Annual Dropout and Returning Rates

Methodology for Rate Calculation

1.0   Introduction

This document provides a summary description of the methodology used by Alberta Education to calculate the Annual Dropout and Returning Rates.

This document is available on Alberta Education's Accountability Pillar website at https://education.alberta.ca/accountability-pillar/how-the-pillar-works/everyone/methodology-resources

2.0   Purpose

To provide perspectives on student enrolment patterns and enhance understanding of high school completion rates, Alberta Education calculates both the Annual Dropout Rate of students age 14 to 18 as well as the Annual Returning Rate – the rate at which students return to the learning system a year after dropping out.

The Dropout Rate, which is calculated at the provincial, authority and school level, is a performance measure in Alberta Education's business plan and in the set of Accountability Pillar measures used to assess and report on the performance of public, separate, Francophone, charter and Level 2 accredited private school authorities. As such, the measure forms a core part of the Accountability Pillar Online Reporting Initiative (APORI).

3.0   Data Sources

Student data:
- The Annual Dropout and Returning Rates are calculated based on detailed student data from Alberta Education's Provincial Approach to Student Information (PASI).
- Prior to May 2016, detailed student information was sourced from several separate Alberta Education systems: Student Information System (SIS), Student Records System (SRS) and the Diploma Examination System (DES).

Students attending post-secondary institutions:
- Starting with the 2013/2014 school year, students are identified as attending post-secondary institutions based on data from Alberta Advanced Education's Data Collection and Reporting (DCAR) system.
- Learner Enrolment and Reporting System (LERS) files provided by Alberta Innovation and Advanced Education were used to identify students attending post-secondary institutions between the 2002/2003 and 2012/2013 school years.

- Duplicate Application Detection (DAD) Project files provided by the Alberta Council on Admissions and Transfer were used to identify students attending post-secondary institutions up to and including the 2002/2003 school year.

Students registered in apprenticeship programs:
- Starting with the rates calculated for the 2008/2009 school year, Alberta Advanced Education's Apprenticeship, Trade and Occupation Management System (ATOMS), is used to identify students registered in apprenticeship programs.
- In prior years, Alberta Innovation and Advanced Education's Skilled Trades Information System (STIS) provided information on students registered in apprenticeship programs.

Attrition:
- The estimate of attrition uses data from Statistics Canada, Annual Demographic Estimates as well as census data.
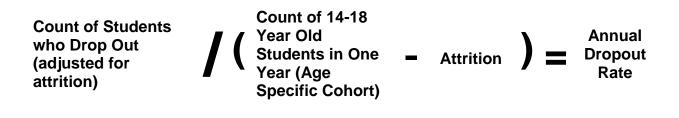
4.0   Formulas

The Annual Dropout and Returning Rates are based on data for three consecutive school years. An initial Cohort of students age 14 to 18 (the Age Specific Cohort) is established for a given school year. The Dropout Rate is then calculated by determining the number of students from the Cohort who are not found to be in the learning system in the subsequent school year. Finally, the Returning Rate is calculated by tracking how many of the students who were not in the learning system in the second consecutive year are found to have returned to the learning system in the third year.

As an example, a student initially included in the Age Specific Cohort for the 2001/2002 school year who was not found to be participating in the learning system in the 2002/2003 school year is considered to have dropped out. The same student would be included in the Returning Rate if they were found to be participating in the learning system in 2003/2004.

4.1 Annual Dropout Rate

The Annual Dropout Rate is calculated by dividing the number of students who have dropped out of school (adjusted for attrition) by the number of 14 to 18-year-old students who were registered in the K-12 system in the previous year school year (the Age Specific Cohort), less Attrition.

$$\textbf{Count of Students who Drop Out (adjusted for attrition)} \Big/ \Big(\textbf{Count of 14-18 Year Old Students in One Year (Age Specific Cohort)} - \textbf{Attrition} \Big) = \textbf{Annual Dropout Rate}$$

4.2 Annual Returning Rate

The Annual Returning Rate is calculated as the number of students who return to the learning system within one year divided by the number of students who had dropped out.

Count of Students who Return after having Dropped Out **/** **Count of Students who Drop Out (adjusted for attrition)** **=** **Annual Returning Rate**

5.0   Definitions

5.1 Age Specific Cohort

The Age Specific Cohort consists of students aged 14 to 18 years whom it is reasonable to expect have the capacity to move through the system and complete their schooling and whom the government of Alberta has a responsibility to educate. The initial Age Specific Cohort is comprised of all students age 14 to 18 years registered in public, separate, Francophone, charter or accredited private school authorities on September 30th of a given school year. Students who fall within the following categories are excluded from the calculation:

   a. students who are not registered in the K-12 system on September 30th of the school year;
   b. students who are registered in schools under provincial or federal authorities;[1]
   c. students who are registered in schools not affiliated with Alberta (e.g., Lloydminster school authorities);
   d. students who are identified as having a severe or moderate cognitive disability or a severe multiple disability;
   e. students attending Hutterite Colony schools; and
   f. visiting or exchange students.

5.2 Students who have Dropped Out

A student initially included in the Age Specific Cohort for any given school year is considered to have dropped out if there is no evidence of their participation in the Alberta learning system in the subsequent school year.

---

[1] Provincial authorities are comprised mostly of post-secondary institutions; while federal authorities are comprised mostly of Band operated schools. These students are not the responsibility of the Government of Alberta.

