

# INTERNATIONAL STUDENTS IN BC'S EDUCATION SYSTEMS

Summary of Research from the  
Student Transitions Project

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# Executive Summary

## About this Research

This report provides key research findings from a recent analysis of international students studying in the B.C. secondary and post-secondary education systems. The study was conducted by the Student Transitions Project (STP), a collaborative research partnership involving B.C.'s education and advanced education ministries and post-secondary institutions.

The study addresses a number of research questions about the programs, pathways and education outcomes of international students who enrolled in B.C.'s secondary or public post-secondary system.

## Quick Facts

**How many international students are studying in B.C.'s education systems?** The B.C. government reports that 112,800 international students attended public and private post-secondary institutions, elementary and secondary schools and private language training schools in B.C. in 2012/2013 ([page 6](#)).

This study includes only a subset of these 2012/2013 students: roughly 34,000 post-secondary international students and 1,150 international B.C. grade 12 graduates ([page 6](#)).

International students enrolled in 2012/2013 represent 7.8% of the total B.C. public post-secondary headcount enrollment and 2.5% of the total population of B.C. grade 12 graduates ([pages 8 and 22](#)).

**In which institutions and regions of B.C. are international students enrolled?** Half (50%) of B.C.'s public post-secondary international students are enrolled in research-intensive universities. International students in all institution types are concentrated in Lower

## What is an international student?

An **international student** is any non-Canadian citizen who does not have permanent residency status in Canada and is participating in a program of study at an education institution in Canada. International students are defined differently in each of three different data sources provided to the STP, but the definitions are sufficiently similar across systems for this analysis (see [How does the STP identify international students?](#) on [page 4](#)).

## Why do international students choose to study in B.C.?

According to the B.C. Council for International Education\*, the top four reasons are:

- 1) **Superior Education** - B.C. teachers and institutions are ranked among the best in the world.
- 2) **Extraordinary Quality of Life** - B.C. is one of Canada's most exciting, beautiful, safe and peaceful provinces.
- 3) **Friendly and Diverse People** - B.C. is friendly and welcoming with many diverse cultures.
- 4) **Mildest Weather in Canada** - B.C. has the mildest climate in the country, with warm summers in the interior and mild winters on the south coast.

\*<http://www.bccie.bc.ca/students/bc-advantage>

## How does the STP Identify International Students?

International students are defined differently in each of three different data sources provided to the STP, but the definitions are sufficiently similar across systems for this study.

The **B.C. K-12** system does not provide an international student identifier to the STP, so the STP uses a proxy (non-residents of B.C. whose primary language spoken at home is not English). This definition likely underestimates the number of BC K-12 international students (with a specific focus on BC Grade 12 international graduates in this report) because some international students speak English at home, especially those from English-speaking countries.

The **Central Data Warehouse (CDW)** institutions (all post-secondary institutions excluding Research universities) define international students on the basis of the fees the students pay. Students who pay international fees are classified as international students. It is also assumed that international exchange students pay domestic fees and are therefore counted as domestic students in this study.

The **Research-Intensive Universities (RIUs)** identify international students according to the student visa status. The following visa status values are provided to the STP: Diplomat, Minister, Other, Student Visa, Visitor and International Exchange. Although international exchange students were included in some of the preliminary analysis, they have primarily been filtered out.

Mainland/Southwest institutions (70%). Institutions in other regions of B.C. are less populated with international students: Vancouver Island (15%), Thompson-Okanagan-Kootenays (12%) and Cariboo-North (3%) ([page 9](#)).

**What are the international student enrollment trends?** Total international student enrolment in the B.C. public post-secondary system has doubled over the last decade; enrolment growth has tripled in research-intensive universities ([page 10](#)); Cariboo North institutions and universities in the Mainland/Southwest region have seen more international student growth than other regions ([page 11](#)).

**Which countries do international students in B.C. public post-secondary institutions come from?** B.C.'s international students come from 180 different countries, but roughly three-quarters come from only ten of these countries; China is the main source (38%) of international students studying in B.C. ([page 13](#)).

**Which post-secondary study levels and credentials are international students enrolled in?** The majority of 2012/2013 international students were enrolled in undergraduate programs (62%), with almost equal numbers enrolled in graduate programs (17%) and developmental programs (14%). Undergraduate registrants were primarily enrolled in Bachelor's degree programs and developmental registrants were mainly enrolled in non-credit second language learning programs ([page 17-18](#)).

**What are the previous B.C. education experiences of international students studying in B.C.?** The majority (87%) of B.C.'s nearly 34,000 international students in 2012/2013 had not previously attended B.C.'s K-12 education system; however, 10% were former B.C. grade 12 graduates and a further 3% had attended the B.C. K-12 system without attaining B.C. grade 12 graduation. International students studying at the developmental level or graduate level in B.C. public post-secondary institutions were almost entirely (91% and 99%) without any previous secondary school experience from B.C. ([page 19](#)).

**Which program areas do international students enrol in and how do international student program preferences compare to domestic students?** Almost all undergraduate international students (96%) enrolled in four program areas (Arts and Sciences, Business and Management, Developmental and Engineering/Applied Sciences), but only two-thirds (64%) of domestic students were enrolled these same four program areas. In aggregate, domestic students enrol in a broader range of programs than international students ([pages 20-21](#)).

**What proportion of international grade 12 graduates transition to B.C. public post-secondary education?** More than one-third of international B.C. grade 12 graduates (35% to 40%) subsequently enrolled in the B.C. public post-secondary education system within one year of graduation and a further 10% typically enrol over the subsequent decade. Comparative figures for domestic grade 12 graduates are 51% to 53% enrolling within one year and a further 25% over the subsequent decade ([page 24](#)).

**What proportion of new international students in B.C. Public Post-Secondary institutions entered directly from B.C. grade 12 graduation?** Among the nearly 12,000 new international students who entered undergraduate or developmental programs in the B.C. public post-secondary education system in 2012/2013, roughly 5% came directly from the B.C. K-12 education system after graduating in 2011/2012 and a further 1% entered after waiting more than a year before enrolling ([page 25](#)).

**Do undergraduate international students in the B.C. public post-secondary system remain at one institution, or do they attend multiple institutions over time?** Of all international students who first entered the B.C. public post-secondary system between 2002/2003 and 20011/2012, the majority (87%) attended just one institution throughout their educational career in the B.C. public post-secondary system; 13% attended multiple post-secondary institutions. Students were more likely to enrol in multiple institutions if they remained enrolled in the B.C. system for a longer period of time, or completed a credential, or first entered the system via a B.C. college or institute, rather than a university ([page 26](#)).

**What are the post-secondary education outcomes of international students in B.C.?** International students who previously graduated from grade 12 in B.C. achieved better education outcomes than international students from other sources. These students persisted longer in the system, attended a greater number of institutions, achieved higher credential completion rates and earned proportionately more bachelor's degrees and fewer developmental credentials than students who had no previous education experience in the B.C. secondary school system ([page 29](#)).

## About the STP

The Student Transitions Project is British Columbia's collaborative research project that measures student success from the K-12 to post-secondary systems. This effective system-wide partnership, involving B.C.'s education and advanced education ministries and public post-secondary institutions, is tracking student success by reporting on student transition rates to post-secondary education, student mobility among post-secondary institutions, and post-secondary completion and retention rates. STP is managed by a steering committee with representation from the two education ministries, public institutions and the B.C. Council on Admissions and Transfer (BCCAT).

### STP Steering Committee Members

*Robert Adamoski*, Chair, STP Steering Committee and Associate Director, Admissions and Research, BCCAT.

*Brian Beacham*, Director, Institutional Research, Vancouver Community College.

*Naomi Pope*, Director, Research & Analysis, Ministry of Advanced Education, Innovation and Technology

*Claire Miller*, Director, Knowledge Management Branch, Knowledge Management and Accountability Division, Ministry of Education.

*Walter Sudmant*, Director, Planning and Institutional Research, University of British Columbia.

# Introduction

## Overview

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This report highlights key research findings from a recent analysis of international students studying in the B.C. secondary and post-secondary education systems. The study was conducted by the Student Transitions Project (STP), a collaborative research partnership involving B.C.'s education and advanced education ministries and post-secondary institutions.

B.C.'s Advanced Education Minister Amrik Virk says that "British Columbia is a world-class destination for tens of thousands of international students who bring economic, cultural and social benefits"<sup>1</sup>. Given how important international students are to British Columbia, the STP undertook a study of the education pathways and achievements of international students studying in the B.C. secondary and post-secondary systems. A number of research questions were addressed and results are summarized in this report at a provincial-level. More detailed information at the institution and program-level may be obtained from institution or government STP representatives.

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*"British Columbia is a world-class destination for tens of thousands of international students who bring economic, cultural and social benefits." – Amrik Virk, B.C. Minister of Advanced Education*



Photos: <http://www.learnlivebc.ca/learn/about-education-in-british-columbia>

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<sup>1</sup> Source: <http://www.newsroom.gov.bc.ca/2014/06/record-numbers-of-international-students-choose-bc.html#.U5IB4lpMFyk.twitter>

## Which International Students are Included in this Study?

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There are many different types of international students studying in B.C. For example,

- **B.C.'s K-12 education system** enrolls international and visiting students in all elementary and secondary grade levels, including International Baccalaureate<sup>2</sup> students.
- The **B.C. public and private post-secondary system** enrolls international students in undergraduate, graduate and developmental education programs. These post-secondary students seek degree or non-degree programs; some enrol in English language training courses or field school courses; some enrol in short-term professional training programs; some are researchers or post-doctoral students; and some are visiting or exchange students who enrol in B.C. and later return to their home country and institution to complete their credential.

The B.C. government reports that 112,800 international students attended public and private post-secondary institutions, elementary and secondary schools and private language training schools in B.C. in 2012/2013. This STP study focuses primarily on a small subset of these 2012/2013 international students – roughly 34,000 post-secondary international students<sup>3</sup> and 1,150 international B.C. grade 12 graduates. The international students chosen for this study are those whose records are accessible and identifiable by the STP in either or both of the following systems: (1) international grade 12 graduates from the B.C. K-12 system, and (2) international post-secondary students enrolled in B.C.'s public post-secondary system (see inset box [How Does the STP Identify International Students on page 4](#)).

## Which International Students are Excluded from this Study?

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Several categories of international students are excluded from this STP study.

- **International exchange** students are excluded from this study because these students are not normally expected to stay for the full duration of their education in the postsecondary system, nor are they expected to complete a postsecondary credential in B.C.
- B.C. K-12 international students who were **not identifiable** via the proxy definition are excluded. The use of student residency status (non-resident) and primary language (not English) as a proxy for international student status is currently the best available method to the STP for identifying international students attending the B.C. K-12 system. The STP acknowledges that this proxy is not precise and is continuing their efforts to help the B.C. K-12 system create and collect specific international student identifiers in order to integrate this more accurate information in the STP database.
- International students attending **B.C. private post-secondary** institutions, such as language training schools or other B.C. private post-secondary education institutions are excluded because student information records for students attending other post-secondary institutions outside of the B.C. public post-secondary system are currently not included in the STP.

