

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

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**Methodologies for Rates Calculation**

# Table of Contents

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<b>1.0</b>	<b>Introduction.....</b>	<b>3</b>
<b>2.0</b>	<b>Common Elements in the 3 Student Outcomes Measures .....</b>	<b>3</b>
<b>2.1</b>	<b>Grade 10 Cohort .....</b>	<b>3</b>
<b>2.2</b>	<b>Attrition .....</b>	<b>4</b>
<b>2.2.1</b>	<b>Estimate of Attrition at the Authority and School Level .....</b>	<b>5</b>
<b>2.3</b>	<b>Data Sources .....</b>	<b>6</b>
<b>3.0</b>	<b>Calculation of Rates at the Provincial, Authority and School Levels .....</b>	<b>6</b>
<b>3.1</b>	<b>Determination of Reporting Authority and School .....</b>	<b>6</b>
<b>3.1.1</b>	<b>Credentialed Completers.....</b>	<b>7</b>
<b>3.1.2</b>	<b>Non-Credentialed Completers .....</b>	<b>8</b>
<b>3.1.3</b>	<b>Continuers and Leavers .....</b>	<b>9</b>
<b>4.0</b>	<b>Formulas for Student Outcomes Measures based on the Grade 10 Cohort..</b>	<b>10</b>
<b>4.1</b>	<b>High School Completion Rate.....</b>	<b>10</b>
<b>4.1.1</b>	<b>Formula.....</b>	<b>10</b>
<b>4.1.2</b>	<b>Definitions.....</b>	<b>10</b>
<b>4.2</b>	<b>High School to Post-Secondary Transition Rate.....</b>	<b>12</b>
<b>4.2.1</b>	<b>Formula.....</b>	<b>12</b>
<b>4.2.2</b>	<b>Definitions.....</b>	<b>13</b>
<b>4.3</b>	<b>Diploma Examination Participation Rate .....</b>	<b>17</b>
<b>4.3.1</b>	<b>Formula.....</b>	<b>17</b>
<b>4.3.2</b>	<b>Timeframe for determining Participation .....</b>	<b>18</b>

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# **Alberta Education Student Outcomes Measures Based on the Grade 10 Cohort**

## **Methodologies for Rates Calculation**

### **1.0 Introduction**

This document describes 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.

The provincial 5-year High School Completion Rate, the Diploma Examination Participation Rate (percentage of students who wrote 4 or more diploma exams) and 6-year High-School to Post-Secondary Transition Rate, which are calculated at the provincial, authority and school levels, are performance measures in Alberta Education's business plan. The 3-year High School Completion Rate, the 6-year High-School to Post-Secondary Transition Rate and the Diploma Examination Participation Rate (4+) are part of the Accountability Pillar measures used to assess and report on school jurisdiction and school performance. As such, the measures form a core part of the Accountability Pillar Online Reporting Initiative (APORI) which consolidates measures reporting to public, separate, Francophone and accredited private school authorities. Also 4-year high school completion, 4-year post-secondary transition rates and participation in 0, 1, 2, 3, 5 and 6 or more diploma exams are calculated to provide additional information to the Ministry, school authorities and schools.

### **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 Transition 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 accredited 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 30<sup>th</sup> of the school year;<sup>1</sup>
- 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;<sup>2</sup>
- e. students who are identified as having a severe or moderate cognitive disability or a severe multiple disability
- 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 three Student Outcomes Measures – the HSCR, Transition Rate and DEPR. The Transition Rate and 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 1995/1996 – 1997/1998; 1996/1997 – 1998/1999; and 1997/1998 – 1999/2000 school years is taken as the attrition estimate when rates for the 2000/2001 school year were calculated.

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);<sup>3</sup> and
- e. a downward adjustment to account for youth who are not in school (see table below).

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<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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 Estimates*, formerly *Annual Demographic Statistics*. 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.

