – Ages 20 to 29



The Old – Ages 55 to 64

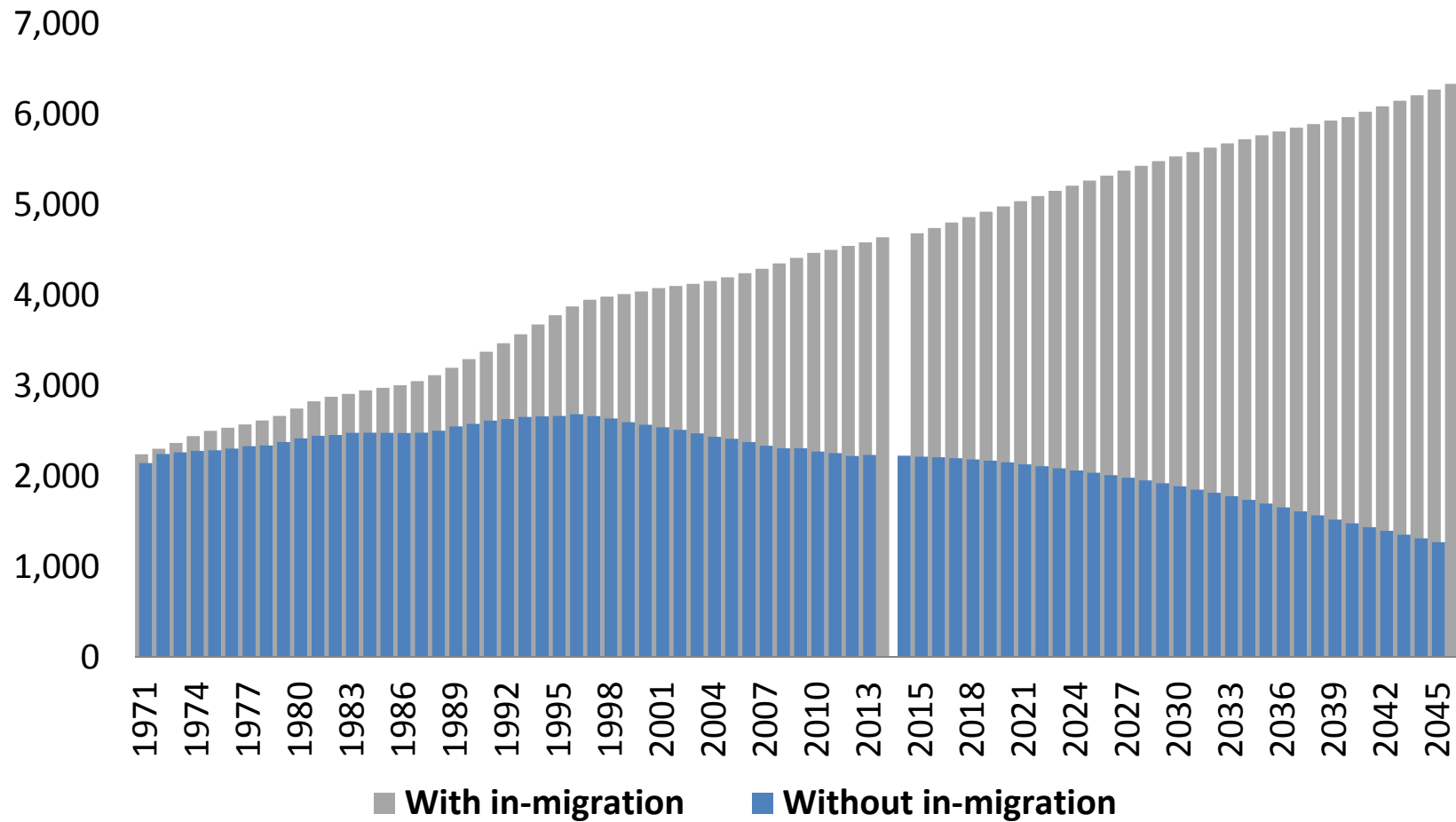


Demographic Crossover

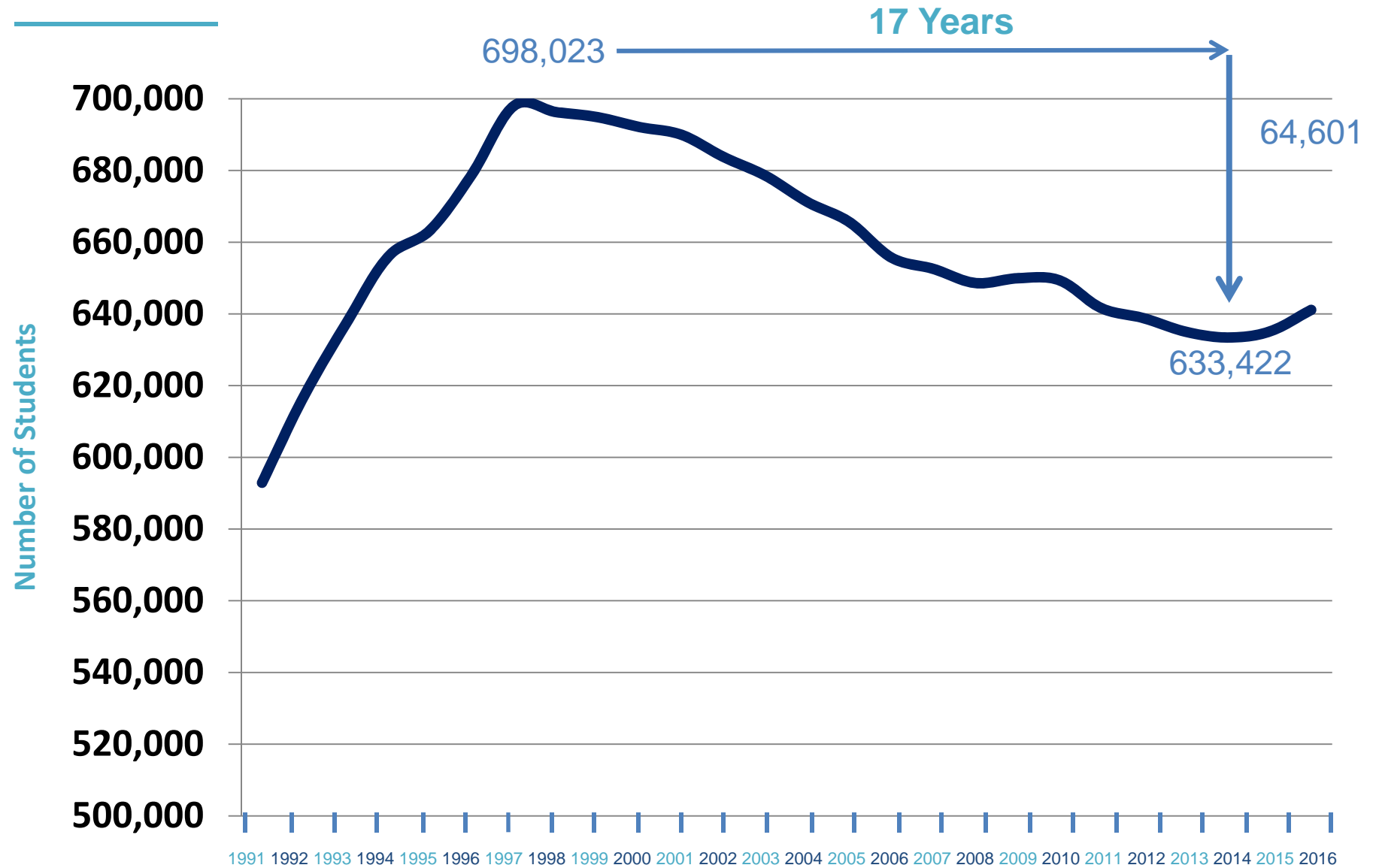


Population Projections

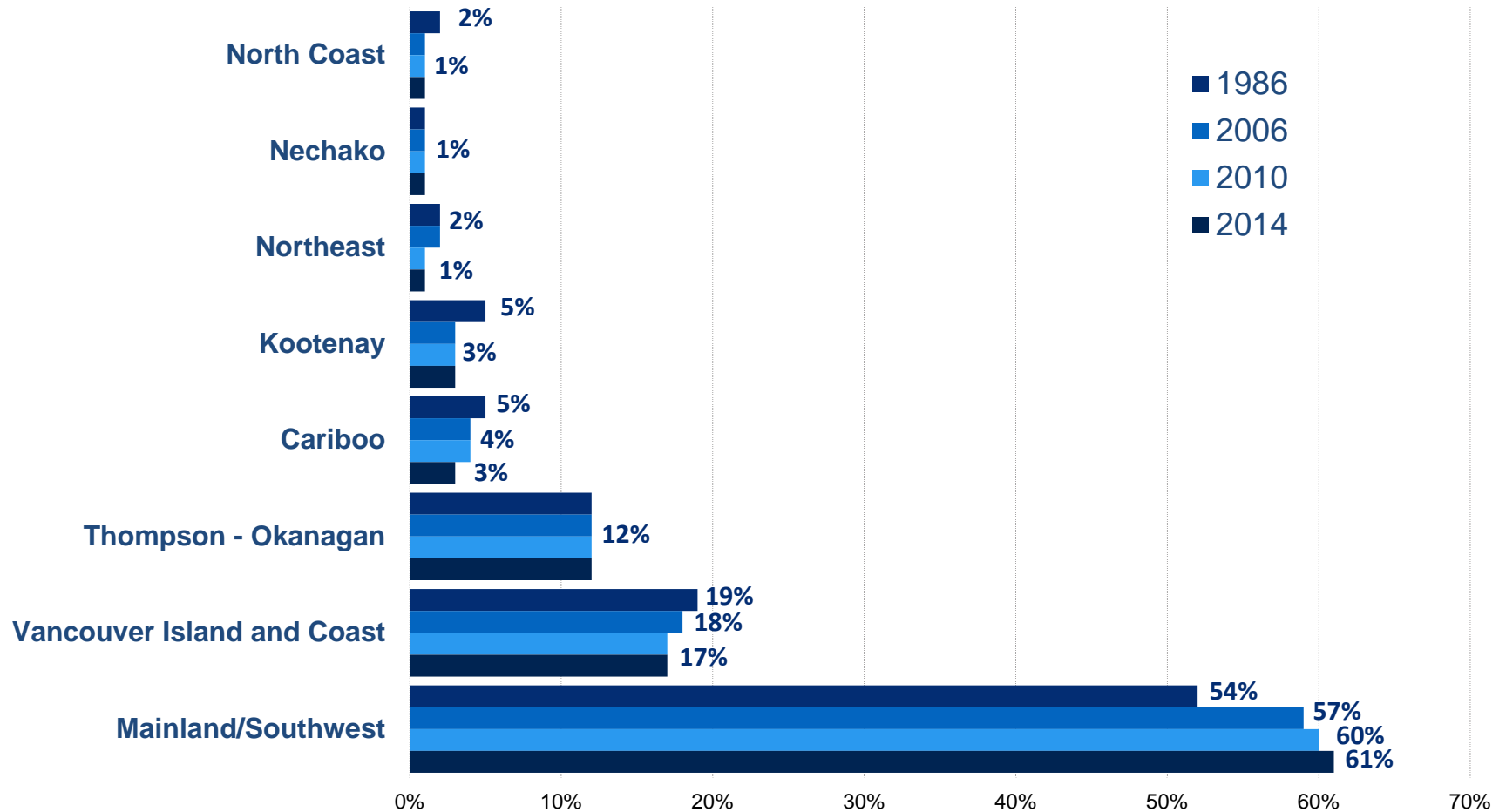
(With and without international and inter-provincial migration)



Enrolment Growth, Again...