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<sup>2</sup> The International Baccalaureate program is an academically challenging program for students, typically age 16 to 19, with the objective of preparing them for acceptance and success at leading universities around the world.

<sup>3</sup> Excludes international exchange students.

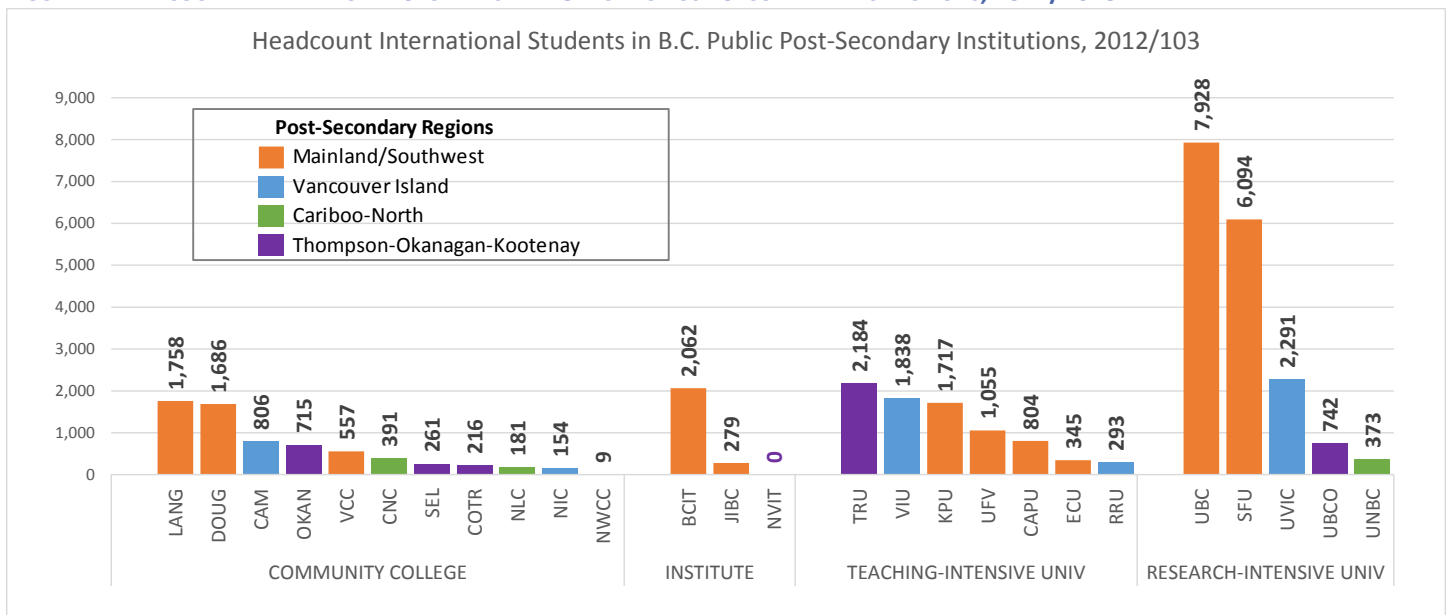
# Research Results

## How many international students are studying in the B.C. public post-secondary system?

Consistent with the definitions and caveats previously identified, there were approximately 34,000 unique headcount international students studying in the B.C. public post-secondary education system in academic year 2012/2013 (see [Figures 1 to 3](#)).

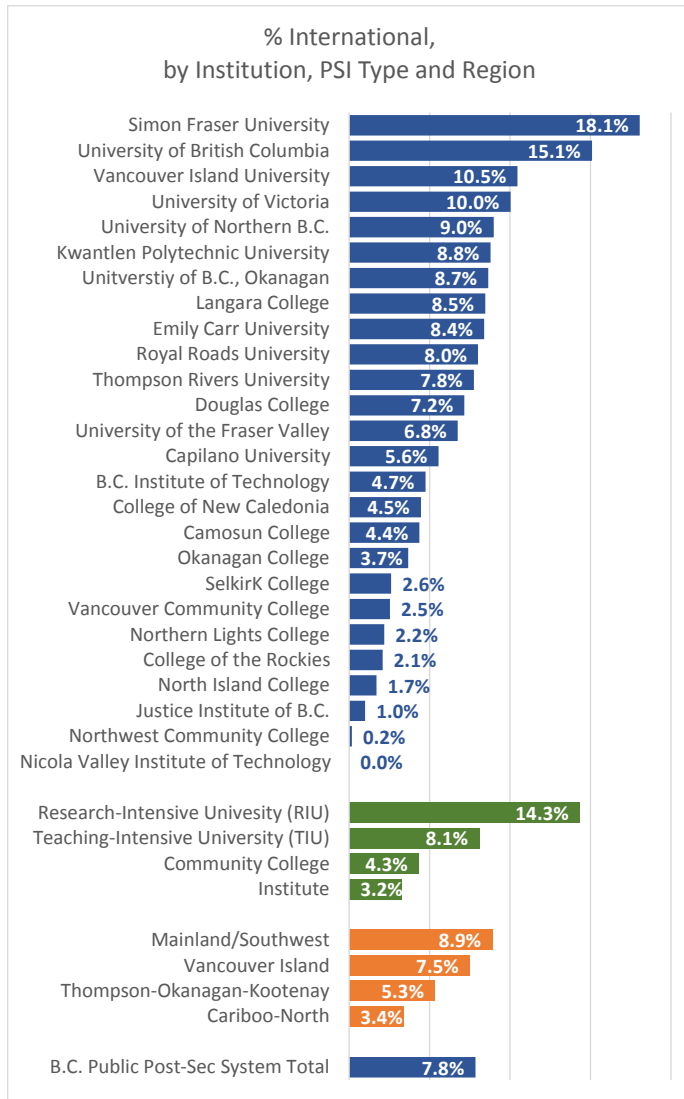
- Half (50%) of these international students were enrolled in research-intensive universities, with nearly 9,000 enrolled at UBC and more than 6,000 enrolled at SFU.
- International students are concentrated in Lower Mainland/Southwest institutions with 70% enrolled in this region, compared to 3% of B.C.'s international students enrolled in the Cariboo-North region.
- International students make up 7.8% of the total headcount enrollment in B.C. public post-secondary institutions and this varies by institution, from a high of 18.1% for SFU to a low of 0.2% for Northwest Community College. Nicola Valley Institute of Technology has no international students.
- International students also make up a larger proportion of the total enrollment at research universities, where 14% are international, compared to teaching-intensive universities (8%) and B.C. colleges (4%) and institutes (3%).

**FIGURE 1: HEADCOUNT INTERNATIONAL STUDENTS IN B.C. PUBLIC POST-SECONDARY INSTITUTIONS, 2012/2013**

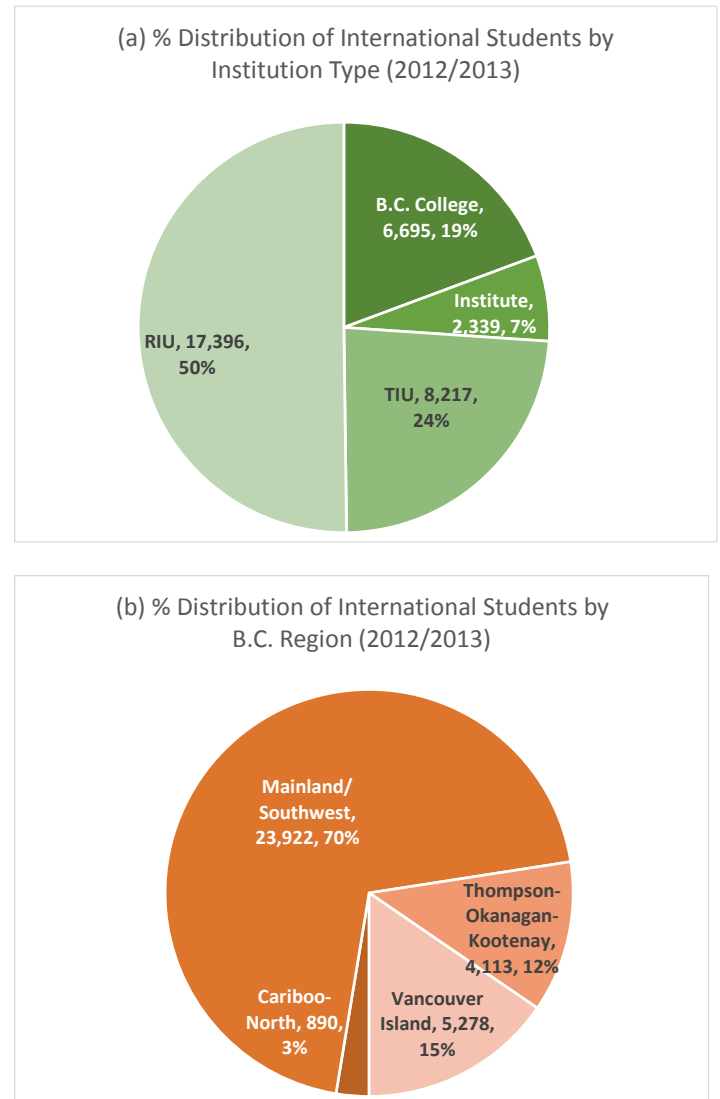




**FIGURE 2: % INTERNATIONAL STUDENTS BY INSTITUTION, PSI TYPE AND REGION, 2012/2013**



**FIGURE 3: % DISTRIBUTION OF INTERNATIONAL STUDENTS BY: (A) INSTITUTION TYPE, AND (B) B.C. REGION**

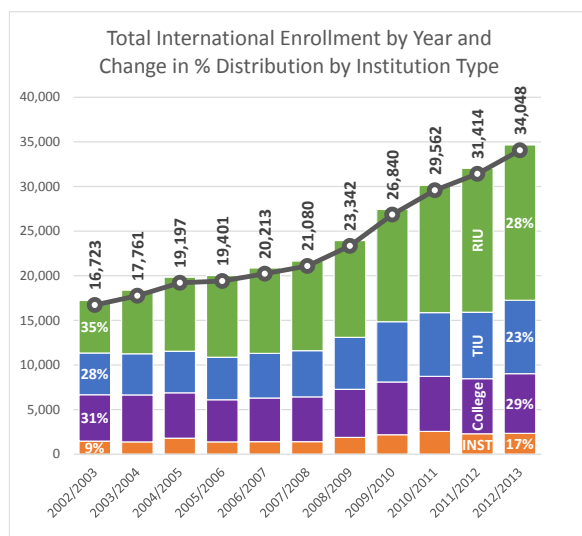


## What are the international student enrollment trends – by institution type?

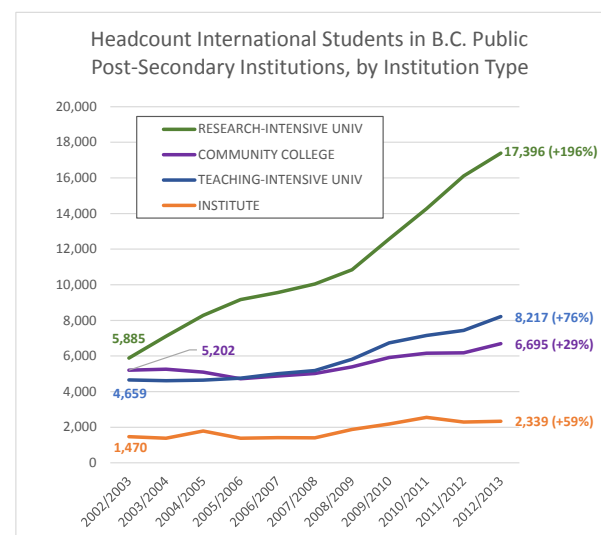
International students continue to be attracted to B.C. public post-secondary institutions in growing numbers and this is revealed when we look at the enrollment trends by institution, institution type and region.

