

**Student Outcomes Measures
Based on the Grade 10 Cohort**

Summarized Methodologies for Rates Calculation

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Alberta Education Student Outcomes Measures Based on the Grade 10 Cohort

Summarized Methodologies for Rates Calculation

1.0 Introduction

This document provides a summary of the methodologies used by Alberta Education to calculate student outcomes measures based on the Grade 10 Cohort. These measures include the High School Completion Rates (HSCR), the High School to Post-Secondary Transition Rates (Transition) and the Diploma Examination Participation Rates (DEPR). These methodologies accompany the release of authority rates to individual school authorities and schools on the Alberta Education Extranet. Detailed versions of these methodologies are available from Alberta Education's Information Services Branch.

The 5 year High School Completion Rate, the 6 year High-School to Post-Secondary Transition Rate and the Diploma Examination Participation Rate which are calculated at the provincial, authority and school levels are core performance measures in Alberta Education's business plan. The 3 year High School Completion Rate, the 4 year High-School to Post-Secondary Transition Rate and the Diploma Examination Participation Rate are part of the Accountability Pillar measures used to assess and report on school authority performance. As such, the measures form a core part of the Accountability Pillar Online Reporting Initiative (APORI) to public, separate and Francophone school authorities.

2.0 Common Elements in the 3 Student Outcomes Measures

2.1 Grade 10 Cohort

The Grade 10 Cohort is comprised of first-time Grade 10 students whom the government of Alberta has a responsibility to educate and who can reasonably be expected to complete high school and write diploma examinations (in the case of the HSCR and DEPR), and have the capacity to pursue post-secondary education (in the case of the Transitions rate). Once established for any year, the Grade 10 Cohort remains in place and is used for calculating the above rates in subsequent years.

Students are included in the Grade 10 Cohort in the first school year in which they have a Grade 10 registration at a public, separate, Francophone, charter or private school. The following categories of students are excluded from the Grade 10 Cohort:

- a. students who have a concurrent Grade 9 registration in the same school year;
- b. students who register after September 30th of the school year;¹
- c. adult students (older than 18 when they start Grade 10);
- d. students who are registered in schools under provincial and federal authorities, and Lloydminster school authorities or other out-of-province schools;²
- e. students who are identified as having a severe cognitive disability or a severe multiple disability (in the case of the HSCR and the DEPR); OR students who are identified as having cognitive disabilities or a severe multiple disability (in the case of the Transitions rate);
- f. students attending Hutterite Colony schools; and
- g. visiting or exchange students

2.2 Attrition

Attrition is the estimate of the number of students from the Grade 10 Cohort who leave the province or die in the three years subsequent to the start of Grade 10. Attrition estimates are applied to the 3 Student Outcomes Measures – the HSCR, Transitions Rate and the DEPR. The Transition and the DEPR attrition estimates are based on the estimate for the HSCR.

Attrition estimates are calculated based on a 3 year average of previous years' attrition estimates. Estimates are based on Statistics Canada data at the census division level. For example, the average of attrition estimates for 1995/96 – 1997/1998; 1996/1997 – 1998/1999; and 1997/1998 – 1999/2000 school years is taken as the attrition estimate.

The attrition estimate for each age group is based on the following factors:

- a. mortality;
- b. emigration;
- c. interprovincial out migration;
- d. an estimate of the percentage of 16-, 17-, and 18-year-olds who are enrolled in school (school participation rate);³ and

¹ Students who start Grade 10 after September 30th of the school year and are registered in Grade 11 in the subsequent school year will not be included in the Grade 10 Cohort.

² 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.

³ The school participation rate is calculated annually by dividing the total enrolment of students of the relevant age in the province by the provincial population of the same age taken from Statistics Canada's Annual Demographic Statistics Catalogue #91-213-XPB. Incorporating a school participation estimate into the calculation of the attrition estimate takes into consideration the fact that not all 16- 17- and 18-year-olds are enrolled in school.

- e. a downward adjustment to account for youth who are not in school (see table below).

2.2.1 Estimate of Attrition at the Authority and School Level

Attrition estimates are calculated for each public, separate and Francophone school authority and school. Rates are also calculated for each charter school authority, as well as for each accredited private school authority and school. A Rate is calculated for Alberta Distance Learning Centre (ADLC) and provided to Pembina Hills, the governing authority for ADLC. As such students registered at ADLC are excluded from the authority rates, but are included in the overall provincial rate. Estimates are based on information obtained from Statistics Canada data at the census division level.

To translate the attrition from the census division level to each authority, the Statistics Canada and census population data is weighted and apportioned based on two factors: the number of “leavers” in each public, separate and Francophone school authority, and each charter school authority, as well as for each accredited private school authority; and the dissemination area in which these students reside.

The estimate of attrition at the school level is calculated as a proportion of leavers in each school within an authority out of the total attrition estimate for that authority.