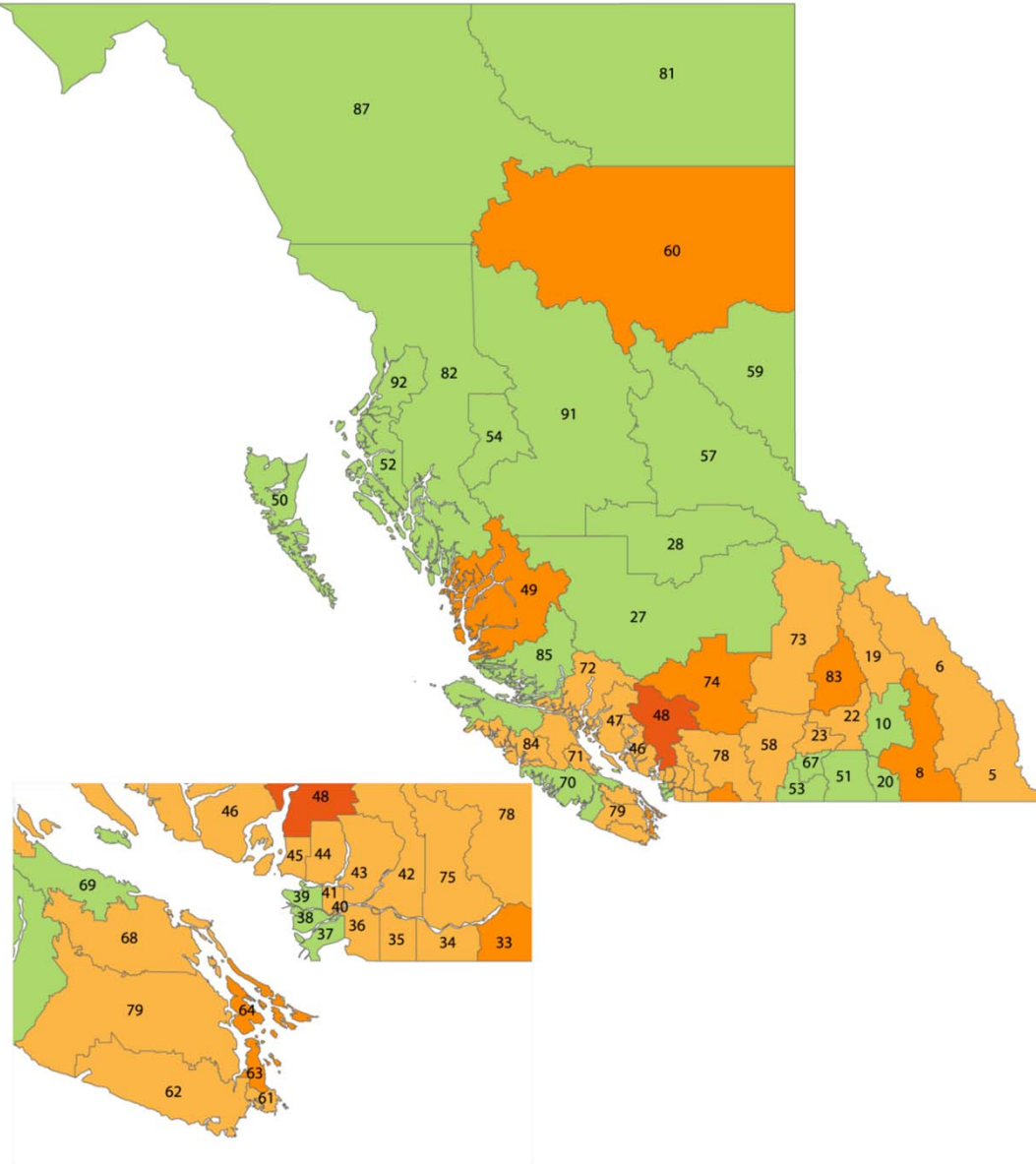


BC Regional Population Change



Projected Changes in School-Age Funded FTE Enrolments in 2017/2018

		Sep Prior	Change in	% Change in
		Year	Enrolment	Enrolment
SD	District Name	Enrolment	from Sep	Prior Year
Decline, 23 districts				
10	Arrow Lakes	418	-24	-5.53%
20	Kootenay-Columbia	3,790	-49	-1.26%
27	Cariboo-Chilcotin	4,492	-71	-1.55%
28	Quesnel	2,965	-79	-2.58%
37	Delta	15,282	-56	-0.37%
38	Richmond	19,349	-54	-0.28%
39	Vancouver	49,245	-263	-0.53%
50	Haida Gwaii	510	-7	-1.29%
51	Boundary	1,269	-17	-1.33%
52	Prince Rupert	1,976	-2	-0.11%
53	Okanagan Similkameen	2,294	-18	-0.78%
54	Bulkley Valley	1,955	-48	-2.41%
57	Prince George	12,801	-4	-0.03%
59	Peace River South	3,455	-9	-0.25%
67	Okanagan Skaha	5,682	-9	-0.17%
69	Qualicum	3,995	-16	-0.40%
70	Alberni	3,712	-50	-1.32%
81	Fort Nelson	720	-8	-1.15%
82	Coast Mountains	4,076	-53	-1.27%
85	Vancouver Island North	1,350	-10	-0.75%
87	Stikine	175	-5	-2.63%
91	Nechako Lakes	3,684	-35	-0.93%
92	Nisga'a	374	-10	-2.71%
0-2% Growth, 27 districts				
5	Southeast Kootenay	5,471	57	1.05%
6	Rocky Mountain	3,178	62	2.00%
19	Revelstoke	965	10	1.07%
22	Vernon	8,320	46	0.56%
23	Central Okanagan	22,350	286	1.30%
34	Abbotsford	19,565	134	0.69%
35	Langley	20,212	291	1.46%
36	Surrey	70,488	1,116	1.61%
40	New Westminster	6,499	74	1.15%
41	Burnaby	23,461	151	0.65%
42	Maple Ridge-Pitt Meadows	14,462	209	1.46%
43	Coquitlam	30,776	185	0.61%
44	North Vancouver	15,212	157	1.05%
45	West Vancouver	6,887	76	1.11%
46	Sunshine Coast	3,183	43	1.38%
47	Powell River	1,944	24	1.25%
58	Nicola-Similkameen	2,125	33	1.58%
61	Greater Victoria	19,247	368	1.95%
62	Sooke	10,183	96	0.95%
68	Nanaimo-Ladysmith	13,566	150	1.12%
71	Comox Valley	7,866	61	0.78%
72	Campbell River	5,359	15	0.28%
73	Kamloops/Thompson	14,326	226	1.60%
75	Mission	5,999	69	1.17%
78	Fraser-Cascade	1,696	12	0.72%
79	Cowichan Valley	7,610	27	0.36%
84	Vancouver Island West	416	2	0.49%
2-4% Growth, 8 districts				
8	Kootenay Lake	4,875	108	2.27%
33	Chilliwack	13,496	322	2.44%
49	Central Coast	227	6	2.49%
60	Peace River North	6,009	120	2.04%
63	Saanich	7,102	193	2.79%
64	Gulf Islands	1,760	41	2.37%
74	Gold Trail	1,141	34	3.03%
83	North Okanagan-Shuswap	6,189	132	2.18%
4+% Growth, 1 district				
48	Sea to Sky	4,920	203	4.31%



Technology and Learning



Automation

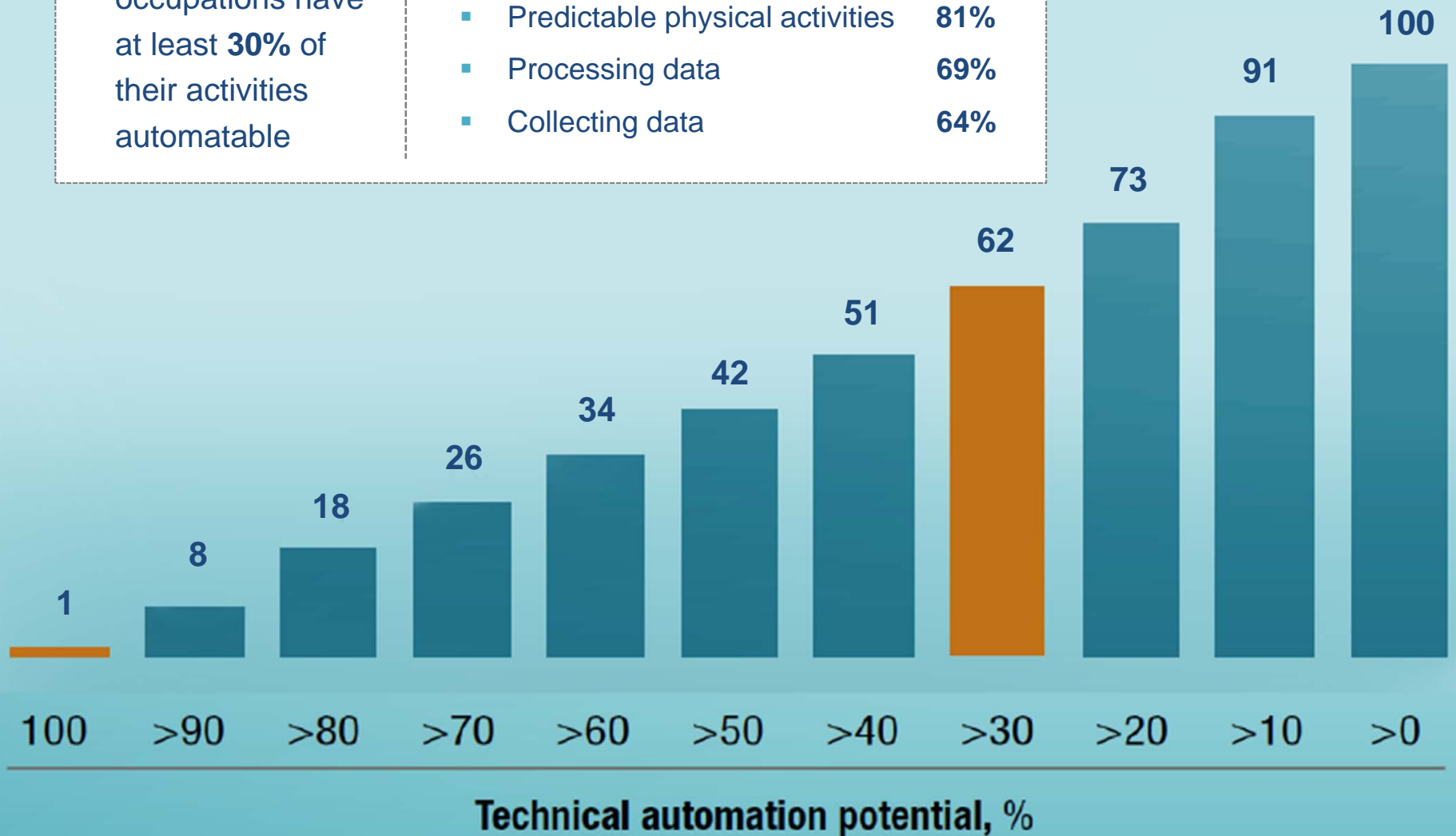
1

About **60%** of occupations have at least **30%** of their activities automatable

2

ACTIVITIES WITH HIGHEST AUTOMATION POTENTIAL:

- Predictable physical activities **81%**
- Processing data **69%**
- Collecting data **64%**



Science of Learning

➤ What is the science of learning?