- The total number of international students enrolled in the B.C. public post-secondary system has doubled over the last decade, increasing from 16,723 in 2002/03 to 34,048 in 2012/2013 (see [Figure 4a](#)).
- The largest growth in international students over the last decade has taken place in research-intensive universities (tripling from 5,885 to 17,396). This growth is largely attributed to the international student enrolment growth at UBC and SFU.
- International student enrollment growth has also been strong in other institution types, including increases of 76% in teaching-intensive universities, 59% growth in institutes and 29% growth in B.C. colleges.
- The extent to which international student enrolments have grown in institutes is concealed by the fact that the Justice Institute of B.C. has seen a 44% drop in international students, while BCIT's international student enrollment has more than doubled, from 966 in 2002/2003 to 2,062 in 2012/2013.
- In terms of the distribution of B.C.'s international students across the different types of B.C. public post-secondary institution types, the proportion attending institutes has nearly doubled (from 9% to 17% of the total) while the proportion of international students attending other institution types has declined from 35% to 28% at research-intensive universities, from 28% to 23% at teaching-intensive universities and from 31% to 29% at B.C. colleges (see [Figure 4b](#)).

**FIGURE 4A: TOTAL INTERNATIONAL STUDENTS IN B.C. PUBLIC POST-SECONDARY INSTITUTIONS BY YEAR AND CHANGE IN % DISTRIBUTION OF INTERNATIONAL STUDENTS BY INSTITUTION TYPE**



**FIGURE 4B: INTERNATIONAL STUDENTS IN B.C. PUBLIC POST-SECONDARY INSTITUTIONS, BY INSTITUTION TYPE**



## What are the international student enrollment trends – by region of B.C.?

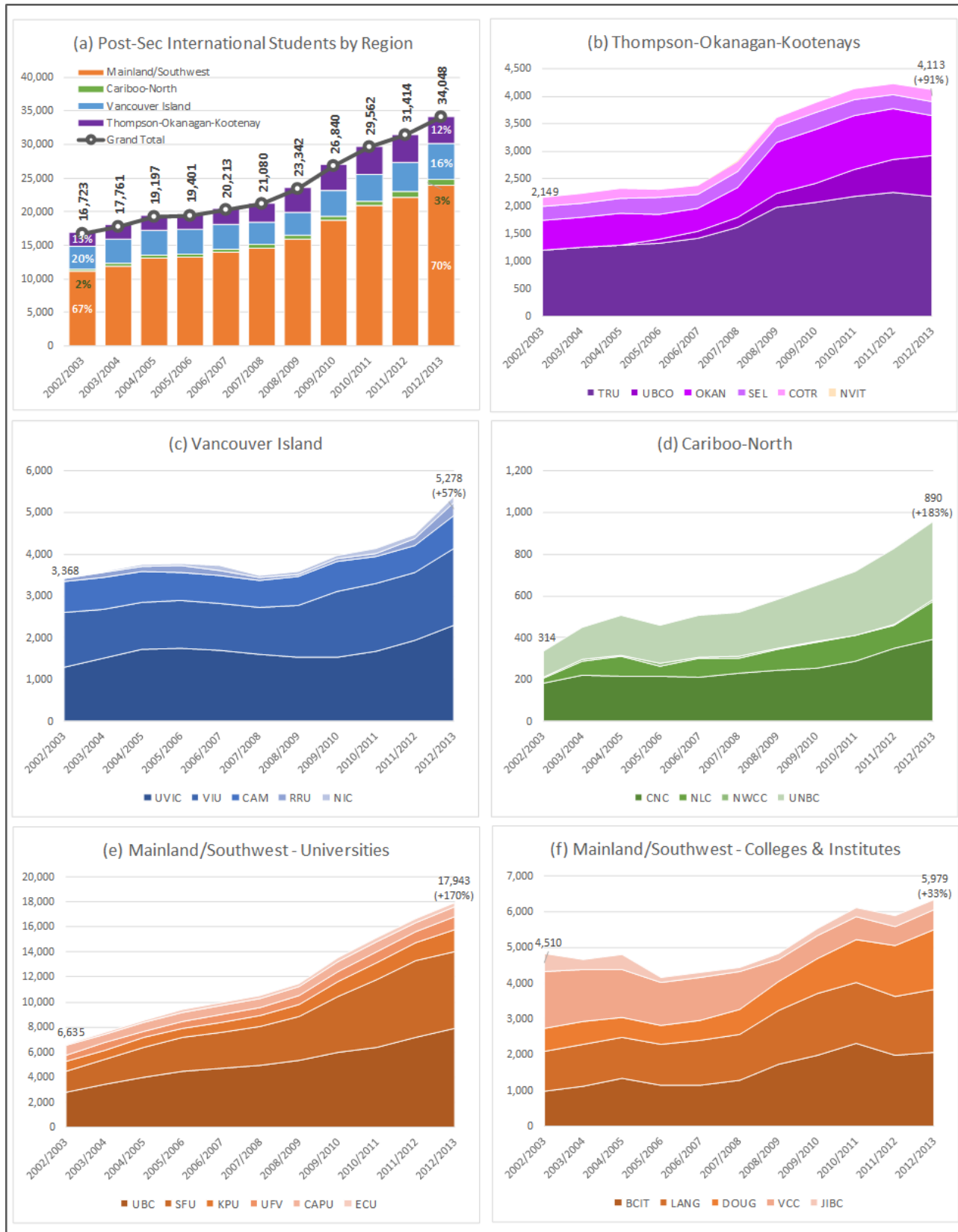
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The regional distribution of international students in B.C. public post-secondary institutions has not shifted much over the last decade; however international enrollment increases in Cariboo-North institutions (+183%) and Mainland/Southwest universities have allowed these two regions to increase their share of international students in the province (see [Figure 5a](#)).

[Figures 5b to 5f](#) reveal the extent to which institutions in each region contributed to the regional international enrollment growth in B.C.

- Thompson Rivers University and the two Okanagan institutions (UBCO and Okanagan College) accounted for the majority of the international enrollment growth in the Thompson-Okanagan-Kootenay region (see [Figure 5b](#)).
- The University of Victoria and Vancouver Island University contributed to the international student growth at Vancouver Island institutions, especially in the last three or four years (see [Figure 5c](#)).
- Institutions in Prince George (College of New Caledonia and University of Northern B.C.) account for most of the international student enrollment growth in the Cariboo-North region (see [Figure 6d](#)).
- Apart from the significant contribution by UBC and SFU towards the international student enrollment growth in Mainland/Southwest institutions, BCIT, Langara and Douglas College also contributed significantly to the growth in international students in this region over the latter half of the decade. In addition, VCC contributed a greater proportion of its international student enrollment growth in the first half of the last decade, compared to the latter half (see [Figures 5e and 5f](#)).

FIGURE 5: INTERNATIONAL STUDENT ENROLLMENT GROWTH BY REGION OF B.C.



## Which countries do international students in B.C. public post-secondary institutions come from?

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**Figure 6a** shows the distribution of the roughly 34,000 headcount international students studying in B.C. public post-secondary institutions in 2012/2013, by country and by institution. The greatest proportion of students (38%) are from China. The next most popular countries from which international students come to study in B.C. are India (7%), United States (6%), South Korea (6%) and Japan (5%).

The number of international students studying in the B.C. public post-secondary education system has more than doubled from 16,700 students in 2002/2003 to more than 34,000 in 2012/2013 (see **Figure 6b**). The largest growth occurred in 2009/2010.

Although 180 countries in the world are currently represented by international students studying in B.C.'s public post-secondary institutions, the number of international students from the top ten countries alone currently comprises 73% of the total international student enrollment.

The relative change in the top ten country rankings (by number of international students enrolled in B.C. public post-secondary institutions) is shown in **Figure 6c**. Over the last decade, China has remained the top country from which the majority of international students come to B.C. to study, however the change in relative rankings of the top ten countries has shifted over time. For example, India, Iran and Saudi Arabia have increased their relative share of international students studying in B.C., while, the number students from Taiwan and Japan are on the decline, relative to other countries.