The provincial attrition estimate aggregates census division level data from Statistics Canada's *Annual Demographic Statistics*. The following provides an example of attrition calculated for students entering Grade 10 in September 1995 of the 1995/1996 school year

School Year	Age	Deaths	Emigrants	Inter-provincial Out-Migration	Returning Out-Migrants From Prior Year - 10%	Net Inter-provincial Out-Migration	Total Attrition	School Participation Rate	Adjust. for Non-School Movers	Net Attrition
1995/1996	16	C2	D2	E2	$F2 = 0$	$G2 = E2 - F2$	$H2 = C2 + D2 + G2$	94.2%	10%	$K2 = (H2 * I2) * (1 - J2)$
1996/1997	17	C3	D3	E3	$F3 = E2 * 10\%$	$G3 = E3 - F3$	$H3 = C3 + D3 + G3$	76.5%	25%	$K3 = (H3 * I3) * (1 - J3)$
1997/1998	18	C4	D4	E4	$F4 = E3 * 10\%$	$G4 = E4 - F4$	$H4 = C4 + D4 + G4$	36.9%	40%	$K4 = (H4 * I4) * (1 - J4)$
Estimated Provincial Attrition for the Grade 10 Cohort										$K5 = K2 + K3 + K4$

### 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. 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, Francophone school authority, charter school and accredited private school authority; and the dissemination area in which these students reside.

Attrition by census division is first apportioned to each dissemination area within the census division where there are students who are part of the Grade 10 Cohort who have not been identified as continuers or completers. The apportioning to the dissemination areas is based on the population of 16-, 17- and 18-year-olds in the census statistics. The attrition by dissemination area is then applied to authorities based on the authority in which the centroid of the dissemination area falls. In cases where the centroid of the dissemination area falls in more than one authority, the attrition for that dissemination area is apportioned to each of those authorities. This apportionment is based on where the students reside (which dissemination area) and which school authority they attend.

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.

### **2.3 Data Sources**

The HSCR, Transition Rate and DEPR are calculated based on detailed student data from Alberta Education's Student Information System (SIS), Student Records System (SRS) and the Diploma Examination System (DES). Duplicate Application Detection Project (DAD) 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. Starting with the 2003/2004 school year, students are identified as attending post-secondary institutions based on data from Alberta Advanced Education and Technology's (AET) Learner Enrolment and Reporting System (LERS). In prior years, AET's Skilled Trades Information System (STIS) provided information on students registered in apprenticeship programs. Starting with the rates calculated for the 2008/2009 school year, AET's new system, Apprenticeship, Trade and Occupation Management System (ATOMS), is used to identify students registered in apprenticeship programs. The estimate of attrition uses data from Statistics Canada, *Annual Demographic Statistics* as well as census data.

The Transition Rate also requires an estimate of Alberta students attending post-secondary institutions out-of-province which is based on aggregate student counts from AET's Learner Enrolment Reporting System (LERS) and Students Finance System (SFS).

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

Often students will have attended more than one school or even more than one school authority over the period of time the rates are being calculated. When this occurs, a determination needs to be made about the inclusion of such students in rates for a particular school and school authority.

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. Rates are 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.

In the case of students who achieved completion or last completed courses at the same authority that they began Grade 10, the starting, resulting, and reporting authorities are the same. However, in the case of students who achieved completion status or last completed courses in an authority other than their starting authority, the resulting authority must be established before the reporting authority can be determined. A student's completion status directly informs the rules used to establish the resulting authority.

Once the resulting authority is established, the reporting authority is determined by a simple majority of credits: the student is attributed to whichever of the two authorities they earned the most credits. Should the number of credits earned at both the starting and resulting authorities be equal, the student is reported under the resulting authority.

A similar but more complex process is followed for reporting rates at the school level. Where the student attended more than one school in the reporting authority, the resulting school is determined as the school in the reporting authority where the student earned the highest number of credits up-to-and-including the resulting school year. However, if there is more than one school in the reporting authority where the student earned the highest number of credits, then the school with the most recent school year of course completion is selected. Similarly, if a student attended more than one school in the most recent school year of course completion, then the school where the student earned the most credits in that school year is selected as the resulting school.