Understanding what we now know about learning



Scientific insights on the brain and learning

- Positively influence classroom education
- Better prepare students for unknowable futures

Key considerations

- Neuroscience in the classroom
- Social and emotional learning and the brain
- Engagement strategies for learners

Current Challenges

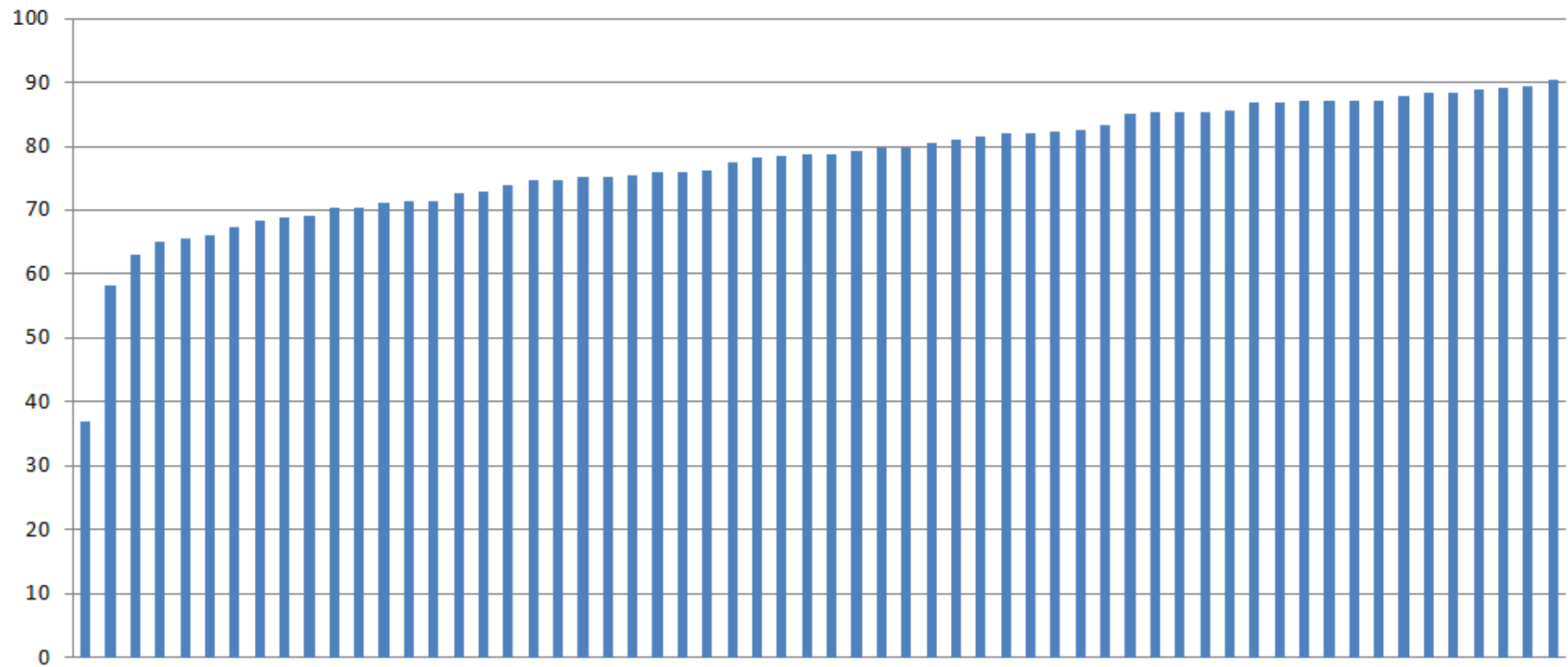
Some Current Challenges



1. Completion rates vary widely from district to district
2. The quality of schools vary widely
3. Significant groups of students (*Indigenous, special needs*) do not share in success
4. Completion rate is now flattening
5. Increasing enrolment in independent schools
6. Average seven years to build a new school
7. District accumulated surpluses and cash balances are increasing
8. Teacher supply/demand