A student is considered to be participating in the Alberta learning system if they meet at least one of the following criteria in the subsequent school year:[2]

 a. the student has a registration in the K-12 system;
 b. the student has taken a high school level course;
 c. the student has received a diploma;
 d. the student has attended a post-secondary institution;
 e. the student has registered in an apprenticeship program;
 f. the student has attained Academic Standing (passed five grade 12 courses that include one Language Arts diploma exam course and three other diploma exam courses by the end of the subsequent school year);
 g. the student has attained a Certificate of School Completion.

5.3 Count of Students who Return after having Dropped Out

Students from the initial Age-Specific Cohort who were considered to have dropped out of the education system in the subsequent school year are identified as returning to the system if, by the following school year, they have met at least one of the criteria for participation in the learning system described above (Section 5.2).

5.4 Attrition

Some of the students who are not counted as being in the learning system may simply no longer be in Alberta. Attrition, an estimate of the number of students who leave the province or die, is therefore factored into the Dropout Rate.

The attrition estimate for each age group is calculated for the first year of the analysis and is based on the following factors:

 a. mortality;
 b. emigration;
 c. interprovincial out migration;
 d. an estimated school participation rate for 14- to 18-year-olds; and
 e. a downward adjustment to account for youth who are not in school.

The source of the statistics for deaths, emigrants, inter-provincial out-migrants and population by age (for calculation of attrition and school participation rates) is Statistics Canada, *Annual Demographic Estimates*. The estimated attrition for the 14- to 18-year-old age group, which represents the provincial attrition for all students, is a sum of the estimated attrition for each of the age groups.

---

[2] This method does not capture those who drop out on a short-term basis (i.e. students who are registered on September 30th of a school year, leave the system after September 30 and then are back in the system in the subsequent school year).

6.0   Authority and School Dropout and Returning Rates

Annual Dropout and Returning rates at the authority and school levels are calculated the same as at the provincial level. Authority and school rates are calculated for each public, separate and Francophone school authority and school, each charter school authority, as well as for each accredited private school authority and school. Rates are calculated for Alberta Distance Learning Centre (ADLC) and provided to Pembina Hills, the governing authority for ADLC. Students registered at ADLC are excluded from the authority rates, but are included in the overall provincial rate.

6.1 Determination of Reporting Authority and School

As the Annual Dropout and Returning Rates are based on data for three consecutive school years (the "initial" year, the "dropout" year, and the "returning" year), a student may be enrolled in more than one authority over the 3 year period. For reporting purposes, students are reported in the authority where they were enrolled in the first year of the analysis. When calculating the Dropout Rate, students who were determined to have dropped out in the second year of analysis are reported in the authority where they had a registration in the year prior to their dropping out – in the first year of the analysis. When calculating the Returning Rate, students who satisfy the criteria for returning to the learning system are attributed to the authority where they were enrolled in the year prior to dropping out. In short, the reporting authority remains the same across all three years of analysis.

A similar process is followed for reporting the Dropout and Returning Rates at the school level. Students are reported in the school governed by the authority to which they were enrolled in the first year of analysis. When calculating the Dropout Rate, students who were determined to have dropped out in the second year of analysis are reported in the school within that same authority they have been attributed, where they had a registration in the year prior to their dropping out – in the first year of the analysis. When calculating the Returning Rate, students who satisfy the criteria for returning to the learning system are attributed to the school where they were enrolled in the year prior to dropping out. In short, the reporting school remains the same across all three years of analysis and is also within the reporting authority.

6.2 Estimate of Attrition for Authorities and Schools

The attrition estimates for the Dropout and Returning Rates are calculated in a similar fashion at the authority and school level as at the provincial level, with special consideration given to allocating census division level attrition between authorities and schools.

Attrition estimates are derived at the census division level as described previously (Section 5.4). To apply attrition from the census division level to each authority and school, the Statistics Canada and census population data is weighted and apportioned based on two factors: where students reside and where students were enrolled in the

year prior to dropping out. This calculation incorporates age-specific population distributions by dissemination area, the age-specific distribution by postal code of students who have been identified as dropping out, and the reporting school and reporting authority of the students who were identified as dropping out.

Attrition by census division is apportioned between dissemination areas based on the geographic distribution of the census population.

$$\textbf{Attrition Count for Census Division} \times \left(\frac{\textbf{Dissemination Area Population Count}}{\textbf{Census Division Population Count}} \right) = \textbf{Attrition Count for Dissemination Area}$$

Attrition by dissemination area is then apportioned between postal codes based on the addresses of the students who have been identified as dropping out.

$$\textbf{Attrition Count for Dissemination Area} \times \left(\frac{\textbf{Count of Students who Drop out by Postal Code}}{\textbf{Count of Students who Drop Out by Dissemination Area}} \right) = \textbf{Attrition Count for Postal Code}$$

A portion of the attrition count by postal code is then associated with each student from that postal code who was identified as dropping out.

$$\frac{\textbf{Attrition Count for Postal Code}}{\textbf{Count of Students who Drop Out by Postal Code}} = \textbf{Attrition Count per student at Postal Code}$$

In the case of the school level attrition estimate, the attrition count per student is summed together by reporting school to create an overall estimate for the school. For the authority level estimate, the attrition count per student is summed together by reporting authority.

For more information on the Annual Drop Out and Returning Measure, please contact System Assurance Branch at (780) 422-4750