### **3.1.1 Credentialed Completers**

Students who achieve credentialed completion status (Alberta High School Diploma, High School Equivalency Diploma, Certificate of Achievement or Certificate of High School Completion) 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.

Credentialed completers whose resulting authority differs from their starting authority are attributed to whichever of the two authorities they earned the most credits. Should the number of credits earned at both the starting and resulting authorities be equal, they are attributed to the resulting authority – the authority associated with their credentialed completion.

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. Where the student attended more than one school within the authority, credentialed completion status is reported in whichever of the schools that they earned the most credits. However, if there is more than one school in the reporting authority where the student earned the highest number of credits, then the school with the most recent school year of course completion is selected. If there is more than one school with the most recent school year of course completion, then the school with the most credits in that school year is selected as the resulting school.

### **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 completions<sup>4</sup> 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.

Students may have course completions in more than one authority in the school year in question. Should one of these authorities be the starting authority, the starting authority is selected as the resulting authority. If, however, students have course completions in more than one authority in the school year and none of these authorities is the starting authority, the resulting authority is arbitrarily designated as the authority based on the lowest authority code.

Once the resulting authority is established, the reporting authority is determined in the same way as for credentialed completers. The number of credits earned at the resulting authority is compared to the number of credits earned at the starting authority and the student is reported under the authority where the most credits were earned. If the number of credits earned in both the starting and resulting authorities is equal, the student is reported under the resulting authority.

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<sup>4</sup> 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.



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. Where the student attended more than one school within the authority, non-credentialed completion status is reported in whichever of the schools that they earned the most credits. However, if there is more than one school in the reporting authority where the student earned the highest number of credits, then the school with the most recent school year of course completion is selected. If there is more than one school with the most recent school year of course completion, then the school with the most credits in that school year is selected as the resulting school.

### **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. Students may have course completions in more than one authority in that school year. Should one of these authorities be the starting authority, the starting authority is selected as the resulting authority. If, however, students have course completions at more than one authority in the most recent school year and none of these authorities is the starting authority, the resulting authority is arbitrarily designated as the authority in that school year with the lowest authority code.

Once the resulting authority is established, the reporting authority is determined in the same way as for credentialed completers and non-credentialed completers. The number of credits earned at the resulting authority is compared to the number of credits earned at the starting authority and the student is attributed to the authority where the most credits were earned for reporting purposes. If the number of credits earned in both the starting and resulting authorities is equal the student is attributed to the resulting authority for reporting purposes.

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. Where the student attended more than one school within the same authority, the students' status is based on whichever of the two schools within the same authority they earned the most credits. However, if there is more than one school in the reporting authority where the student earned the highest number of credits, then the school with the most recent school year of course completion is selected. If there is more than one school with the most recent school year of course completion, then the school with the most credits in that school year is selected as the resulting school.

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

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

### 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.

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

#### 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. A student who starts Grade 10 in September 1998 at the start of the 1998/1999 school year and completes high school by the end of the 2000/2001 school year is considered to have completed high school within three years. A student from the same 1998/1999 Grade 10 Cohort who completes high school by the end of the 2001/2002 school year is considered to have completed within four years. Similarly, a student from the 1998/1999 Grade 10 Cohort who completes high school by the end of the 2002/2003 school year is considered to have completed within five years.

- **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)*** through the 2007/2008 school year
- ✓ ***Certificate of High School Achievement (completion of Knowledge and Employability courses and the certificate requirements)*** starting with the 2006/2007 school year

▪ **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. As of May, 2010, the information of post-secondary enrollments now incorporates the post-secondary Classification of Instructional Programs (CIP) coding to better identify those students enrolled in programs that are not deemed to be post-secondary level programming (e.g. academic upgrading). Students in these kinds of programs are not considered completers for the purpose of this measure.
- ***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. The Alberta Student Number is used to match students from the Grade 10 Cohort with the apprentices in AET's apprenticeship information systems (STIS and ATOMS). Students in a Registered Apprenticeship Program (RAP) are excluded because they are still in high school. However, students identified as both attending a post-secondary institution and having registered in an

apprenticeship program are reported as attending a post-secondary institution.