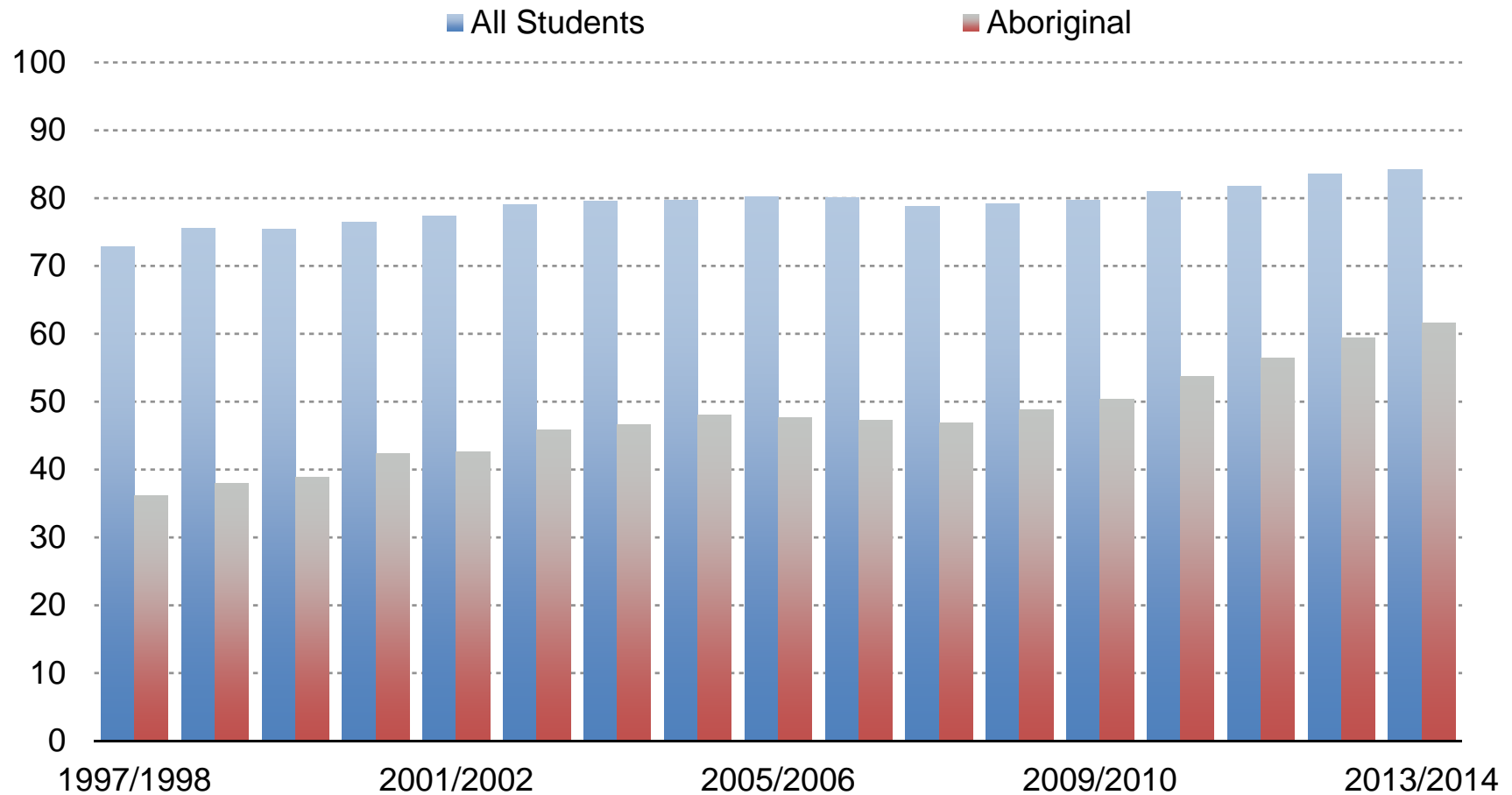
Completion Rates

Completion Rate by District, 2015/2016

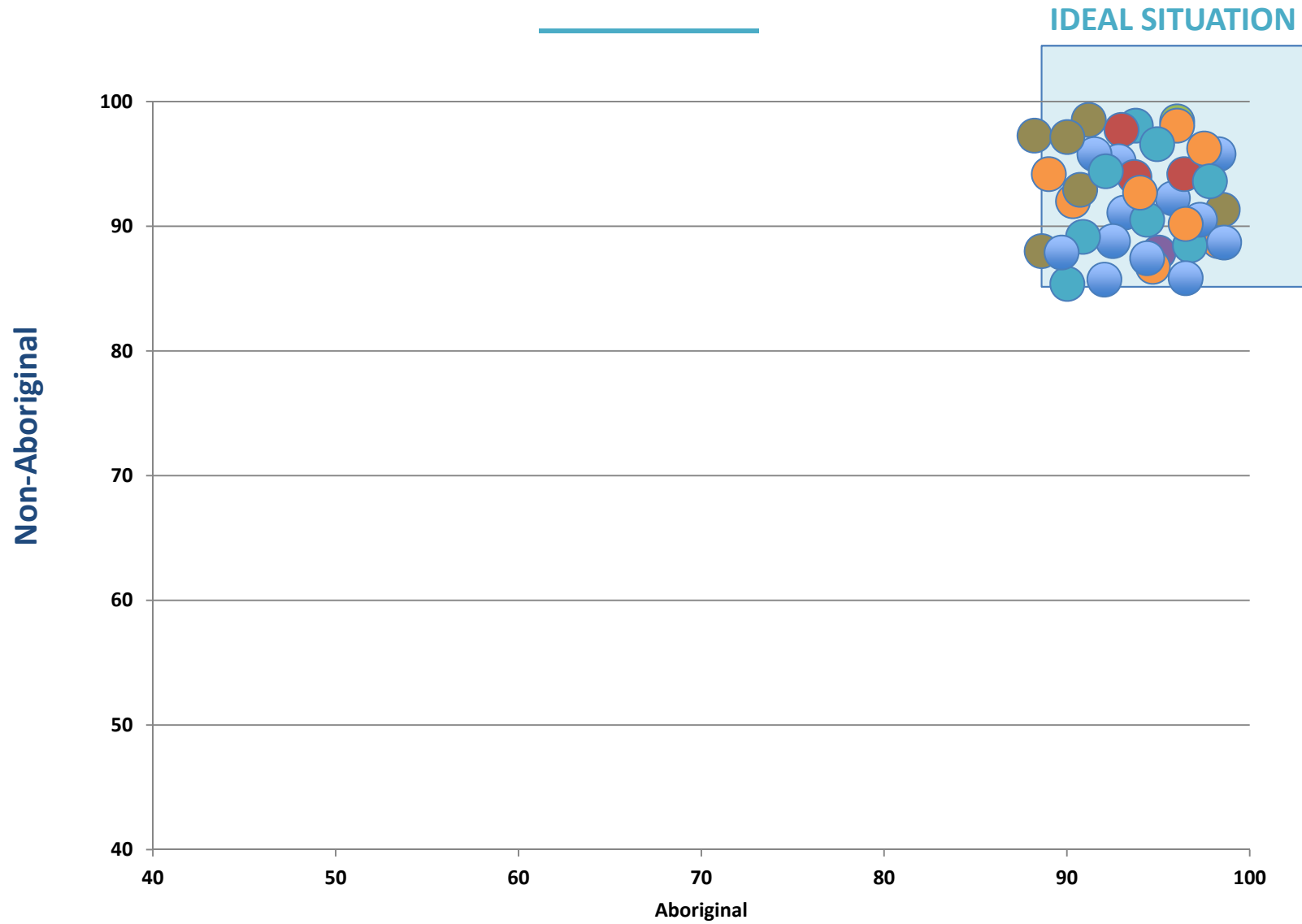


Six Year Completion Rates

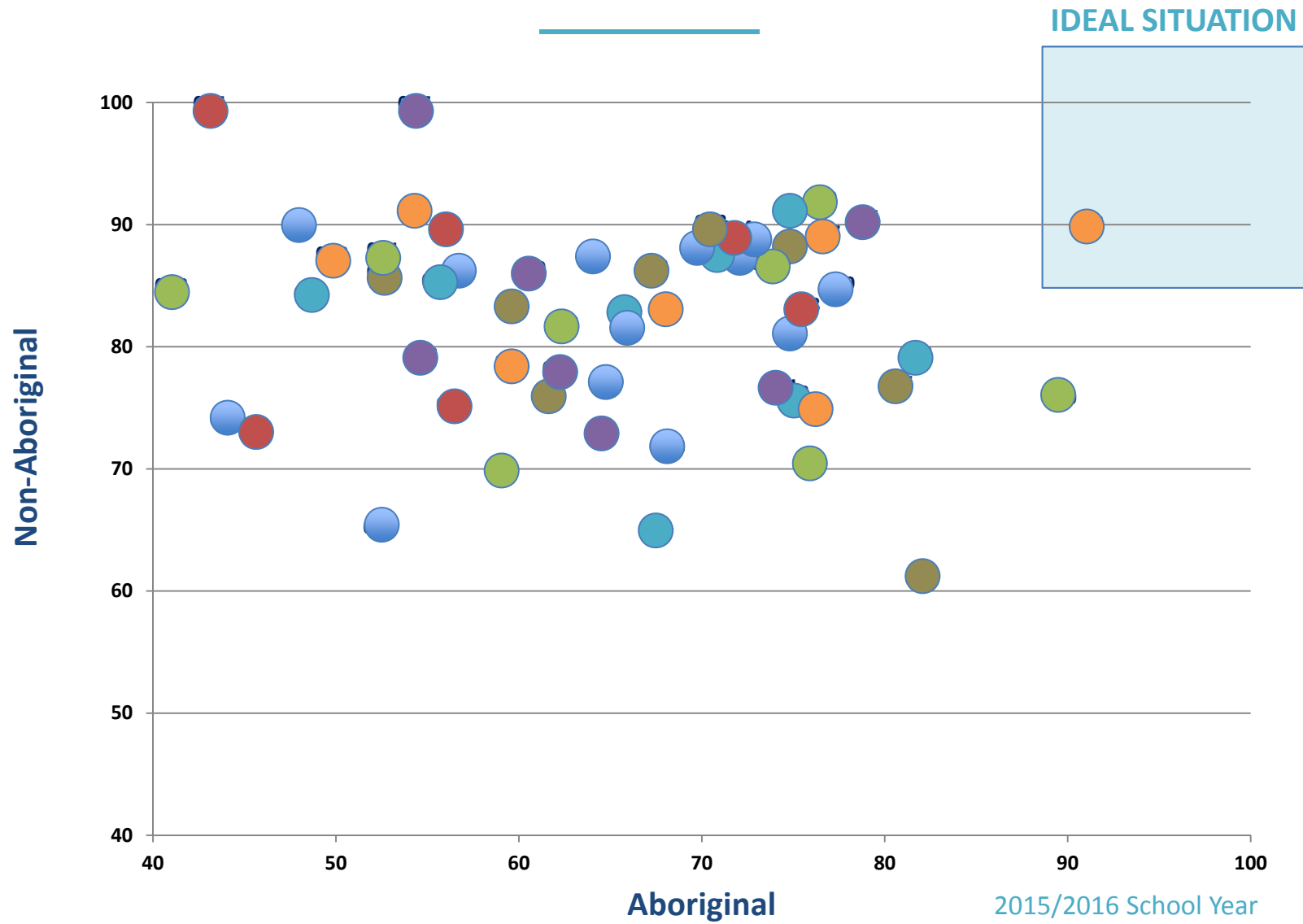
Province – Public & Independent Schools Combined