FIGURE 6A: INTERNATIONAL STUDENTS BY COUNTRY AND B.C. INSTITUTION, 2012/2013

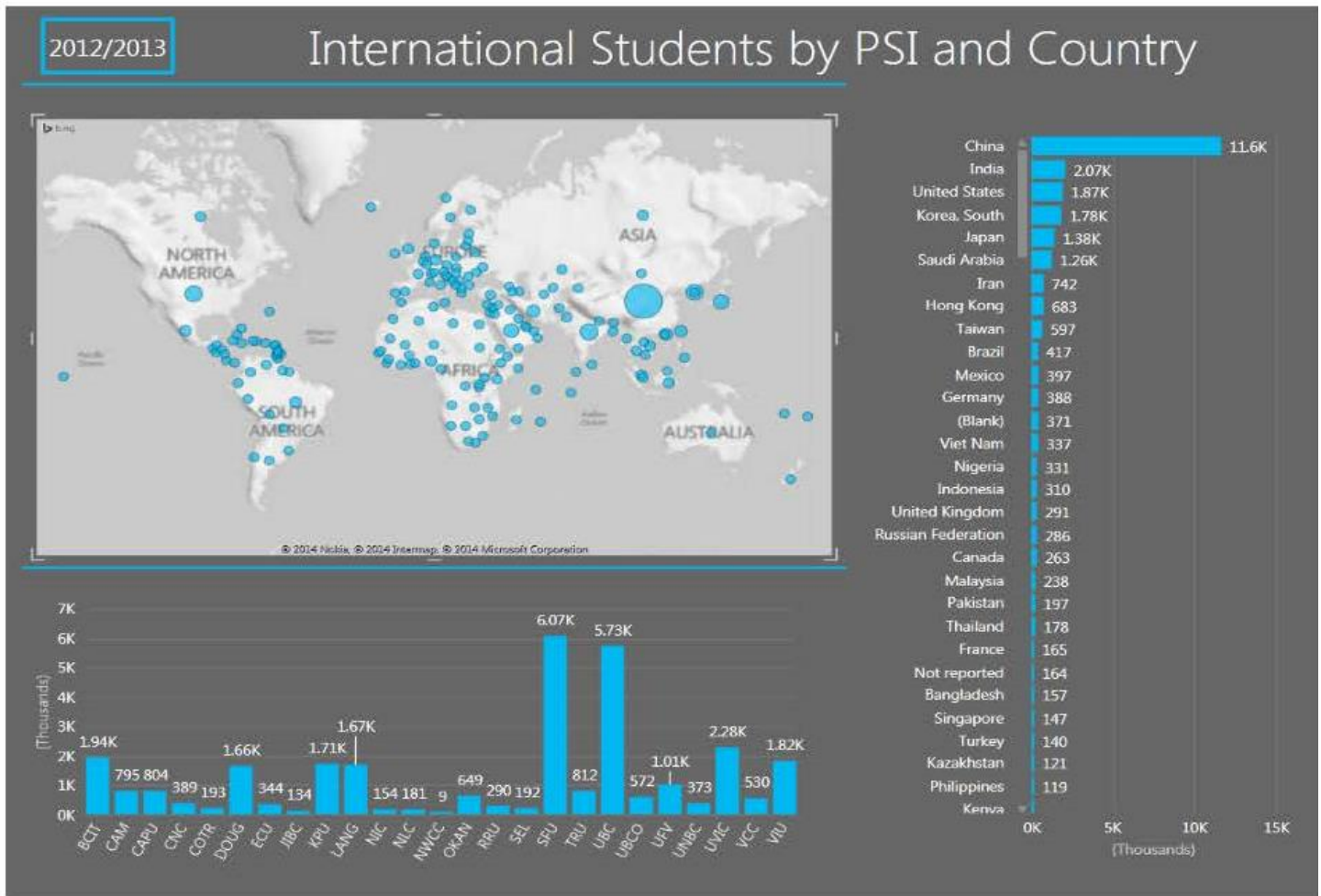


FIGURE 6B: INTERNATIONAL STUDENTS BY COUNTRY AND YEAR

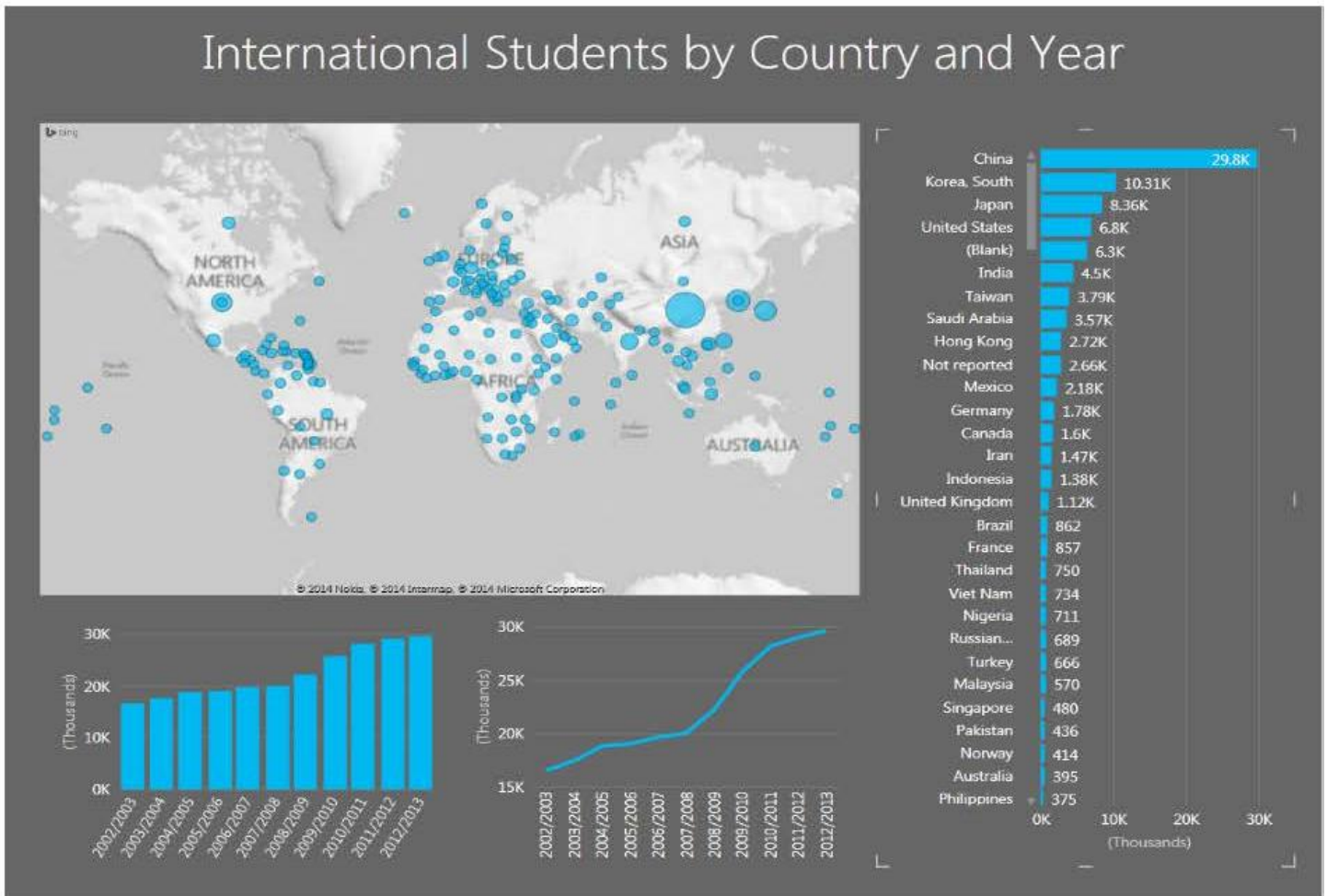
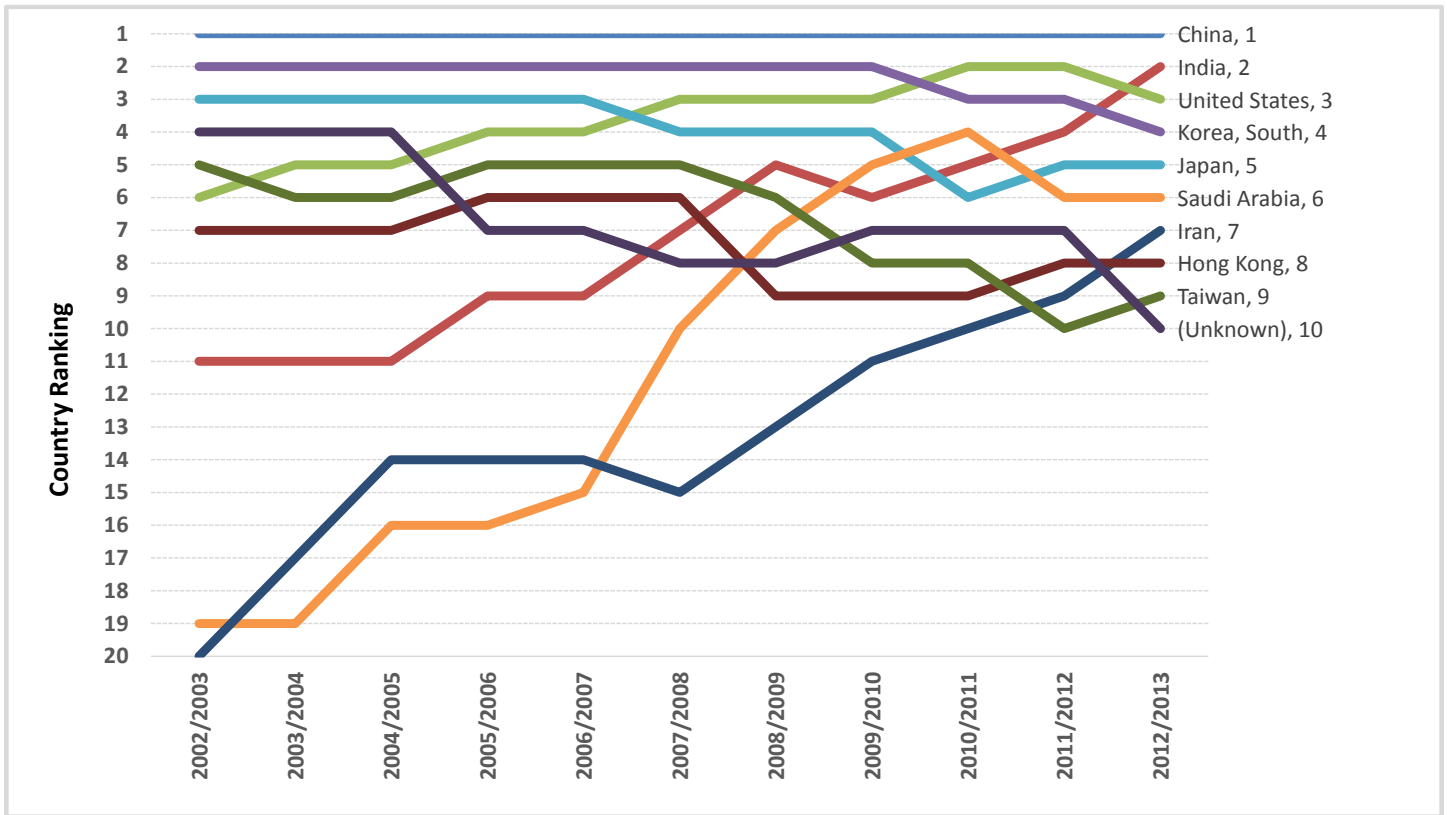


FIGURE 6C: INTERNATIONAL STUDENT HEADCOUNT ENROLLMENT TRENDS – CHANGE IN RANKING OF TOP 10 COUNTRIES, 2002/2003 TO 2012/2013





## Which post-secondary study levels and credentials do international students enrol in?

The Student Transitions Project classifies post-secondary student enrollments into one of three study levels: Developmental, Undergraduate or Graduate. Within each of these study levels, are a number of different credential categories (see [Credential Categories by Study Level](#) in sidebar).

Among the 34,048 post-secondary international students in 2012/2013, the majority (62%) were enrolled in undergraduate programs, with almost equal numbers enrolled in graduate programs (17%) and developmental programs (14%). See [Figure 7](#).

- At the undergraduate level, 15,062 international students were enrolled in Bachelor's degree programs, representing the largest proportion (44%) of all international students studying in B.C. in 2012/2013.
- A total of 5,664 students (or 17% of total international students) were studying at the graduate level, with 10% of the total enrolled in a Master's degree program and 7% in a doctorate degree program.
- The remaining 4,808 (or 14% of) international students were enrolled in a developmental program in 2012/2013. These are primarily non-credit second language learning programs. Most of the students enrolled in these programs had not previously attended the B.C. K-12 education system. Please see [Figure 8](#) for a detailed list of the developmental programs these students were enrolled in.

### Credential Categories by Study Level

The post-secondary study levels and credential categories used by the STP across the B.C. public post-secondary system are listed below in descending order of entry qualifications for the study level and credential category.