- **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. These students may be eligible for post-secondary entrance and some may be attending a post-secondary institution out of province.

#### **4.1.2.2 Continuers**

Students, including those registered in upgrading programs at post-secondary institutions, who have not completed 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. A course completion record simply indicate that the student has a course record; it does not indicate whether the student passed or failed or withdrew from the course.

#### **4.1.2.3 Leavers**

Students from the Grade 10 Cohort who are not “completers” or “continuers” are considered “leavers”. The attrition estimate (see 2.2 above) is applied to the count of students who are identified as leavers as some of these students may have left the province or are deceased.

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

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

## 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. A student who starts Grade 10 in September 1998 (at the start of the 1998/1999 school year) and is identified as participating in post-secondary education by the end of the 2001/2002 school year is considered to have entered the post-secondary system within four years of starting Grade 10. A student who starts Grade 10 in September 1998 (at the start of the 1998/1999 school year) and is identified as participating in the post-secondary system by the end of the 2003/2004 school year is considered to have entered the post-secondary system within six years of starting Grade 10.

#### ▪ 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 a publicly-funded Alberta post-secondary institution. As of May, 2010, the information of post-secondary enrollments now incorporates the post-secondary Classification of Instructional Programs (CIP) coding to better identify those students enrolled in programs that are not deemed to be post-secondary level programming (e.g. academic upgrading). Students in these kinds of programs are not considered transitioners for the purpose of this measure.

- **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. The Alberta Student Number is used to match students from the Grade 10 Cohort with the apprentices in STIS or ATOMS (as applicable), the apprenticeship information system. Students identified as attending both a post-secondary institution and having registered in an apprenticeship program are reported as attending a post-secondary institution.

#### **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 Alberta Advanced Education's 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.

The Students Finance System data pertains only to students attending post-secondary institutions. As a result, the out-of-province-estimate does not include an estimate of the number of Alberta students participating in apprenticeship programs out of province. Instead the estimate focuses on those who constitute the majority of Alberta post-secondary students: those that attend post-secondary institutions.<sup>5</sup>

The SFS counts are available at the sector level (specifically: universities and private university colleges; public colleges, which include the former vocational colleges; and technical institutes)

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<sup>5</sup> The Apprenticeship Industry and Training Division, Alberta Advanced Education and Technology estimates that while only about 10% of Canada's labour force resides in Alberta, approximately 20% of the country's apprentices are trained in Alberta. In addition, Alberta has apprenticeship programs in more trades and occupations than most other provinces. It is therefore assumed that the number of young Albertans who register in apprenticeship programs out of province after high school is minimal.

and include only students receiving financial assistance to attend post-secondary institutions on a full-time basis. The out-of-province estimate is therefore determined based on the number of full-time post-secondary students from the Grade 10 Cohort attending post-secondary institutions within each sector. This increases the precision of the out-of-province estimate, as the rate at which students attend post-secondary institutions out of province varies by sector.

Although data from ACAT's Duplicate Application Detection Project (DAD) provided counts of post-secondary students by sector, it did not differentiate between full-time and part-time students. The count of students from the Grade 10 Cohort participating in post-secondary study within each sector in the years DAD was used, i.e., prior to 2003/2004, is therefore adjusted to approximate the number of full-time students by applying the percentage, generated from the Learning and Enrolment Reporting System (LERS), of full-time Alberta post-secondary students within that sector (see table below).

The estimate of the number of students attending post-secondary programs out-of-province in each sector is therefore based on the following factors:

- the count of students from the Grade 10 Cohort who have moved into provincial post-secondary education in the sector in a given year (DAD or LERS depending on the school year under consideration);
- the percentage of Alberta students within each sector attending full-time in a given year (LERS);
- the percentage of students receiving financial assistance to attend full-time post-secondary programs out-of-province in each sector in a given year (SFS).