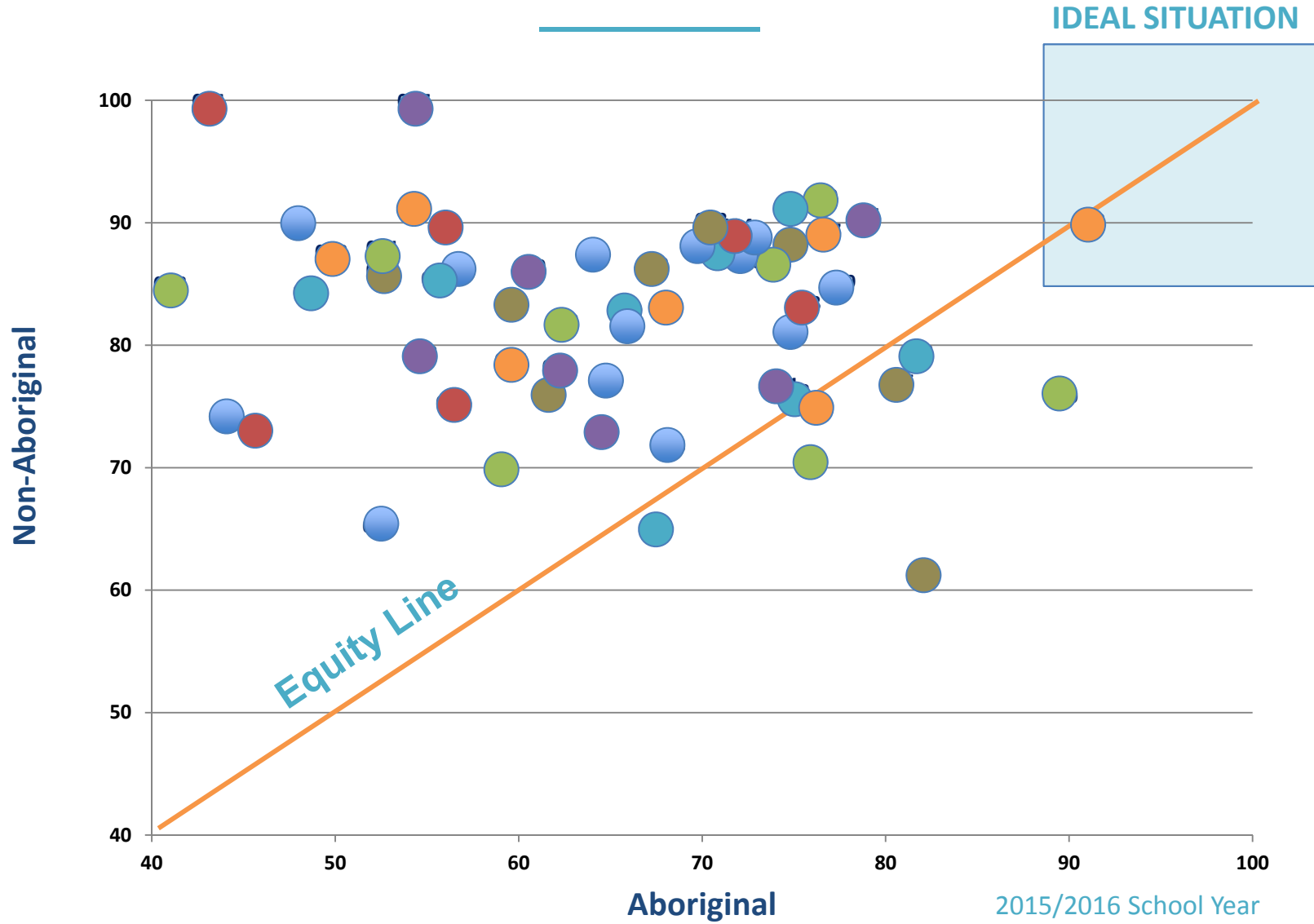
Aboriginal & Non-Aboriginal



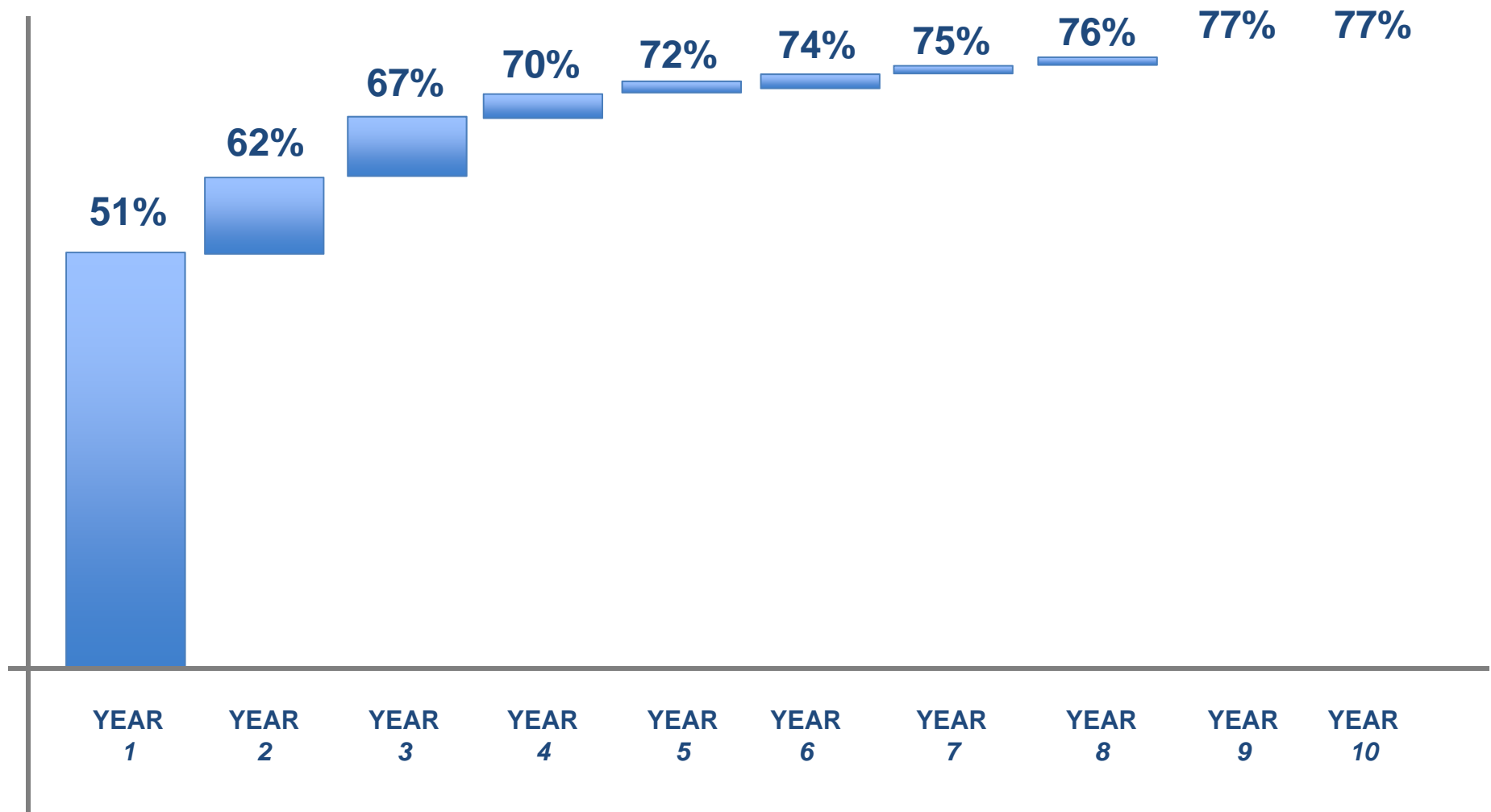
Aboriginal & Non-Aboriginal



Aboriginal & Non-Aboriginal

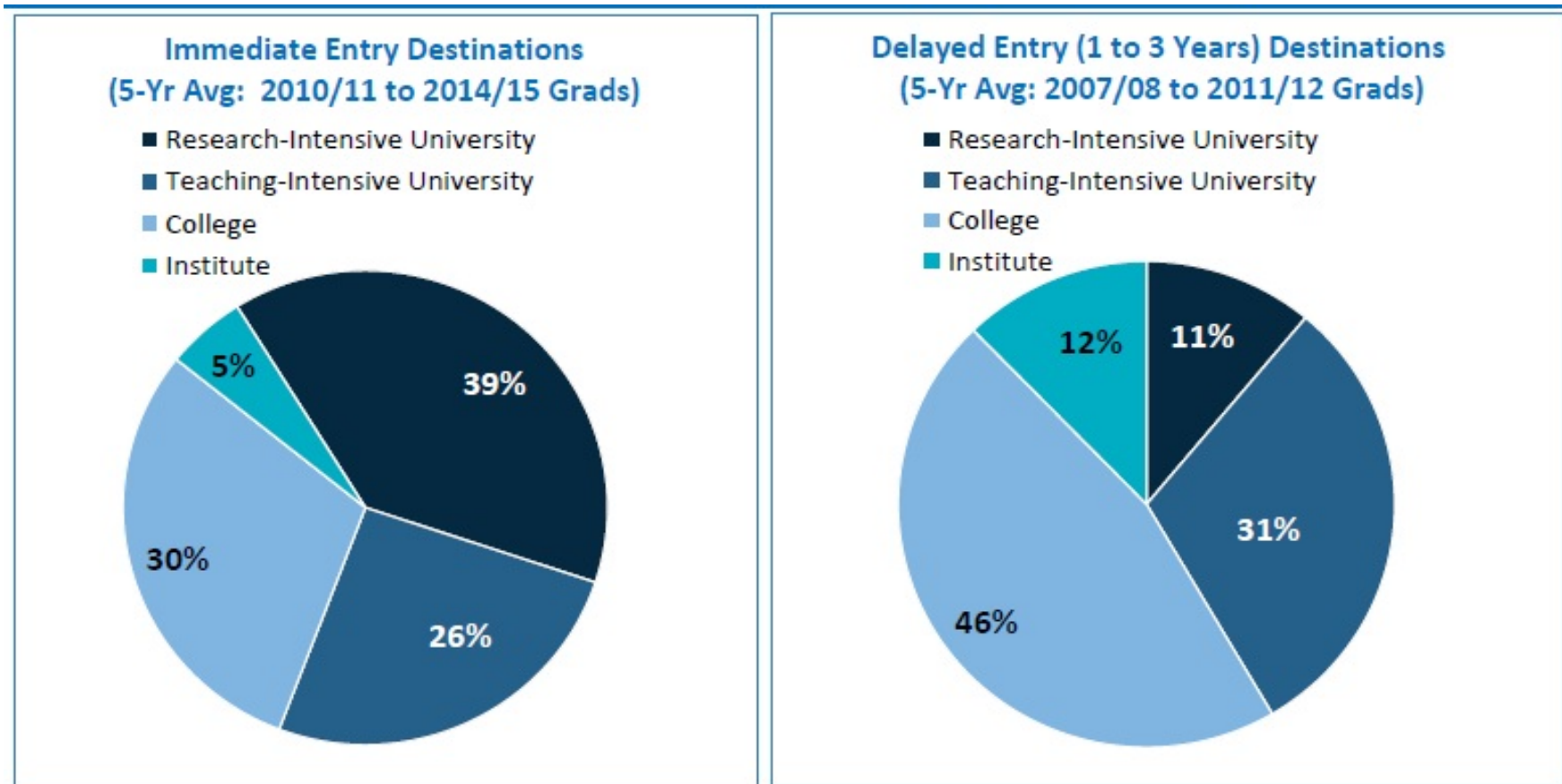


Post-Secondary Transitions

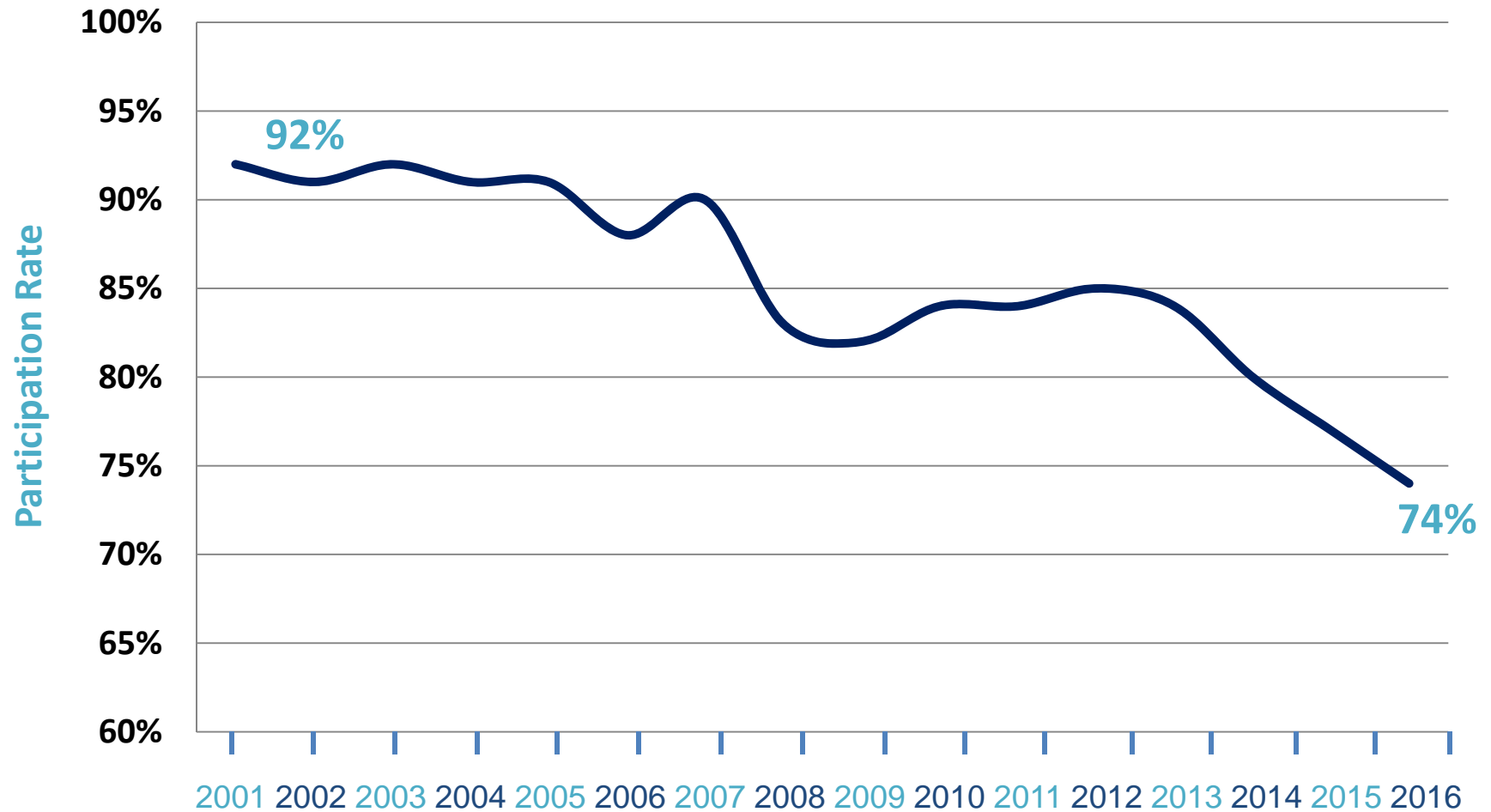


Post-Secondary Transitions

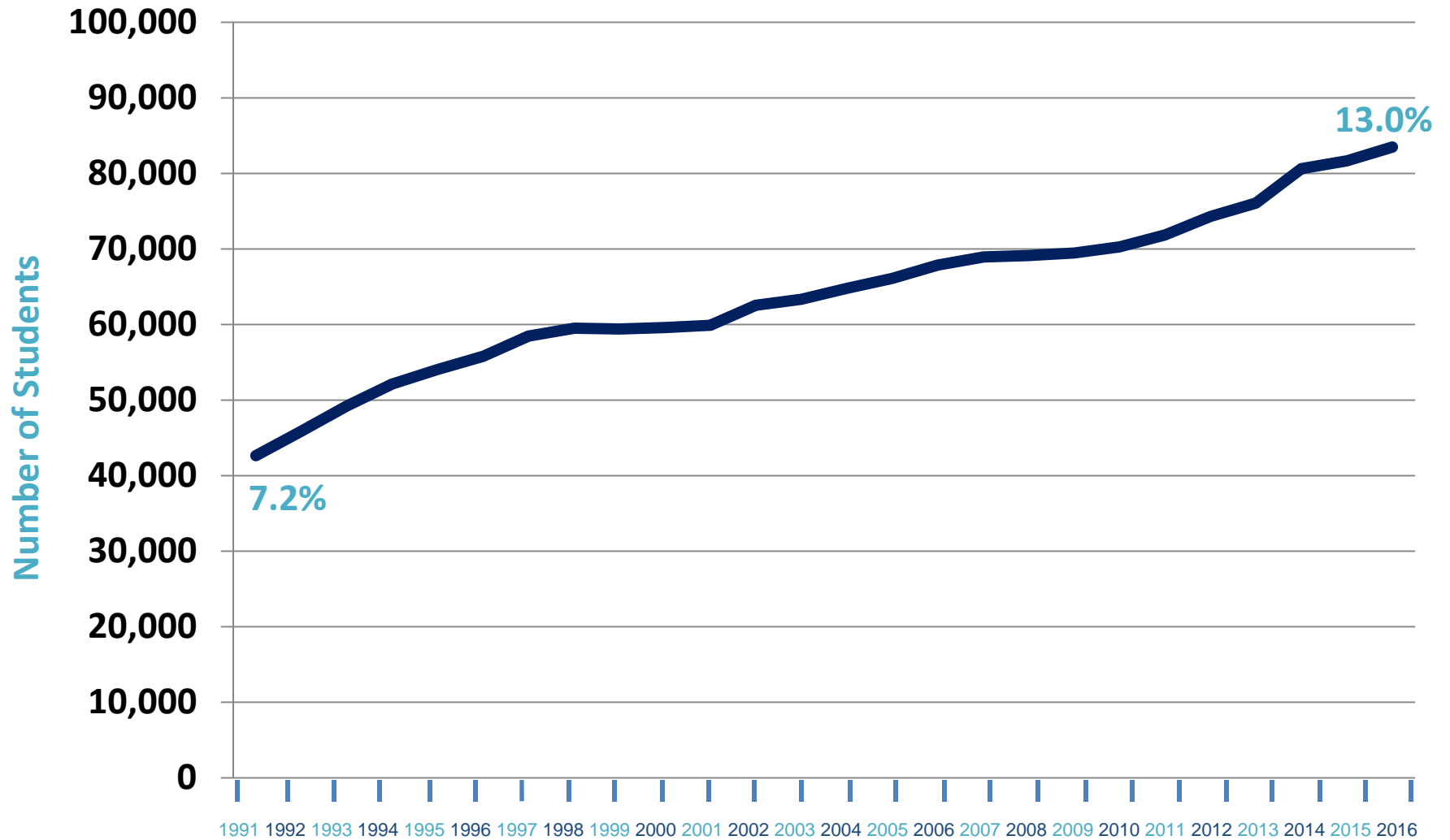
BC public post-secondary immediate vs. delayed entry destinations of all grade 12 grads (*among those eligible**)