#### Graduate

Doctorate  
Master's Degree  
Graduate Diploma  
Graduate Certificate

#### Undergraduate

Post-Degree Diploma  
Post-Degree Certificate  
First Professional Degree  
Bachelor's Degree  
Advanced Diploma  
Advanced Certificate  
Associate Degree  
Diploma  
Certificate  
Apprenticeship  
Short Certificate  
Other  
None

#### Developmental

The classification of credentials within this study level varies across institutions, but may include a variety of developmental certificates, short certificates, "other" or "none". The developmental study level is commonly used at B.C. colleges, institutes and teaching-intensive universities. Research-intensive universities do not submit any "developmental" student records to the STP. Please see [Figure 8](#) for more information on the typical programs included in this study level.

FIGURE 7: 2012/2013 INTERNATIONAL STUDENTS, BY STUDY LEVEL AND CREDENTIAL SOUGHT

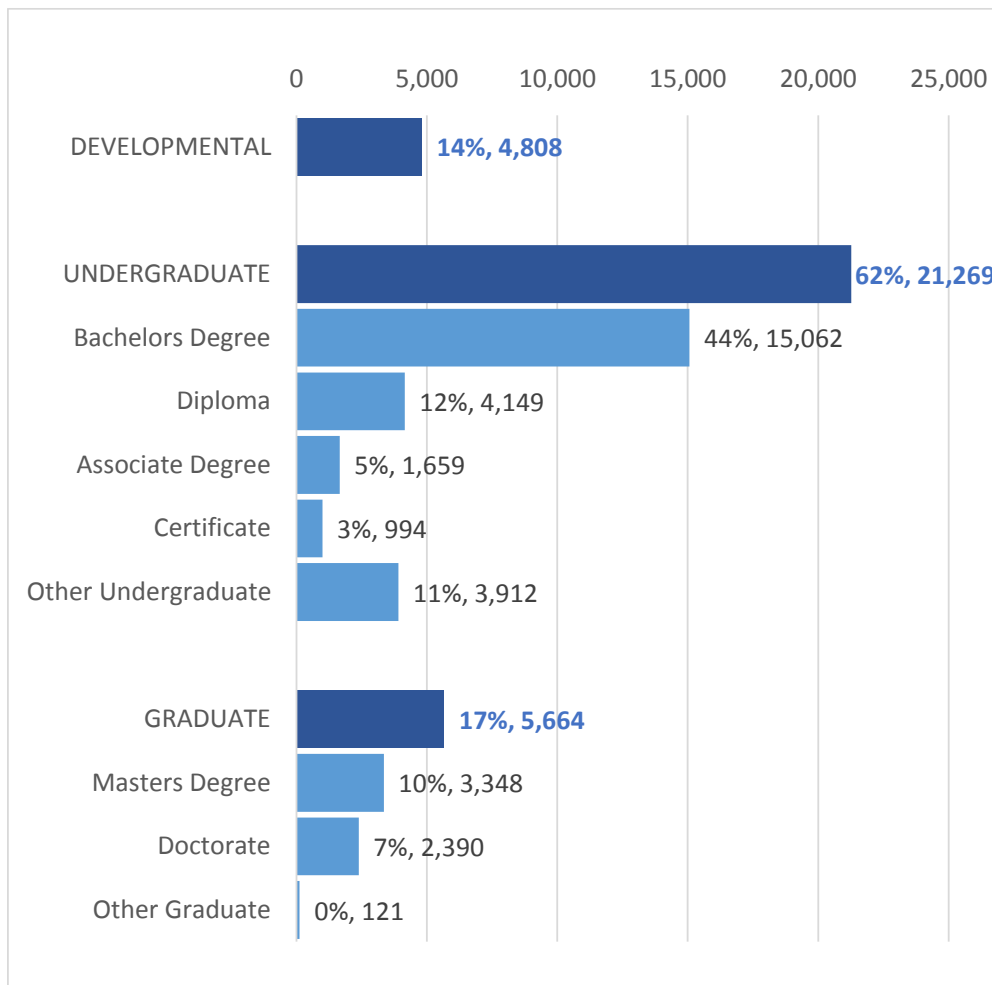


FIGURE 8: INTERNATIONAL STUDENTS ENROLLED IN DEVELOPMENTAL PROGRAMS, 2012/2013

<b>BASIC SKILLS -- NOT FOR CREDIT</b>	<b>4,209</b>	<b>88%</b>
Second language learning (not for credit)	4,127	86%
Basic skills, other (not for credit)	36	1%
Workforce development and training (not for credit)	35	1%
Literacy and communication skills (not for credit)	19	0%
Other basic skills, job-seeking, computer, career skills (not for credit)	19	0%
<b>HIGH SCHOOL/SECONDARY DIPLOMA AND CERTIFICATE PROGRAMS</b>	<b>657</b>	<b>14%</b>
College/university preparatory programs	605	13%
High school/secondary diploma programs	22	0%
Regular/general high school/secondary diploma programs	17	0%
High school equivalence certificate programs and vocational	18	0%
<b>Grand Total Interational Students in Developmental Programs</b>	<b>4,808</b>	<b>100%</b>

## What are the previous B.C. education experiences of international students studying in B.C.?

By linking student records across education systems, the STP is able to identify whether B.C.'s international students had any previous education experience in B.C.'s K-12 education system, including whether they graduated from grade 12 in the B.C. system. Some interesting patterns are revealed in the cross-tabulation of international student post-secondary study level and previous B.C. K-12 education experience (see [Figure 9](#)).

- The majority (87%) of the 34,048 international students in B.C. in 2012/2013 did not previously attend B.C.'s K-12 education system, although 10% were B.C. grade 12 graduates and a further 3% had attended the B.C. K-12 system without attaining B.C. grade 12 graduation.
- Of the 3,393 international post-secondary students in B.C. who previously graduated from B.C. grade 12, they were almost exclusively (96%) enrolled in undergraduate programs, rather than graduate (1%) or developmental (5%) programs<sup>4</sup>.
- Virtually all (99%) of the 5,779 graduate-level international students studying in B.C. had no record of previous B.C. K-12 attendance and/or grade 12 graduation in B.C. This implies that these graduate students primarily came to B.C. directly from their home country to pursue a Master's, Doctorate or other graduate-level program, although some may have previously attended a B.C. private or non-B.C. institution.
- Among the 4,808 international students enrolled in developmental programs in 2012/2013, the vast majority (91%) had not previously attended the B.C. K-12 system and/or graduated from B.C. grade 12. This suggests that attending the B.C. K-12 system prior to enrolling in the post-secondary education system reduces the need for international students to enrol in language training programs because their language skills were sufficiently developed in the K-12 system in B.C.

**FIGURE 9: 2012/2013 INTERNATIONAL POST-SECONDARY REGISTRANTS IN B.C., BY PREVIOUS B.C. K-12 EDUCATION EXPERIENCE**

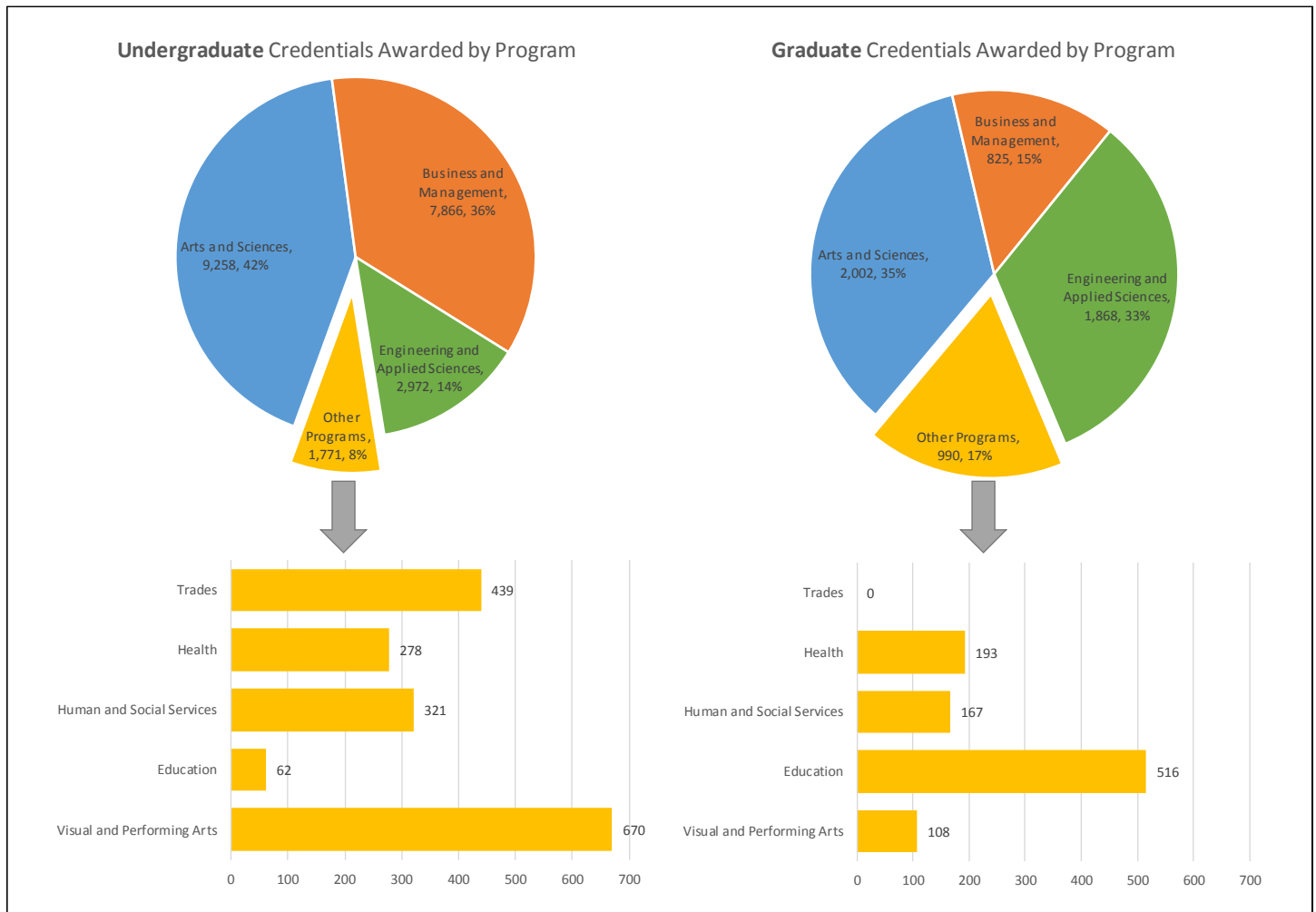
Study Level	Previous BC K-12 Experience			Total Headcount
	Attended BC K-12	BC Gr12 Graduate	Not from BC K-12	
Developmental	269	170	4,369	4,808
Undergraduate	742	3,269	20,503	24,514
Graduate	21	36	5,722	5,779
<b>Grand Total</b>	<b>978</b>	<b>3,393</b>	<b>29,677</b>	<b>34,048</b>

<sup>4</sup> Students may be counted in more than one post-secondary study level, but they are counted only once in the grand total (34,048).