3.0 Calculation of Rates at the Provincial, Authority and School Levels

Authority and school rates are calculated for each public, separate and Francophone school authority and school. Rates are also calculated for each charter school authority, as well as for each accredited private school authority and school. A Rate is calculated for Alberta Distance Learning Centre (ADLC) and provided to Pembina Hills, the governing authority for ADLC. As such students registered at ADLC are excluded from the authority rates, but are included in the overall provincial rate.

Authority and school level rates are calculated in the same manner as at the provincial level, with special consideration for student movement within the province and the estimation of attrition at the authority and school levels (see section 2.2.1 above).

3.1 Determination of Reporting Authority and School

Students are attributed either to their starting authority, i.e., the authority where they started their Grade 10 year or to their resulting authority, i.e., the authority where they achieved completion status or last completed courses. A similar but more complex process is followed for reporting rates at the school level.

3.1.1 Credentialed Completers

Students who achieve credentialed completion status (Alberta High School Diploma, High School Equivalency Diploma, and Certificate of Achievement) are assigned to the school and hence the authority that was given credit for awarding the credential. This authority is identified as the resulting authority. A similar process is followed to determine credentialed completers at the school level. Students are reported in the school governed by the authority to which they have been attributed.

3.1.2 Non-Credentialed Completers

In the case of students who achieve academic standing, the resulting authority is defined as the authority where the student had course completions⁴ in the school year in which they first attained non-credentialed completion status. In the case of students who achieve non-credentialed completion status through enrolment in a post-secondary program or participation in an apprenticeship program, the resulting authority is defined as the authority where the student most recently had course completions, based on the year in which they were first identified as post-secondary students or apprentices.

Determining the resulting school for students who achieve non-credentialed completion status follows a similar approach to the way the school authority is determined. Students are reported in the school governed by the authority to which they have been attributed.

3.1.3 Continuers and Leavers

A similar process is followed for continuers and leavers. The authority where the student had course completions in the most recent school year is selected as the resulting authority. Continuers and leavers are also identified at the school level, in a similar fashion to the way the determination is done at the authority level.

4.0 Formulas for Student Outcomes Measures based on the Grade 10 Cohort

The following are 3 of the Student Outcomes Measures which are based on the Grade 10 Cohort.

⁴ A course completion indicates that the student has a course record. It does not indicate whether the student passed or failed or withdrew from the course.

4.1 High School Completion Rate

Alberta Education calculates the rate at which Alberta students complete high school within three, four, and five years of starting Grade 10.

4.1.1 Formula

The provincial rate is calculated by dividing the number of high school completers by the number of students in the Grade 10 Cohort, adjusted for attrition.

$$\left(\begin{array}{c} \text{High} \\ \text{School} \\ \text{Completers} \end{array} \right) \div \left(\begin{array}{c} \text{Grade 10} \\ \text{Cohort} \end{array} - \text{Attrition} \right) = \begin{array}{c} \text{High} \\ \text{School} \\ \text{Completion} \\ \text{Rate} \end{array}$$

4.1.2 Definitions

4.1.2.1 High School Completers

- **Timeframe for completion**

Students from the Grade 10 Cohort must complete high school within three, four, or five years of starting Grade 10 to be considered a high school completer.

- **Credentialed completers**

Students can achieve high school completion status through a variety of means. The majority of students receive one of the following credentials within three, four, or five years of starting Grade 10:

- ✓ *Alberta High School Diploma*
- ✓ *High School Equivalency Diploma (GED)*
- ✓ *Certificate of Achievement for completion of the Integrated Occupational Program (IOP)*

- **Non-credentialed Completers**

Students who leave school without one of the above credentials but who have earned credits in high school courses that enable them to continue into post-secondary or apprenticeship programs within three, four, or five years of starting Grade 10 are considered non-

credentialed high school completers. Non-credentialed high school completion is achieved through one of the following means:

- ***Enrolment at a Post-Secondary Institution:*** Students enrolled in a credit program in an Alberta post-secondary institution, who have not achieved completion status through any of the above means, are considered non-credentialed high school completers.
- ***Apprenticeship Program Participation:*** Students registered in an apprenticeship program who have not achieved completion status through any of the above means and are no longer registered in school are considered non-credentialed high school completers.
- ***Academic Standing:*** Students who have not achieved completion status through any of the above means are considered to have achieved academic standing if they have passed a minimum of five Grade 12 courses including a Language Arts diploma exam course and three other diploma exam courses.

4.1.2.2 Continuers

Students, including those registered in upgrading programs, who do not complete high school within three, four or five years but are still involved with the secondary system as evidenced by their having a course completion record, are counted as continuers.

4.1.2.3 Leavers

Students from the Grade 10 Cohort who are not “completers” or “continuers” are considered “leavers”.

4.1.3 Data Sources

High School Completion Rates are calculated based on detailed student data from Alberta Education and Advanced Education’s data systems as well as demographic data from Statistics Canada.