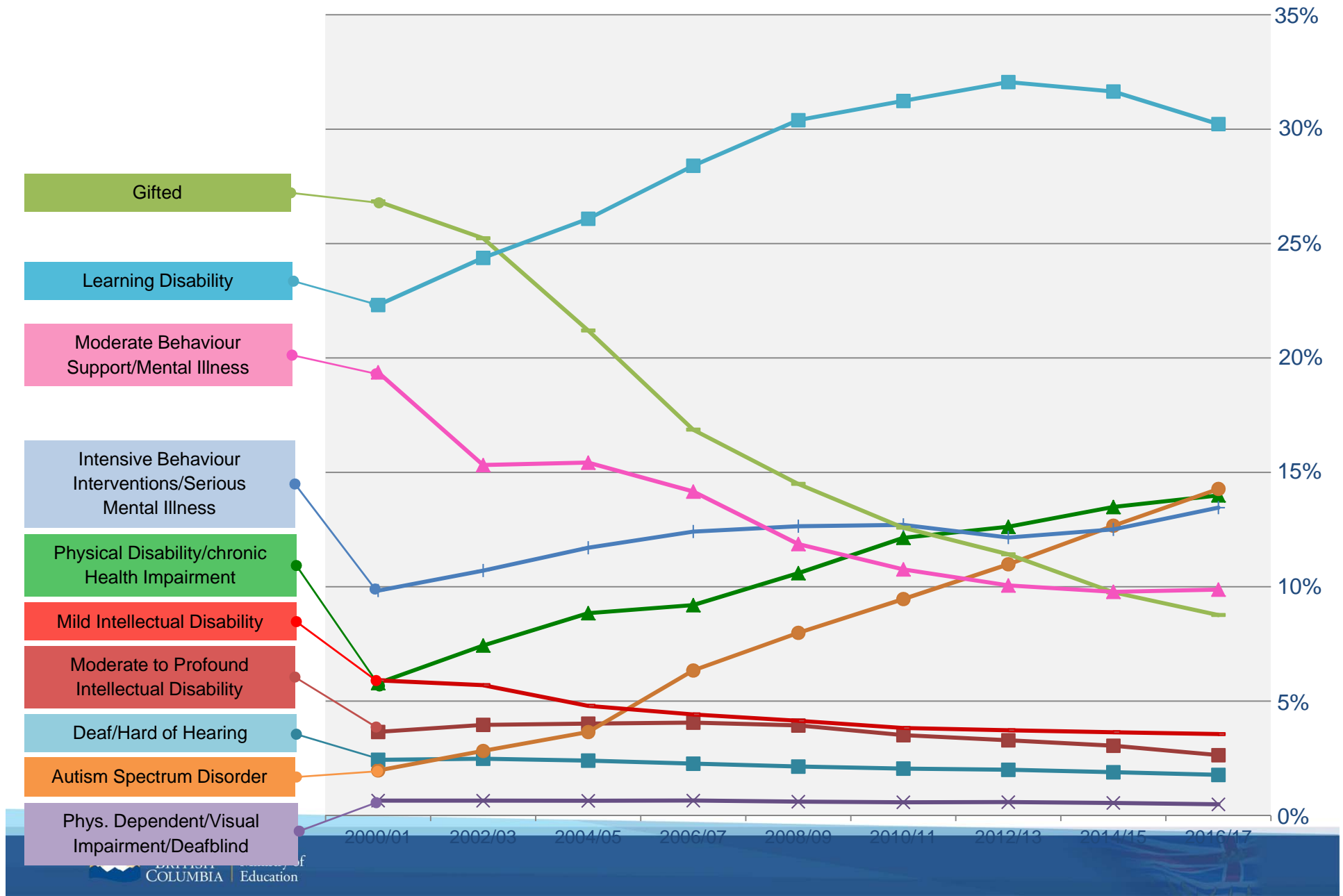
FSA Participation Rates (Grade 4)



Independent School Enrolment

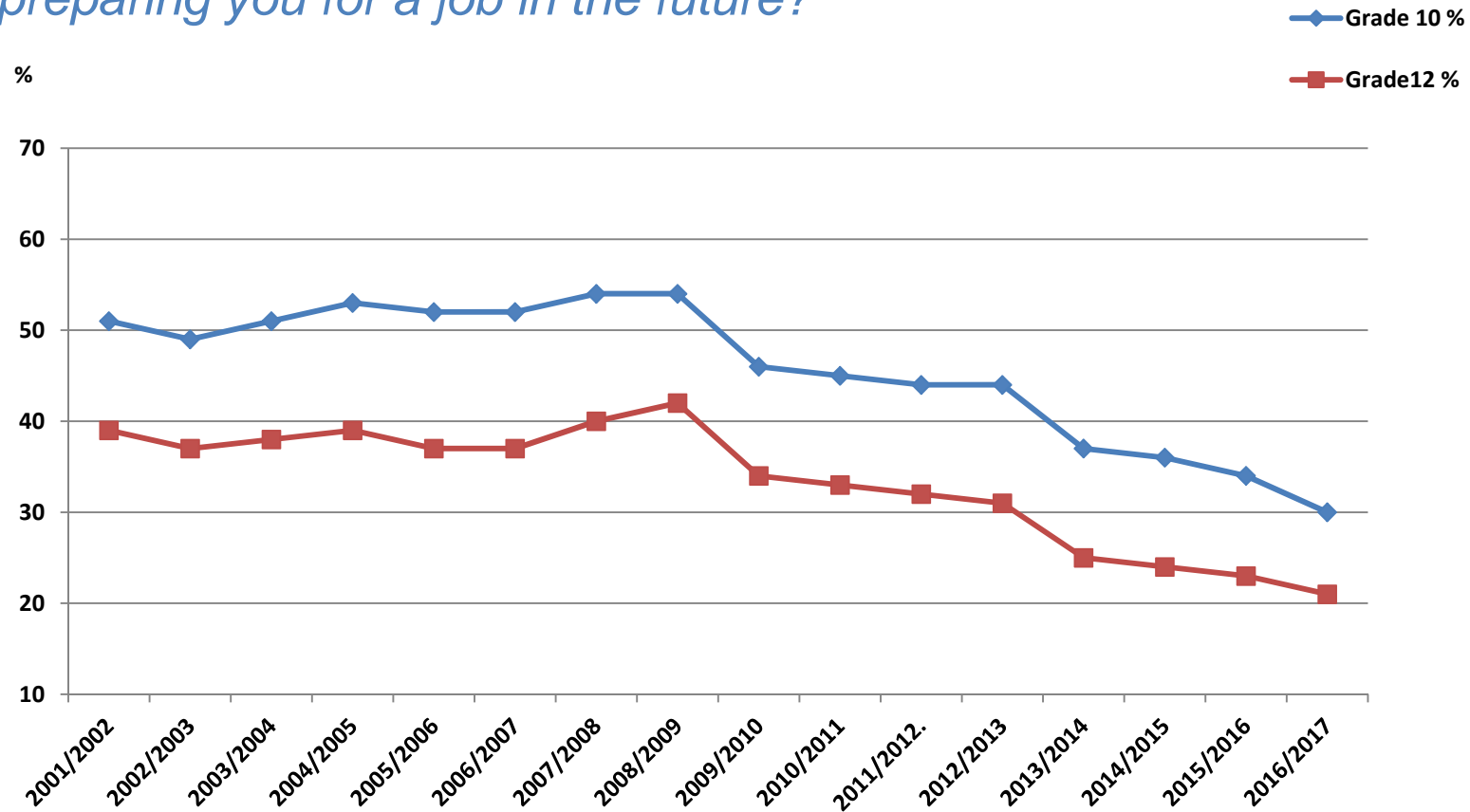


Percent of Special Needs Students – (by category) BC Public Schools



Student Learning Survey

Are you satisfied that school is...
preparing you for a job in the future?