In the case of the Grade 10 Cohort of 1995/1996 Grade 10 students (see table below), the estimates of students attending post-secondary institutions out-of-province are calculated separately for each sector for the 1998/1999 school year. Added together they provide an estimate of the number of students from the Grade 10 Cohort who entered post-secondary studies out of province by the fourth year after the start of Grade 10.

The same process is used to calculate the estimate of the number of students from the Grade 10 Cohort entering post-secondary studies out-of-province in the fifth school year (1999/2000) and in the sixth school year (2000/2001) after the start of Grade 10. The estimates are added to the previously calculated estimate of the

number of students attending post-secondary institutions in the fourth year after the start of Grade 10 to provide a final estimate of students who, by six years after the start of Grade 10 in September 1995, had entered post-secondary education out-of-province.

As an example, for the calculation of out-of-province estimate for the 4 and 6 year Transition Rates, based on the Grade 10 Cohort of 1996/1996 Grade 10 students, the following table would apply:

<b>Sample Calculation Out-of-Province Estimate for 4 and 6 Year Transition Rate: Grade 10 Cohort of 1995/1996 Grade 10 Students</b>								
School Year	Post- secondary Sector	Count of PSI attenders from cohort studying in province in school year	% Students in province studying full- time: year and sector specific (LERS)	% Students receiving financial assistance for full-time study out-of- province, by sector (SFS)	Estimate of out-of- province attenders by sector	Annual out-of- province estimate (all sectors)	<b>Out-of- province estimate: 4 Year Rate</b>	<b>Out-of- province estimate: 6 Year Rate</b>
		(A)	(B)	(C)	(D)	(E)	(F)	(G)
$\frac{[(A)*(B)*(C)]}{[1-(C)]}$								
98/99	Univ	Univ99	86.17%	9.95%	D99	D99+C99+T99	<b>E4</b>	
98/99	Coll/AVC	Coll99	88.92%	3.96%	C99			
98/99	Tech	Tech99	64.99%	1.60%	T99			
99/00	Univ	Univ00	85.12%	9.89%	D00	D00+C00+T00		
99/00	Coll/AVC	Coll00	83.12%	3.80%	C00			
99/00	Tech	Tech00	91.33%	1.76%	T00			
00/01	Univ	Univ01	84.58%	10.79%	U01	D01+C01+T01		<b>E4+E9+E14</b>
00/01	Coll/AVC	Coll01	88.71%	4.70%	C01			
00/01	Tech	Tech01	84.85%	1.60%	T01			



### 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 zero, at least one, at least two, at least three, at least four, at least five or six 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. One way to improve results on their measures is to limit these courses to strong academic students. The diploma examination participation rate discourages such a practice because it would result in low diploma exam participation rates.

#### 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.

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

In arriving at the number of Diploma Examination Participants (in the formula above), attrition adjustments are made. The formula below is used to calculate the attrited number of students writing one examination. The same formula is applied to calculating the attrited number of students for each of the categories of those writing 0, 1, 2, 3, 4, 5, 6 or more examinations.

$$\left( \begin{array}{c} \text{Total No. of} \\ \text{students} \\ \text{writing 1} \\ \text{exam} \\ \text{(leavers and} \\ \text{non-leavers)} \end{array} \right) - \left( \begin{array}{c} \text{Number of} \\ \text{leavers} \\ \text{writing 1} \\ \text{exam} \end{array} \right) \div \left( \begin{array}{c} \text{Total} \\ \text{Number} \\ \text{of} \\ \text{leavers} \end{array} \right) \times \text{Attrition factor} = \text{Attrited Total No. of Diploma participants}$$

#### 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. A student who starts Grade 10 in September 1998 at the start of the 1998/1999 school year and completes at least one examination by the end of the 2000/2001 school year is considered to have participated in the diploma examination within the three years.

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 exam in each of the following subject areas:

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, Social Studies 30-1, Social Studies 30-2

Any of the following exams:

Sciences	Biology 30, Chemistry 30, Physics 30, Science 30
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**For more information on these Student Outcomes Measures, please contact  
System Assurance Branch (780) 422-4750**