4.2 High School to Post-Secondary Transition Rate

To track the extent that Alberta high school students participate in post-secondary study, Alberta Education calculates the rate at which students move into post-secondary education within four and six years of starting Grade 10.

4.2.1 Formula

The High School to Post-Secondary Transition Rate is calculated by dividing the number of students who enter post-secondary programs by the

$$\left(\begin{array}{c} \text{In-} \\ \text{Province} \\ \text{Post-} \\ \text{Secondary} \\ \text{Attenders} \end{array} + \begin{array}{c} \text{Estimate of Out-} \\ \text{of-Province} \\ \text{Post-Secondary} \\ \text{Attenders} \end{array} \right) / \left(\begin{array}{c} \text{Grade 10} \\ \text{Cohort} \end{array} - \text{Attrition} \right) = \text{Transition Rate}$$

number of students in the Grade 10 Cohort, adjusted for attrition.

4.2.2 Definitions

4.2.2.1 Post-Secondary Students

Students from the Grade 10 Cohort are counted as post-secondary students if they are registered in a post-secondary-level program at an Alberta post-secondary institution or if they are registered in an apprenticeship program in Alberta.

- **Timeframe for transition**

Students from the Grade 10 Cohort must be identified as participating in post-secondary education within four or six years of starting Grade 10 to be considered in the High School to Post-Secondary Transition Rate.

- **Attendance at a Post-Secondary Institution**

Students are considered to have entered the post-secondary system if they attended a credit program, part-time or full-time, in an Alberta post-secondary institution.

- **Registration in an apprenticeship program**

A student is considered to have entered the post-secondary system if the student has registered in an apprenticeship program. A student registered in the Registered Apprenticeship Program (RAP) is not considered to have entered the post-secondary system as students in RAP are high school students.

4.2.2.2 Estimate of Out-of-Province Post-Secondary Students

Alberta Education does not specifically track Alberta students who participate in post-secondary programs outside of Alberta. An estimate of the number of students who have left the province to pursue post-secondary education is therefore factored into the High School to Post-Secondary Transition Rate.

The out-of-province estimate uses aggregate counts of Alberta students receiving financial assistance for studies both in-province and out-of-province based on data from the Students Finance System (SFS). The premise is that in any given year, the percentage of students from the Grade 10 Cohort attending post-secondary programs out-of-province is similar to the percentage of students receiving financial assistance for study out-of-province.

4.2.3 Data Sources

High-School to Post-Secondary Transition Rates are calculated based on detailed student data from Alberta Education and Advanced Education’s data systems as well demographic data from Statistics Canada.

4.3 Diploma Examination Participation Rate

Alberta Education determines the rate at which Alberta students participate in diploma examinations within three years of starting Grade 10. This is done by calculating diploma examination participation incrementally as the percentages of students with none, at least one, at least two, at least three, at least four and five or more diploma examinations by the end of their third year of high school.

The Diploma Examination Participation Measure which is the percentage of students, who wrote four or more diploma examinations, has been developed to complement the Diploma Examination Results Measure. The Diploma Examination Results Measure is calculated as the percentages of students in diploma examination courses who achieve the acceptable standard and the percentages who achieve the standard of excellence on diploma examinations.

4.3.1 Formula

The provincial rate is calculated by dividing the number of diploma examination participants by the number of students in the Grade 10 Cohort, adjusted for attrition.

$$\left(\begin{array}{c} \text{Diploma} \\ \text{Examination} \\ \text{Participants} \end{array} \right) \Bigg/ \left(\begin{array}{c} \text{Grade 10} \\ \text{Cohort} \end{array} - \begin{array}{c} \text{Attrition} \\ \text{factor} \end{array} \right) = \begin{array}{c} \text{Diploma} \\ \text{Examination} \\ \text{Participation} \\ \text{Rate} \end{array}$$

4.3.2 Timeframe for determining Participation

Students from the Grade 10 Cohort must write at least one examination within three years of starting Grade 10 to be considered a diploma examination participant. The student must have written at least one of the examinations listed below, with any of the examinations written only once. Also, students in the Grade 10 Cohort are not considered a diploma examination participant if they do not have an examination mark.

Any one of the following:

| | |
|----------------|--|
| English | English 30-1, English 30-2, English 30, English 33 |
| Français | Français 30, French Language Arts 30 |
| Mathematics | Pure Math 30, Applied Math 30, Math 30, Math 33 |
| Social Studies | Social Studies 30, Social Studies 33 |

Any of the following:

| | |
|----------|--|
| Sciences | Biology 30, Chemistry 30, Physics 30, Science 30 |
|----------|--|

4.3.3 Data Sources

Diploma Examination Participation Rates are calculated based on detailed student data from Alberta Education and Advanced Education's data systems as well demographic data from Statistics Canada.

***For more information on these Student Outcomes Measures, please contact
Performance Measures Branch at (780) 427-8217
For Technical information on how these Measures are calculated, please contact
Information Services Branch at (780) 427-1110***