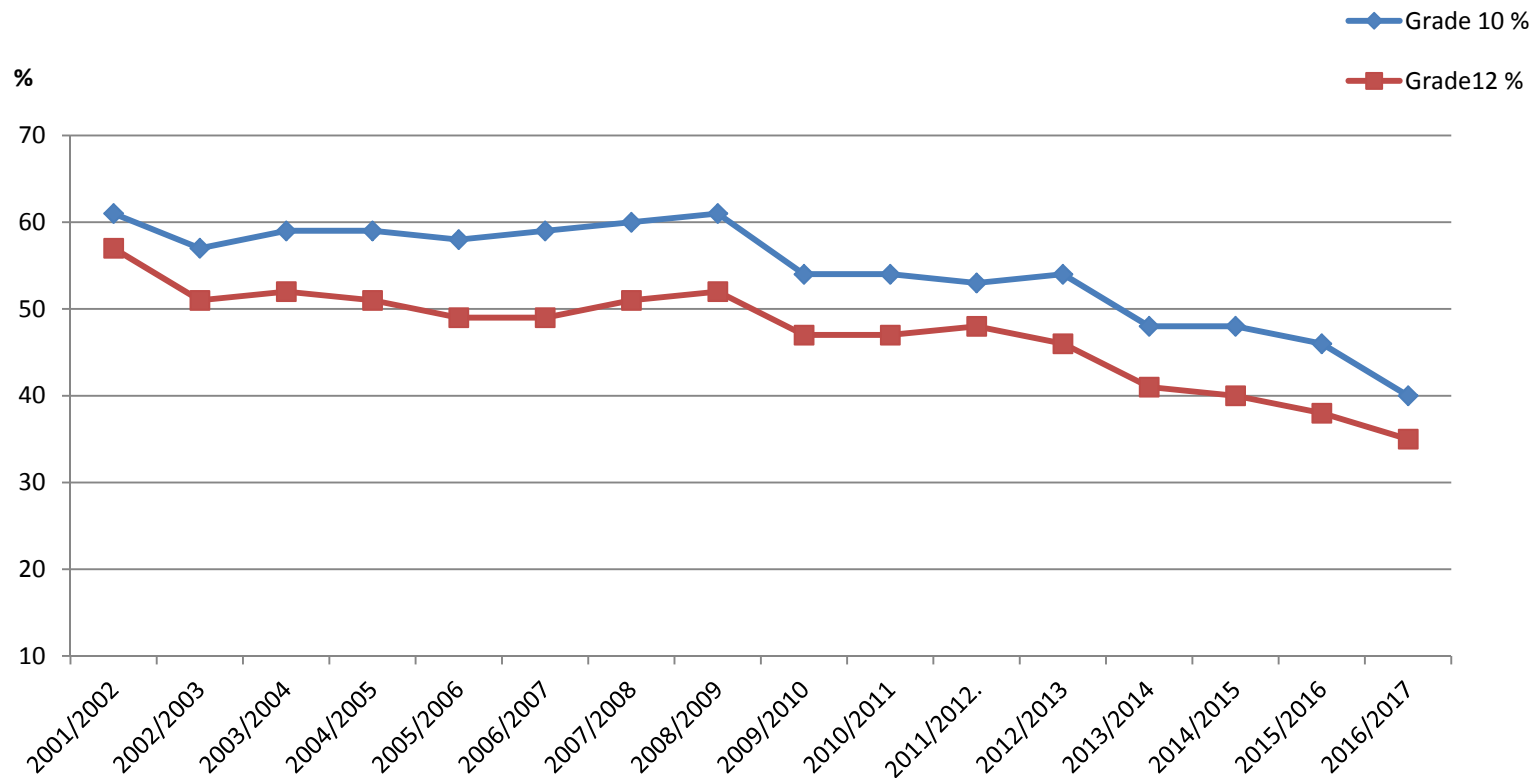


Many Times/Agree; or All of the Time/Strongly Agree

Outputs – Student Learning Survey

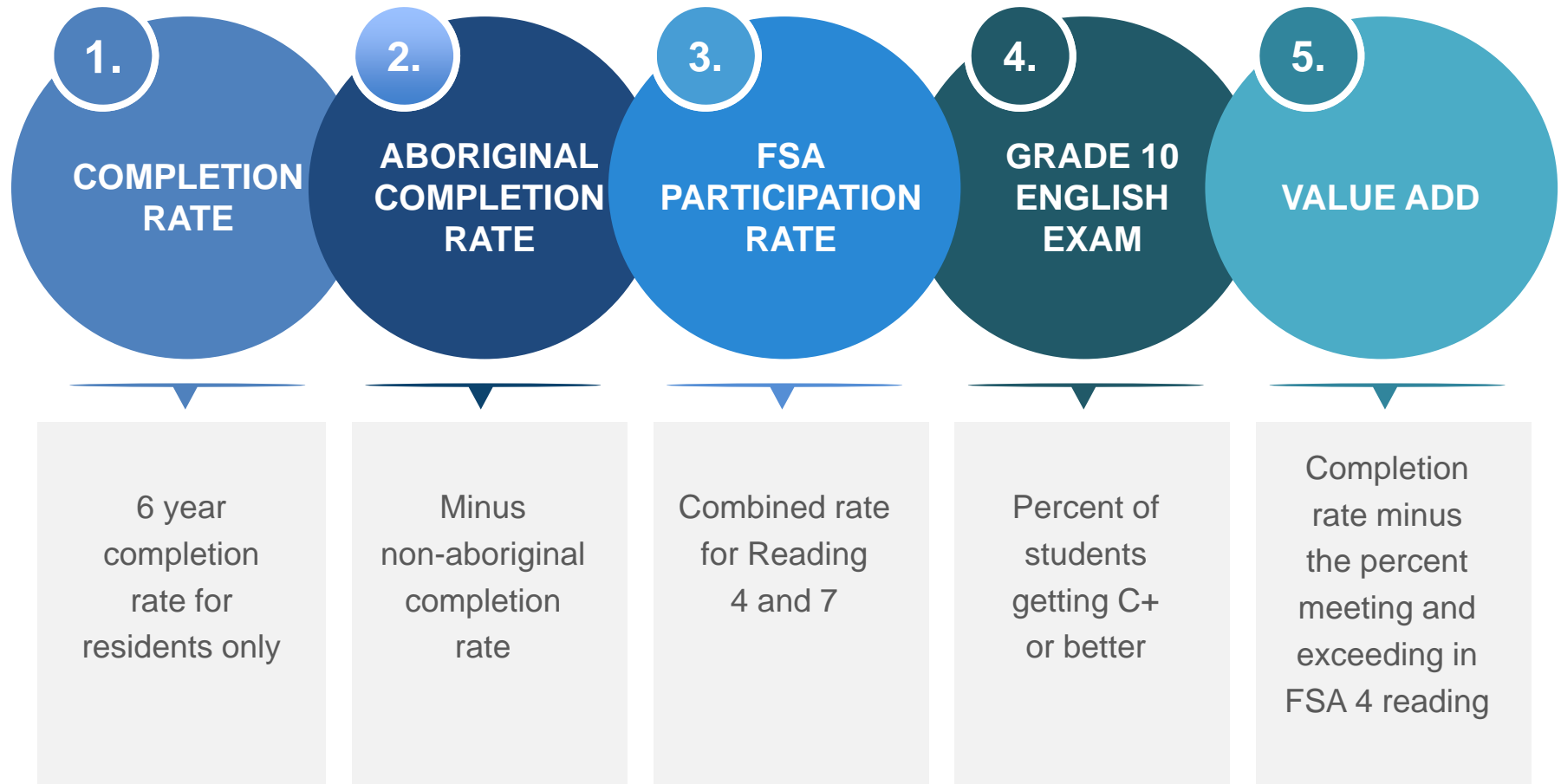
Are you satisfied that school is...

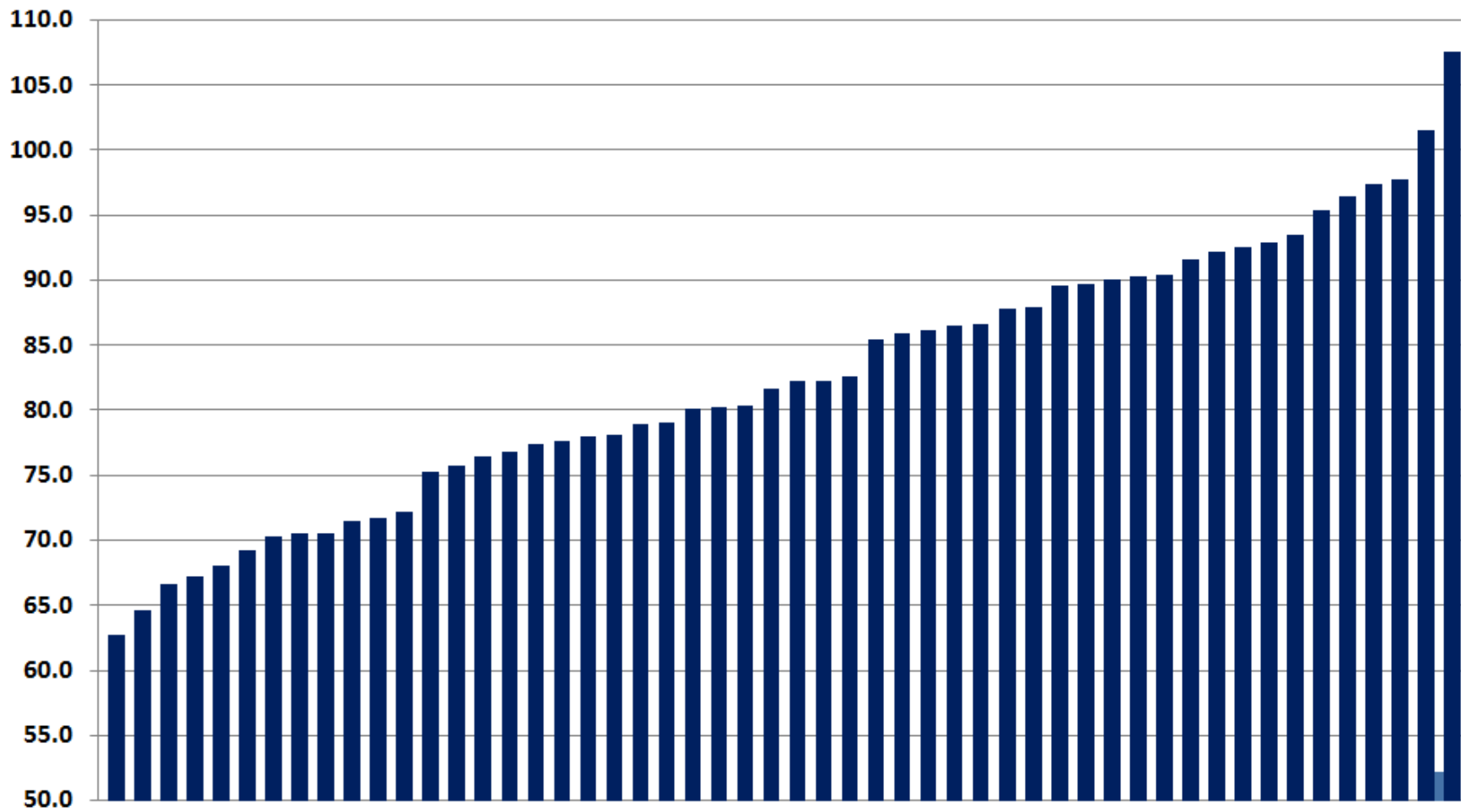
preparing you for post-secondary education?



Many Times/Agree; or All of the Time/Strongly Agree

Examples of Student Success

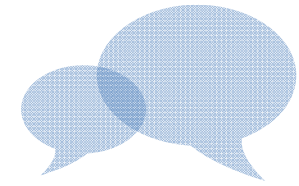




Strategic Focus & Path Forward



What I have heard...



5 Capital

- Speed of delivery – delays & complicated processes
- Lack of available funding
- Too many portables

4 Funding

- Not enough
- In-equitable / unfair distribution

3 Relationships

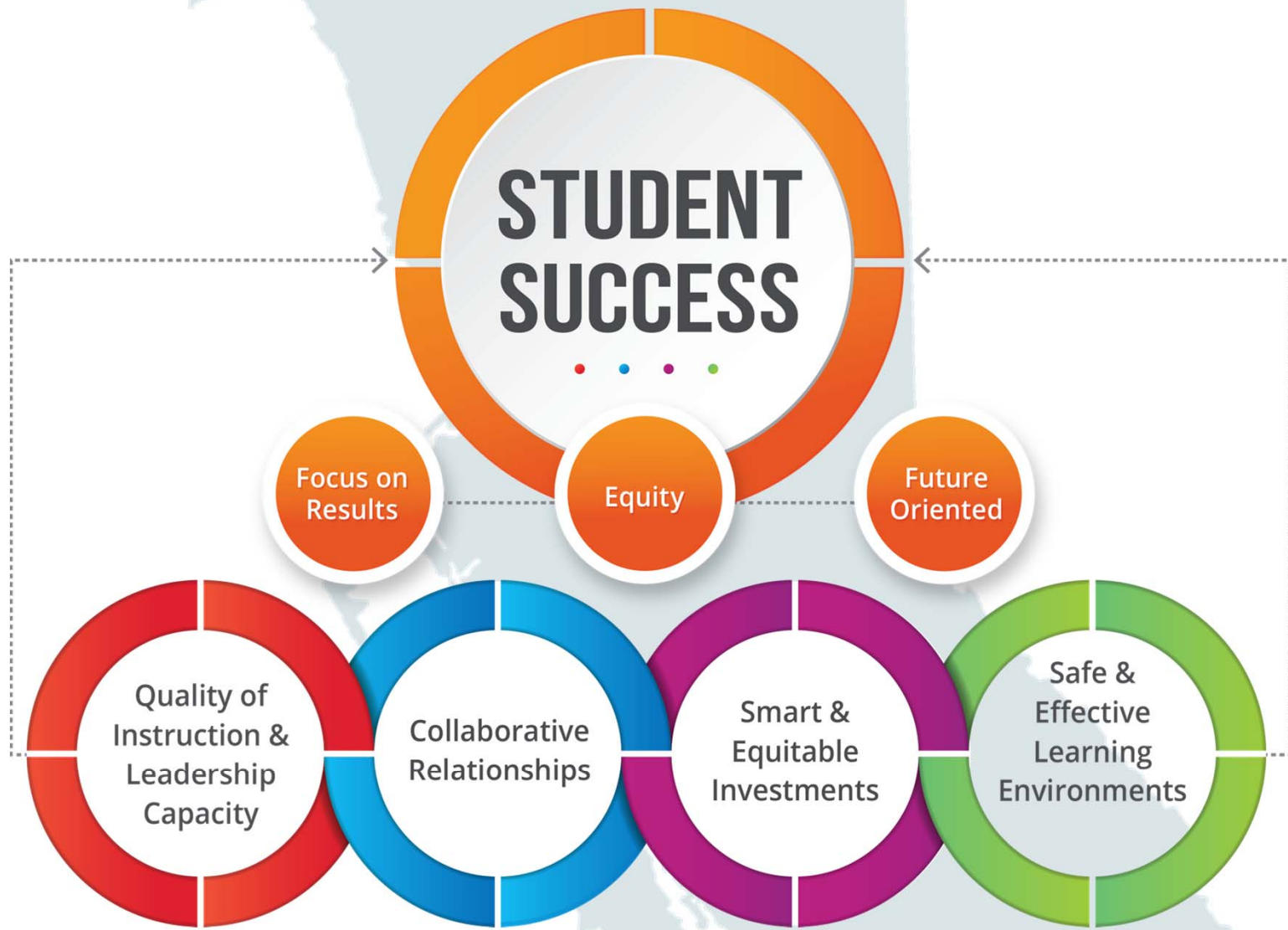
- Different partners pulling in different directions
- Desire for more transparency
- Need for more timely information

