

Education

Annual Report Update
2012-2013

Alberta 

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Education

2012-2013 Annual Report Update: Results Analysis Section Related to Provincial Testing

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Review Engagement Report

To the Members of the Legislative Assembly

I have reviewed the performance measure identified as reviewed by the Office of the Auditor General in the Ministry of Education's Annual Report Update 2012-2013. The reviewed performance measure is the responsibility of the ministry and is prepared based on the following criteria:

- Reliability – The information used in applying performance measure methodology agrees with underlying source data for the current and prior years' results.
- Understandability – The performance measure methodology and results are presented clearly.
- Comparability – The methodology for performance measure preparation is applied consistently for the current and prior years' results.
- Completeness – The goal, performance measure and related target match those included in the ministry's budget 2012.

My review was made in accordance with Canadian generally accepted standards for review engagements and, accordingly, consisted primarily of enquiry, analytical procedures and discussion related to information supplied to me by the ministry.

A review does not constitute an audit and, consequently, I do not express an audit opinion on the performance measure. Further, my review was not designed to assess the relevance and sufficiency of the reviewed performance measure in demonstrating ministry progress towards the related goal.

Based on my review, nothing has come to my attention that causes me to believe that the performance measure identified as reviewed by the Office of the Auditor General in the ministry's annual report update 2012-2013 is not, in all material respects, presented in accordance with the criteria of reliability, understandability, comparability and completeness as described above.

[Original signed by Merwan N. Saher, FCA]

Auditor General

October 1, 2013

Edmonton, Alberta

Performance measure reviewed by the Office of the Auditor General is noted with an asterisk (*) on the Performance Measures Summary Table.

Results Analysis

Performance Highlights

- This past June, thousands of Alberta students had to deal with some extraordinary challenges resulting from the devastation and evacuations caused by the southern Alberta floods. While caution needs to be exercised when comparing historical results with the current year, participation remained sufficiently high that the province-wide information provides a reliable assessment of how well Alberta students are performing.
- The percentage of students that achieved the acceptable standard on Language Arts provincial achievement tests has remained stable over time, from 80.9 per cent in 2008-09 to 81.0 per cent in 2012-13, while the proportion of students who achieved the standard of excellence has declined from 17.1 per cent to 16.3 per cent. Language Arts achievement test results did not meet overall targets at the acceptable standard or the standard of excellence.
- The participation rate for Language Arts provincial achievement tests, which is the proportion of enrolled students that write the tests, was 90.7 per cent, similar to the participation rates of previous years.
- The percentage of students achieving standards on Language Arts diploma examinations met the target for the standard of excellence and exceeded the target at the acceptable standard. The proportion of students achieving the acceptable standard, 87.4 per cent in the current year, has been stable from 2008-09 to 2012-13 with an improvement in the results for English Language 30-2. The overall proportion of students achieving the standard of excellence in Language Arts diploma examinations has declined from 11.4 per cent in 2008-09 to 10.8 per cent in 2012-13, primarily due to the results in English Language Arts 30-1.
- The targets for the overall Diploma Examination Mathematics measures were set in 2011 based on past results of Pure Mathematics and Applied Mathematics courses. The current year results of the replacement courses, namely Mathematics 30-1 and 30-2, are provided but are not comparable to prior years and cannot be used to assess the achievement of targets.
- The substantial gap between testing results for self-identified First Nations, Métis and Inuit (FNMI) students and the results for all students remains a key challenge for the K-12 education system. In this regard, the percentage of FNMI students who achieved the acceptable standard on Language Arts provincial achievement tests has improved more than it has for all students: from 61.6 per cent in 2008-09 to 65.6 per cent in 2012-13, a gain of approximately 4 percentage points. On the other hand, the percentage of FNMI students who achieved the standard of excellence on Language Arts achievement tests has remained between 4.9 and 5.7 per cent over the same period. FNMI results on Language Arts provincial achievement tests met the overall target at the acceptable standard but not at the standard of excellence.
- Over the past five years, the FNMI participation rate for Language Arts provincial achievement tests, which is the proportion of enrolled self-identified FNMI students that write the tests, has risen steadily from 81.0 per cent in 2008-09 to 85.5 per cent in 2012-13.
- FNMI results on Language Arts diploma exams have been stable over time, and the overall percentage of FNMI students achieving the acceptable standard in 2012-13 was 82.0 per cent. FNMI results on Language Arts diploma examinations did not meet overall targets at the acceptable standard or the standard of excellence.

- Alberta Education is undertaking a major curriculum redesign aimed at ensuring Alberta's curriculum (programs of study, assessment, and learning and teaching resources) remains responsive and relevant for students. This project reflects the province's commitment to continually improve its work in providing a world-class, student-centred curriculum for students now and in the future. To this end, the ministry will begin phasing out Provincial Achievement Tests and piloting new Student Learning Assessments for Grade 3 students in September 2014. The new Student Learning Assessments will better inform student learning by collecting valuable information at the beginning of the school year, while also including interactive approaches to help educators and parents understand how well students can apply what they have learned.