## Which program areas do international students enrol in?

International students primarily enrol in three program areas: (1) Arts and Sciences, (2) Business and Management and (3) Engineering and Applied Sciences. Compared to graduate students, a greater proportion of undergraduate students complete credentials in Arts and Sciences (42% vs. 35%) and Business and Management (36% vs. 15%), and a smaller proportion of undergraduate students complete credentials in Engineering and Applied Sciences (14% vs. 33%). See [Figure 10](#).

**FIGURE 10: 2012/2013 INTERNATIONAL STUDENTS BY PROGRAM, UNDERGRADUATE VS. GRADUATE**

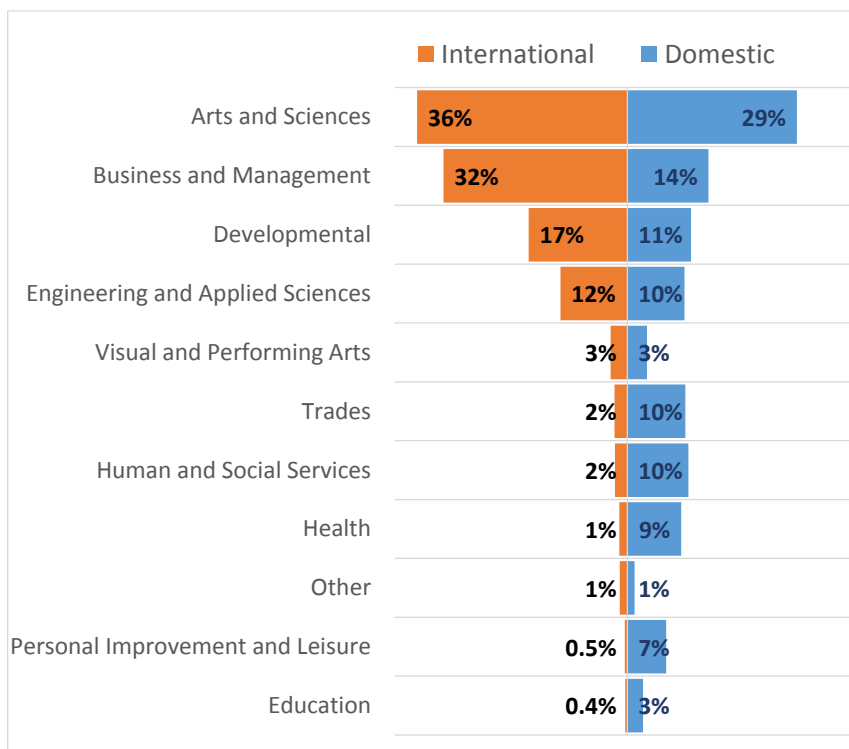


## Do undergraduate international students enrol in different programs from domestic students?

Among 2012/2013 undergraduate and developmental students only, **Figure 11** shows that international and domestic students enrolled in proportionately different programs.

- With almost all undergraduate international students (96%) enrolled in the top four programs (Arts and Sciences, Business and Management, Developmental and Engineering/Applied Sciences), only two-thirds (64%) of domestic students were enrolled these same four program areas.
- International students are more than twice as likely to enrol in business and management programs than domestic students (32% vs 14%).
- International students are also more inclined to enrol in developmental programs for English language training than domestic students (17% vs. 11%).
- Domestic students tend to be enrolled at higher rates in trades programs (10% vs. 2%), human and social services (10% vs. 2%), and health (9% vs 1%) than international students.

**FIGURE 11: DISTRIBUTION OF 2012/2013 UNDERGRADUATE AND DEVELOPMENTAL STUDENTS BY PROGRAM, INTERNATIONAL VS. DOMESTIC**



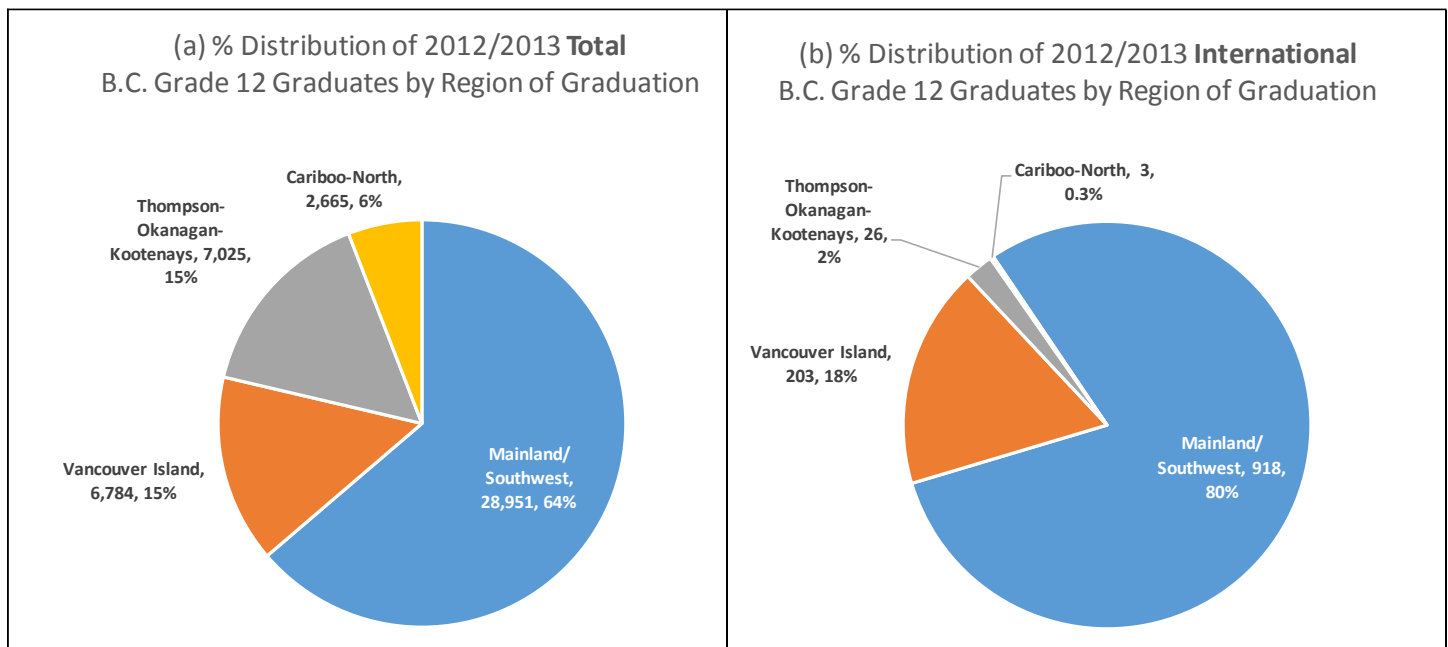
## How many international students graduate from the B.C. K-12 education system each year?

In 2012/2013, a total of 45,425 eligible<sup>5</sup> grade 12 students graduated from grade 12 in B.C., of which 1,150 (or 2.5%) were identified by the STP's proxy definition as "international" students.

Among the 1,150 international grade 12 graduates of 2012/2013, the majority (80%) were graduates from high schools in the Mainland/Southwest region of B.C. The remaining international graduates completed grade 12 at B.C. high schools in the Vancouver Island region (18%), Thompson-Okanagan-Kootenays (2%), and Cariboo-North region (0.3%). See [Figure 12b](#).

As revealed in a comparison of [Figure 12a](#) and [12b](#), a disproportionately larger share of B.C.'s international grade 12 graduates come from Mainland/Southwest high schools (80% international vs. 64% of the total grade 12 graduation cohort). As a result, Mainland/Southwest international graduates represent 3.2% of the grade 12 graduates in that region and 3.0% of Vancouver Island graduates. International students represent a significantly smaller proportion of the grade 12 graduation cohorts in the other two regions: 0.4% of the Thompson-Okanagan-Kootenays region and 0.1% of the Cariboo North region.

**FIGURE 12: % DISTRIBUTION OF 2011/2012 B.C. GRADE 12 GRADUATES BY REGION OF GRADUATION**

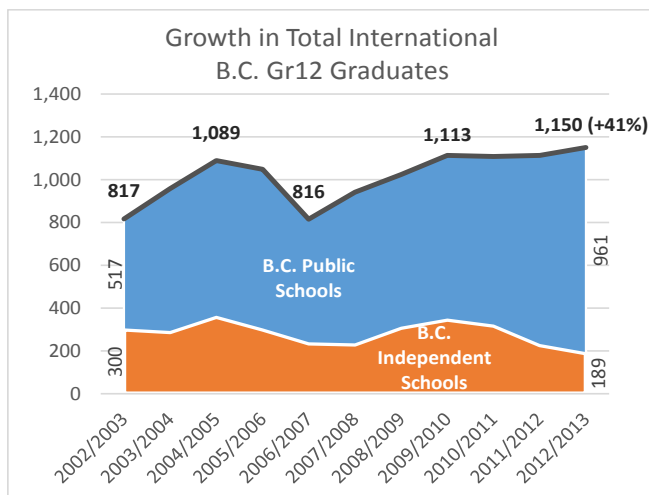


<sup>5</sup> An "eligible" grade 12 graduate is a student who was deemed eligible to graduate at the end of the school year upon successful completion of the courses registered in, and based on the courses previously completed towards graduation. The grade 12 graduates reported here are selected from those identified as "eligible" to graduate.

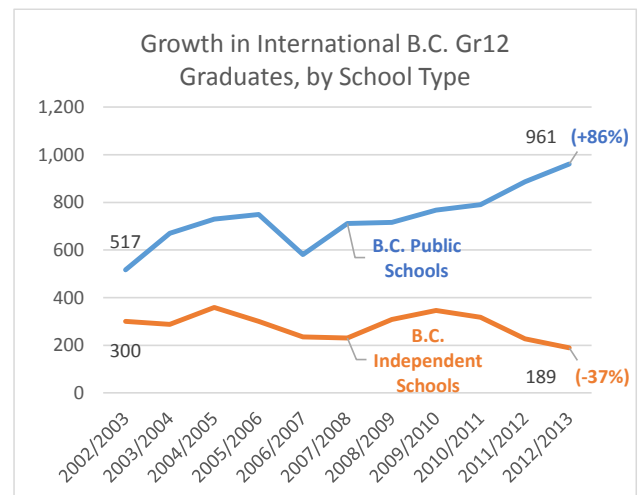
## What are the trends in the number of international grade 12 graduates in B.C.?

- The number of international grade 12 graduates in B.C. has grown by 41%, from 817 in 2002/2003 to 1,150 in 2012/2013 (see [Figure 13](#)). The STP acknowledges that identifying B.C. grade 12 international students in the STP is problematic and these international student counts are likely under-estimating the true counts and true growth rate over time.
- The growth in international grade 12 graduates is mainly occurring in B.C. public schools, nearly doubling from 517 in 2002/03 to 961 in 2012/2013. The number of international grade 12 graduates in B.C. independent schools has declined 37% over this same time period, from 300 to 189. See [Figure 14](#).
- Due to differences in growth rates of international students in B.C. public and independent schools over the last decade, international students are increasingly more prevalent today among B.C. public school graduates (growing from 1.3% of public school grade 12 graduates in 2002/2003 to 2.3% in 2012/2013) and less common among B.C. independent school graduates (declining from 8.3% of independent school grade 12 graduates in 2002/03 to 4.2% in 2012/2013).