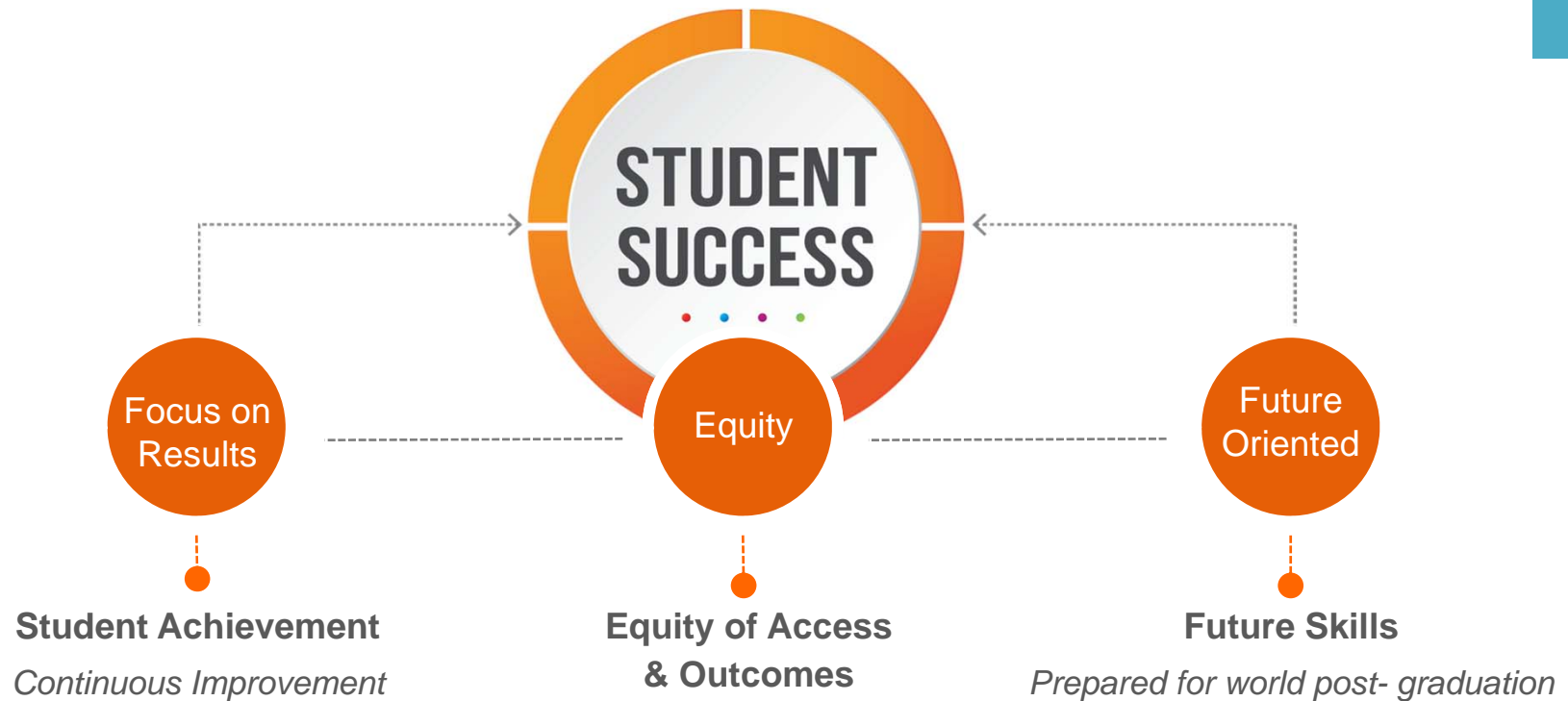
2 Capacity

- Hired 3,500 new teachers = teacher crisis
- Massive turn-over now (*and more to come*) in school and district leadership
- Stretched too thin, often on the wrong things

1 Results

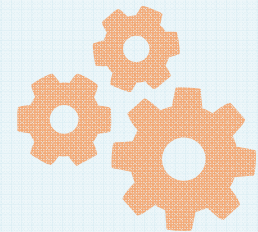
- Wide range of focus and discussion
- Need to focus more on early learning
- Are we measuring the right things ?





Actions:

1. Renewed focus on results, using *Framework for Enhancing Student Learning*
2. Implement the new curriculum K-9 and 10-12
3. Update graduation program
4. Foundation Skills Assessment
5. Action plan for students with diverse needs
6. Implement the First Nations curriculum
7. Implement the Calls to Action from the Truth & Reconciliation Commission



Old School

Factory Schooling:

homogenized, compliant workforce equipped with basic skills produced in the cheapest, most efficient way possible.



Collecting Dots

Modern School

Modern Schooling:

creation of knowledgeable, adaptable people who can work with others to innovate in the new economy.



Connecting Dots

Science

K 1 2 3 4 5 6 7 **8** 9

Introduction | Goals and Rationale | What's New | Curriculum Overview

Core Competencies

C Communication **T** Thinking **PS** Personal & Social

Big Ideas

- Life processes are performed at the cellular level.
- The behaviour of matter can be explained by the kinetic molecular theory and atomic theory.
- Energy can be transferred as both a particle and a wave.
- The theory of plate tectonics is the unifying theory that explains Earth's geological processes.

Learning Standards

Show All Elaborations

Curricular Competencies

Students are expected to be able to do the following:

Questioning and predicting

- ▶ Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest
- ▶ Make observations aimed at identifying their own questions about the natural world
- ▶ Identify a question to answer or a problem to solve through scientific inquiry
- ▶ Formulate alternative "if...then..." hypotheses based on their questions
- ▶ Make predictions about the findings of their inquiry

Planning and conducting

- ▶ Collaboratively plan a range of investigation types, including field work and experiments, to answer their questions or solve problems they have identified

Content

Students are expected to know the following:

- ◆ characteristics of life
- ◆ cell theory and types of cells
- ◆ photosynthesis and cellular respiration
- ◆ the relationship of micro-organisms with living things:
 - basic functions of the immune system
 - vaccination and antibiotics
 - impacts of epidemics and pandemics on human populations
- ◆ kinetic molecular theory
- ◆ atomic theory and models



Student Shifts

Passive	→	Active
Completing	→	Creating
Consuming	→	Producing
Memorizing	→	Processing
Replicating	→	Making
Isolation	→	Collaboration
Rigid	→	Fluid
Dependent	→	Autonomous
Answering	→	Asking

Teacher Shifts



1. Quality Instruction & Leadership

I. Quality Instruction

Ensure continued high standards and quality classroom instruction and assessment.

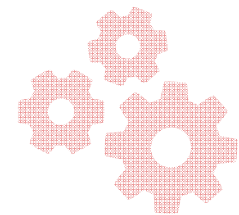


II. Leadership

Empower leaders that take responsibility for student achievement and create learning environments that result in students success.

Actions

1. Leverage system-wide capacity building under Framework for Enhancing Student Learning
2. Implement the system-wide leadership development framework
3. Create a recruitment and retention task force
4. Support to education partners to collaborate and invest in leadership capacity





2. Collaborative Relationships

I. Shared Commitment

Aligned efforts, among all partners, to ensure the success of all children.



II. Open Dialogue

Regular and ongoing discussion, with a focus on student success.

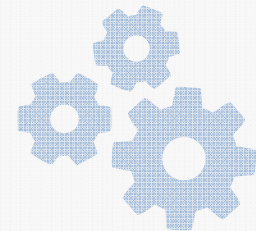


III. Internal & External

Extend relations within B.C., across Canada and internationally.

Actions:

1. Regular in-person meetings with all Superintendents (*3 times / year*)
2. Regular meetings with BCSTA executive
3. New curriculum and supports developed with teachers
4. On-going partners' engagements including:
BCSTA, BCSSA, BCASBO, BCPVPA, FNEESC, ABCDE, and BCCPAC





3. Smart Investments

I. Equitable Distribution

Ensure available resources are fairly and equitably distributed across the province



II. Policy Alignment

Invest in ways that support and promote the intended outcomes

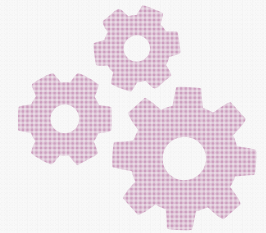


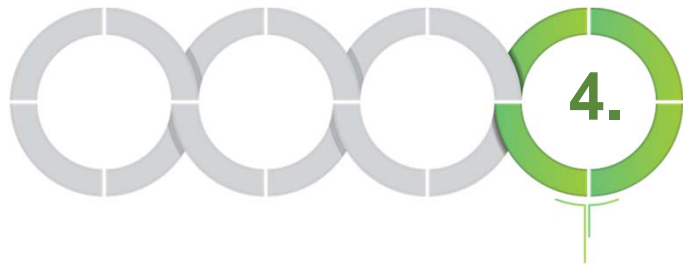
III. Streamline Processes

Ensure financial reporting maintains accountability while preserving the efforts promoting student success

Actions

1. Conduct a review of the K-12 funding allocation formula
2. Form a provincial team to streamline reporting requirements
3. Allocate resources to meet new commitments (*supplies, ABE, digital arts, trades*)
4. Provide support for the new curriculum (*tech, lab equipment, learning materials*)
5. Invest to support co-op, apprenticeship, and work experience programs
6. Invest in childcare and early learning





Safe & Effective Learning Environments

I. Physical Spaces

Ensure the physical spaces align with students learning needs.



II. Welcoming Environments

Enhance policies that support welcoming and safe learning environments.

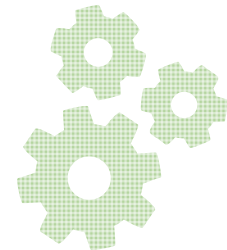


III. Streamline Processes

Maintaining capital accountability while preserving the efforts supporting student success.

Actions:

1. Accelerate seismic projects and capital projects in fast growing districts
2. Initiate a plan to reduce the use of portables as long-term classrooms
3. Establish an ongoing capital fund for playgrounds
4. Review policy to support the use and integration of child care spaces on school grounds
5. Support investments in childcare and early childhood spaces
6. Align efforts with the new ministry for mental health



Minister's Mandate Letter

01

Student Success

- ✓ Implement the new curriculum (*and provide new technology, lab equipment, learning materials*)
- ✓ Implement the First Nations curriculum (*history & languages*)
- ✓ Implement the Calls to Action from the Truth and Reconciliation Commission

02

Leadership/ Instruction

- ✓ Provide professional development support for teachers

03

Collaborative Relationships

- ✓ Work in partnership

04

Smart Investments

- ✓ Review the funding formula
- ✓ Provide additional annual funding for the school supplies
- ✓ Fast-track enhancement to K-12 education funding

05

Learning Environments

- ✓ Create an ongoing capital fund for school playgrounds
- ✓ Accelerate the seismic upgrade program
- ✓ Build and upgrade schools in every region of the province