**FIGURE 13: TOTAL INTERNATIONAL B.C. GRADE 12 GRADUATES BY GRADUATION YEAR**



**FIGURE 14: INTERNATIONAL B.C. GRADE 12 GRADUATES IN B.C. PUBLIC AND INDEPENDENT SCHOOLS, BY GRADUATION YEAR**



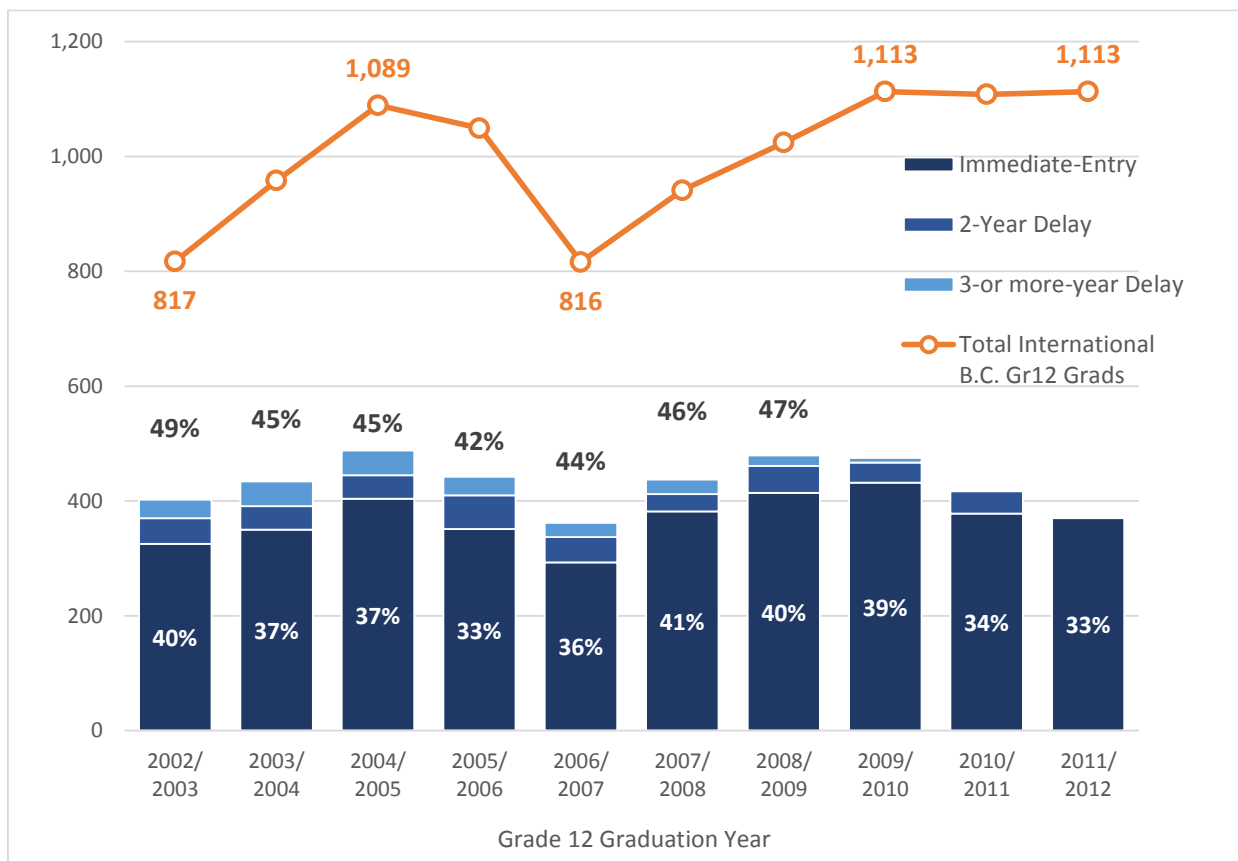
## What proportion of international grade 12 graduates transition to B.C. public post-secondary education?

Consistent with the definition of an international grade 12 graduate previously defined, the STP finds that more than one-third of international B.C. grade 12 graduates (35% to 40%) subsequently enrolled in the B.C. public post-secondary education system within one year of graduation. Fewer than 10% of the international grade 12 graduates tend to enrol in the B.C. public post-secondary system over the subsequent decade after graduation, but the largest proportion transition to post-secondary education within two years of grade 12 graduation (see [Figure 15](#)).

By comparison, more than half (51% to 53%) of domestic grade 12 graduates enrol in the B.C. public post-secondary education system within one year of graduation and a further 25% enrol over the subsequent decade.

International students are not expected to enrol in the B.C. public post-secondary system at the same rate as those achieved by domestic students, especially since many international students may return to their home country for post-secondary education.

**FIGURE 15: INTERNATIONAL GRADE 12 GRADUATES IN B.C. WHO TRANSITIONED TO B.C. PUBLIC POST-SECONDARY EDUCATION**





## What proportion of new international students in B.C. public post-secondary institutions enrolled directly from B.C. grade 12 graduation?

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The Student Transitions Project is interested in students who transition from B.C.'s K-12 to post-secondary education systems. As previously described, roughly 40% of B.C.'s international students make the transition within a year of graduation, but these international student transitioners in B.C. represent only a small proportion of all new international students enrolled in the B.C. public post-secondary education system.

- Among the nearly 12,000 new international students who entered undergraduate or developmental programs in the B.C. public post-secondary education system in 2012/2013, roughly 5% came directly from the B.C. K-12 education system after graduating in 2011/2012 and a further 1% entered after waiting more than a year before enrolling.
- Although currently difficult for the STP to measure precisely, the vast majority (94%) of new international students came from outside of B.C.'s public K-12 or post-secondary education systems. Some of these new international students may have last attended a B.C. private post-secondary institution or any secondary or post-secondary institution outside of B.C., but most would have come directly from outside of Canada.

## How reliable or consistent is STP's ability to identify "international" students across B.C.'s education systems (among B.C. public post-secondary registrants with B.C. grade 12 graduation)?

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By linking student records in a **forward-looking** direction, from the B.C. K-12 education system into the B.C. public post-secondary education system, the STP finds that 85% to 90% of the B.C. grade 12 "international" graduates who transition to the B.C. public post-secondary system subsequently enrolled as an international student in the B.C. public post-secondary system and roughly 10% to 15% enrolled as domestic students. This shift may be an indication of the proportion of students who changed their visa status over time. In general, the STP is satisfied that international student status is accurately identified in the data collected from post-secondary institutions.

On the other hand, through a **backward-looking** comparison of international student status across education systems, the STP finds that 43% of the post-secondary registrants who previously attended the B.C. K-12 system were identified (via STP's proxy definition) as "domestic" students in the B.C. K-12 system. Given that nearly half of these post-secondary international students were not identified as such in the K-12 system confirms the shortcomings in STP's proxy method for identifying international students in the B.C. K-12 system. The STP will continue their efforts to encourage the K-12 system to collect better international student identifiers and to help integrate this new information into the STP database.

## Do undergraduate international students in the B.C. public post-secondary system remain at one institution, or do they attend multiple institutions over time?

Of all international students who first entered the B.C. public post-secondary system between 2002/2003 and 2011/2012, the majority (87%) attended just one institution throughout their educational career in the B.C. public post-secondary system; 13% attended multiple post-secondary institutions.

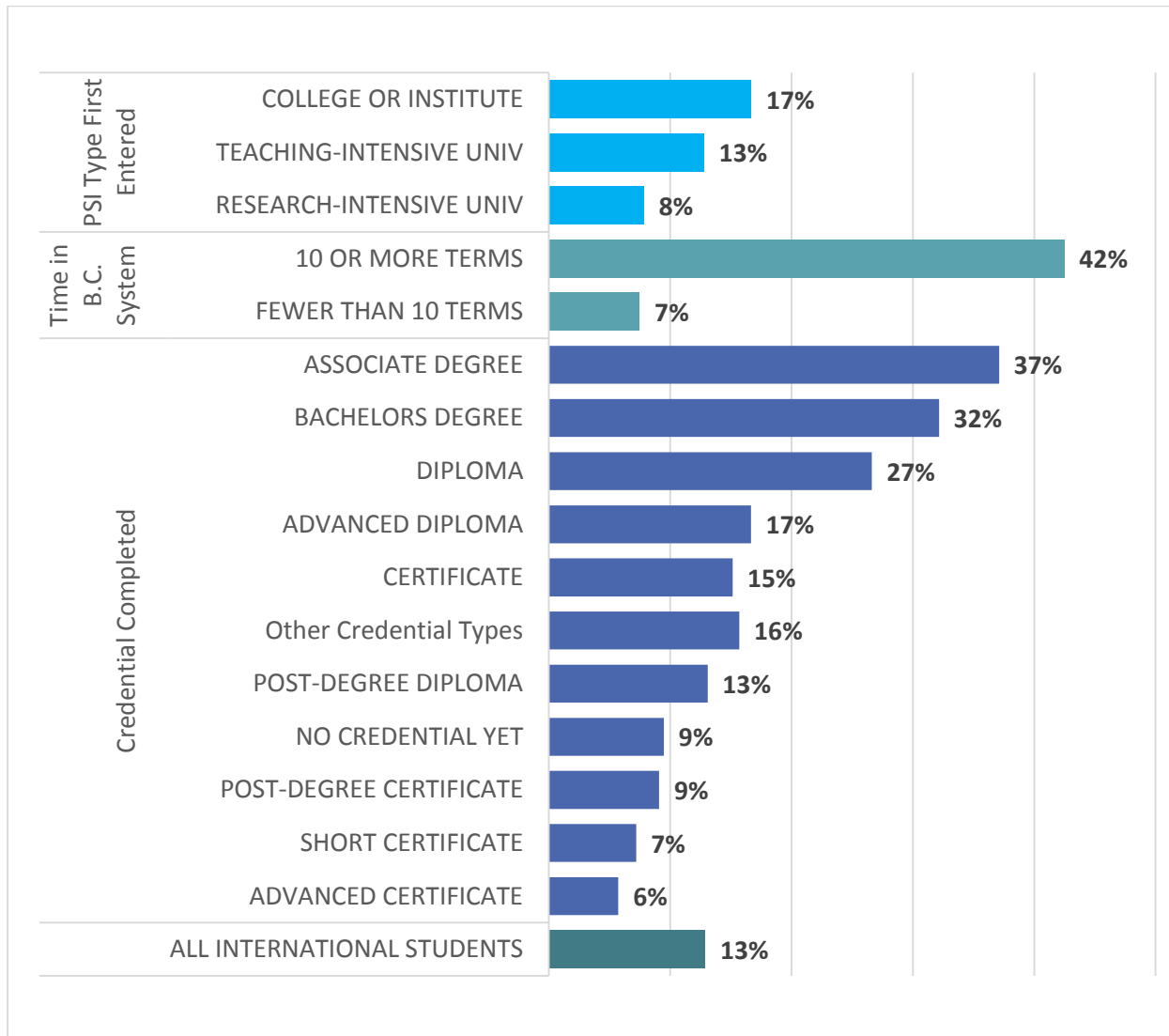
Whether students attended multiple institutions (i.e. switched institutions) during the course of their studies in the B.C. public post-secondary system largely depended on the type of institution they first enrolled in, the length of time enrolled in the system and the type of credential completed in the B.C. public post-secondary system by Fall 2013 (see [Figure 16](#)).

- **Institution Type First Entered:** Of those international students<sup>6</sup> who first enrolled in a B.C. college or institute, 17% attended more than one institution, compared to those who first enrolled in a teaching-intensive university (13%) or a research-intensive university (8%). These findings are consistent with the fact that students have numerous options available to transfer between institutions in B.C., such as the traditional pathway from a college to a university.
- **Length of Time in the B.C. System:** Of those who registered in the B.C. public post-secondary system for ten or fewer registration terms, 7% switched institutions at least once. By comparison, 42% of those who enrolled for ten or more terms in the B.C. system switched institutions at least once, including 33% who attended two institutions, almost 8% who attended three and nearly 2% who attended four or more institutions throughout their time in the B.C. system.
- **Type of Credential Completed:** Roughly one-third (32%) of international students who completed a Bachelor's degree attended more than one institution to achieve their credential, compared to 37% of Associate Degree completers and 27% of Diploma completers. Only 9% of international students who had not completed a credential switched institutions during their stay in the B.C. public post-secondary system. Students who completed a Post-Degree Certificate (9%), Short Certificate (7%), or Advanced Certificate (6%) were much less likely to switch institutions than other credential completers.

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<sup>6</sup> This includes nearly 97,941 new international students who first entered undergraduate or developmental programs in the B.C. public post-secondary system between 2002/2003 and 2011/2012.

FIGURE 16: % OF INTERNATIONAL STUDENTS WHO SWITCHED INSTITUTIONS WHILE ATTENDING THE B.C. PUBLIC POST-SECONDARY SYSTEM



Note: "Other Credential Types" includes developmental, first professional, apprenticeship, masters, doctorate, none, other and graduate certificate.

## To what extent do international students move between institution types in the B.C. public post-secondary system?

**Figure 17** shows the mobility rates between institution types of all new international students who first enrolled in the B.C. public post-secondary system between 2002/2003 and 2011/2012 in undergraduate or developmental programs. The majority (91%) of students were still enrolled in the same institution type where they first enrolled by the time of their last registration in the system. The mobility patterns of international students tend to vary by the type of institution where they first enrolled.

- Students who first enrolled in a college were more likely (16%) to be enrolled in another institution type in their last registration period, compared to students who first enrolled in other institution types (4% switched from research-intensive universities, 6% switched from institutes, and 9% switched from teaching-intensive universities).
- Students who first entered a community college in B.C. were the most mobile between institution types, with 10% subsequently enrolled at a research university in their last registration period, 3% in a teaching-intensive university and 2% in an institute.
- Nearly 6% of international students who first entered a teaching-intensive university were enrolled in a research-intensive university when they last enrolled.
- B.C. colleges at 2.4% were the most likely final registration location of mobile international students who first entered institutes or research-intensive universities and subsequently switched institutions at least once.

**FIGURE 17: MOBILITY OF INTERNATIONAL STUDENTS BETWEEN INSTITUTION TYPES – FROM FIRST ENTRY TO LAST REGISTRATION TERM**

PSI Type Entered	Type of Institution Where Last Registered				Grand Total
	COMMUNITY COLLEGE	INSTITUTE	RESEARCH-INTENSIVE UNIV	TEACHING-INTENSIVE UNIV	
<b>COMMUNITY COLLEGE</b>					
Stu Count	26,993	759	3,336	998	<b>32,086</b>
Stu % of Row	84.1%	2.4%	10.4%	3.1%	<b>100.0%</b>
<b>INSTITUTE</b>					
Stu Count	228	8,828	166	172	<b>9,394</b>
Stu % of Row	2.4%	94.0%	1.8%	1.8%	<b>100.0%</b>
<b>RESEARCH-INTENSIVE UNIV</b>					
Stu Count	481	211	28,937	365	<b>29,994</b>
Stu % of Row	1.6%	0.7%	96.5%	1.2%	<b>100.0%</b>
<b>TEACHING-INTENSIVE UNIV</b>					
Stu Count	601	420	1,476	23,970	<b>26,467</b>
Stu % of Row	2.3%	1.6%	5.6%	90.6%	<b>100.0%</b>
<b>Total Stu Count</b>	<b>28,303</b>	<b>10,218</b>	<b>33,915</b>	<b>25,505</b>	<b>97,941</b>
<b>Total Stu % of Row</b>	<b>28.9%</b>	<b>10.4%</b>	<b>34.6%</b>	<b>26.0%</b>	<b>100.0%</b>

## What are the post-secondary education outcomes of international students in the B.C. public post-secondary education system?

The education achievements of a cohort of new international students were tracked from the time of their first entry into B.C. public post-secondary undergraduate and developmental programs in 2005/06 until the Fall of 2013.

This cohort of 6,330 new international students is comprised of three mutually exclusive sub-populations:

- 688 students who attended the B.C. K-12 system and graduated with B.C. grade 12 before enrolling in the post-secondary education system;
- 276 students who previously attended the B.C. K-12 education system, but did not graduate before<sup>7</sup> enrolling in post-secondary; and
- 5,366 students who did not previously attend the B.C. K-12 system.

The education achievements of these three groups of students are compared in [Figure 18](#).

The subset of B.C. public post-secondary international students who previously **graduated from the B.C. K-12 system** generally achieved better education outcomes than international students with some or no previous education in the B.C. K-12 system.

These B.C. grade 12 graduates:

- Persisted in the B.C. public post-secondary education system for a longer elapsed time (10.6 terms versus 7.9 or 6.2 terms), primarily at a research-intensive university, and attended for a greater number of registration terms (8.4 versus 6.4 and 5.2);
- Took a greater number of stop out terms (2.1 versus 1.5 and 1.0) and recorded higher stop out rates (20% versus 19% and 15%). This suggests that B.C. grade 12 graduates, who were likely more settled in Canada than students with limited or no B.C. K-12 experience, may have taken summers off to work or pursue other activities, rather than continuing their post-secondary studies without a break;
- Attended a greater number of institutions (1.38 on average versus 1.28 and 1.16) by Fall 2013 and this is likely because they persisted in the B.C. system for a greater length of time than the other sub-populations;
- Achieved higher credential completion rates by 2012/2013 (54% versus 41% and 42%);
- Earned proportionately more bachelor's degrees (56% versus 33% and 32%) and fewer developmental credentials (7% versus 14% and 26%).

These results suggest that post-secondary institutions might consider focusing their international student recruiting efforts on those students who previously attended and graduated from the B.C. K-12 system because these students have generally demonstrated superior education outcomes than those international students who did not previously attend and graduate from the B.C. K-12 education system.

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<sup>7</sup> Included in this group of 276 students are 69 students who did eventually graduate from the B.C. K-12 system, but this occurred after they enrolled in the B.C. public post-secondary education system.

FIGURE 18: COMPARISON OF EDUCATION OUTCOMES OF INTERNATIONAL STUDENTS IN THE B.C. PUBLIC POST-SECONDARY SYSTEM

		2005/2006 International Entrants to BC Public Post-Sec			
Cohort Success Measure:		Attended B.C. K-12 (BC12 Graduate)	Attended B.C. K-12 (Non-BC12 Graduate)	No B.C. K-12 Experience	All New International Students
<b>Entry Cohort:</b>	# New International Students to BC Public Post-Sec	688	276	5,366	6,330
<b>Identity in B.C. K-12 System:</b>	BC K-12 International Students (Proxy)	413	106	0	519
	BC K-12 Graduates (before or after enrolling in post-sec)	688	69	0	757
	BC K-12 Graduates as % of Cohort	100.0%	25.0%	0.0%	12.0%
<b>PSI Term History:</b>	Avg # Elapsed Terms (Includes stopout terms)	10.6	7.9	6.2	6.7
	Avg # Registration Terms (excludes stopout terms)	8.4	6.4	5.2	5.6
	Avg # Stopout Terms	2.1	1.5	1.0	1.1
	Stopout Rate (Stopout Terms as % of Elapsed Terms)	20%	19%	15%	16%
<b>Type of PSI's Attended:</b>	Avg # Terms in RIU(s)	4.1	2.1	2.2	2.4
	Avg # Terms in TIU(s)	2.2	2.6	1.4	1.6
	Avg # Terms in B.C. College(s)	1.8	1.4	1.3	1.3
	Avg # Terms in Institute(s)	0.6	0.4	0.4	0.4
<b>PSI Attendance History:</b>	Avg # PSIs Attended	1.38	1.28	1.16	1.19
	Avg # Terms at Each PSI Attended	7.6	6.2	5.3	5.7
<b>Credential Completion:</b>	Credential Completion Rate (by 2012/2013)	53.5%	40.6%	41.6%	42.8%
	Average # Credentials Per Credential Completer	1.22	1.28	1.33	1.31
	Total Headcount Credential Completers	368	112	2,232	2,712
	Total Credentials Completed (See breakdown below):	449	143	2,962	3,554
<b>Cred Compl Level:</b>	Developmental	31	20	761	812
	Undergraduate	416	117	2,134	2,667
	Graduate	2	6	67	75
<b>Cred Compl Category:</b>	Bachelor's Degree	267	55	1,193	1,515
	Certificate	38	23	272	333
	Diploma	80	33	405	518
	Masters	2	6	63	71
	Doctorate	0	0	2	2
	Developmental	30	20	737	787
	Other Credential Category	64	32	1,090	1,186

Figure 18 Notes: (a) Education outcomes of new international students admitted to B.C. public post-secondary institutions in 2005/06; outcomes achieved by Fall 2013. (b) Excludes new students to graduate programs; (c) 69 BC grade 12 graduates in the cohort of students with B.C. K-12 experience did subsequently graduate from B.C. grade 12, but grade 12 graduation occurred *after* they were admitted to a B.C. public post-secondary institution.

# Conclusion

International students studying in B.C.'s education systems continue to enrich the academic, social and cultural experiences of local students and they make an important contribution to the B.C. economy and society.

This report shows that significant growth in international students has occurred in B.C.'s education systems over the last decade, primarily concentrated in the Lower Mainland post-secondary institutions and secondary schools. As the number of international students continues to expand in B.C., the STP will continue to monitor and report on the education achievements of these students in the B.C. system in an effort to aid policy development, program planning and decision-making within institutions and government.

## For More Information

A wealth of additional information is also available to post-secondary institutions seeking more detailed information on international students studying in B.C.

STP Highlights newsletters and reports are available on the public Student Transitions Project web site at:

[http://www.aved.gov.bc.ca/student\\_transitions](http://www.aved.gov.bc.ca/student_transitions)