Performance Measures Summary Table

Selecting measures and setting targets to assess, report and improve upon the performance of the Early Childhood Services to Grade 12 education system is key to being accountable for results. The performance measures and targets for 2012-13 are established in the 2012-15 Ministry of Education business plan. Targets are considered met if the current result is not significantly different from the target value using statistical tests.

Depending on the performance measure, this significant difference may vary. The table below presents a summary of performance measures reported in the Discussion and Analysis of Results section, pages 11-36, including:

- 2012-13 target and most recent results
- change over time (5-year trend)

Goals/Performance Measure(s)			Prior Years' Results				Target	Current Actual
1	Success for every student							
1.b*	Overall percentage of students who achieved standards on provincial achievement tests (PATS) in English and French Language Arts and Francais	acceptable excellence	80.9% 17.1% 2008-09	81.7% 17.6% 2009-10	81.6% 17.4% 2010-11	81.1% 18.0% 2011-12	82.5% 18.7%	81.0% 16.3% 2012-13
1.c	Percentages of students who achieved standards on diploma examinations: Language Arts	acceptable excellence	87.1% 11.4% 2008-09	86.6% 10.2% 2009-10	86.1% 9.9% 2010-11	87.4% 11.2% 2011-12	87.0% 10.6%	87.4% 10.8% 2012-13
	Mathematics ¹	acceptable excellence					80.6% 24.1%	76.5% ¹ 27.0% ¹ 2012-13
3	Success for First Nations, Métis and Inuit (FNMI) students							
3.b	Overall percentage of self-identified FNMI students who achieved standards on Provincial Achievement Tests (PATs) in English and French Language Arts and Français	acceptable excellence	61.6% 5.0% 2008-09	64.1% 5.7% 2009-10	63.2% 5.3% 2010-11	63.0% 5.7% 2011-12	66.1% 8.0%	65.6% 4.9% 2012-13
3.c	Overall percentage of self-identified FNMI students who achieved standards on diploma examinations: Language Arts	acceptable excellence	81.3% 4.9% 2008-09	82.6% 5.7% 2009-10	84.2% 4.4% 2010-11	83.1% 7.0% 2011-12	84.7% 8.4%	82.0% 5.8% 2012-13
	Mathematics ¹	acceptable excellence					73.6% 12.7%	64.1% ¹ 12.7% ¹ 2012-13

*Indicates Performance Measure that has been reviewed by the Office of the Auditor General

The performance measure indicated with an asterisk was selected for review by ministry management based on the following criteria established by government:

- Enduring measures that best represent the goal,
- Measures for which new data is available, and
- Measures that have well established methodology.

Notes: For information on assessing change over time and target achievement, please refer to Endnote A, page 37.

For information on the methodology employed in the test measures please refer to Endnote B, pages 38 - 40.

¹The targets for the overall Diploma Examination Mathematics measures were set in 2011 based on past results of Pure Mathematics and Applied Mathematics courses. The current year results of the replacement courses, namely Mathematics 30-1 and 30-2, are not comparable to prior years and cannot be used to assess the achievement of targets. These results are provided as information only.

Discussion and Analysis of Results

GOAL 1

Success for Every Student

Success for every student means that students can demonstrate proficiency in literacy and numeracy, have achieved Alberta's student learning outcomes, and have developed the competencies for success as engaged thinkers and ethical citizens with an entrepreneurial spirit. The ministry, in cooperation with stakeholders and partners, assists students in achieving success by providing flexible programming options designed to address the diversity of student needs. The ministry also implements provincial and school-based student assessments.

Goal 1 Performance Measures

1.b Achievement Test Results in Language Arts

Rationale

- Overall student achievement of standards on provincial achievement tests is a sound indicator of whether elementary and junior high students are achieving high standards in Language Arts, an important outcome for Alberta's K–12 education system.

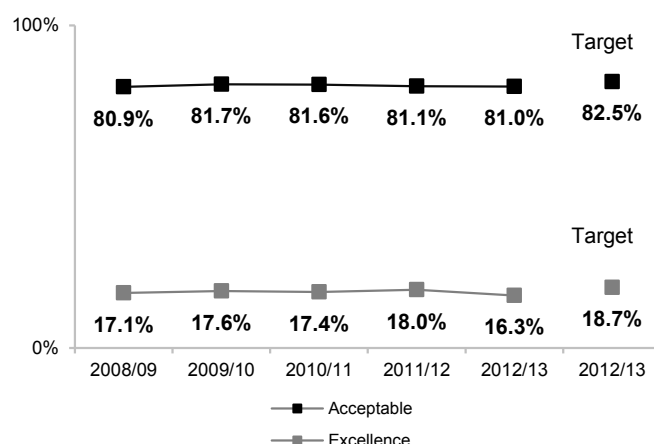
Target

- The targets for the overall Language Arts results at the acceptable standard and at the standard of excellence were not met.

Discussion

- Overall results in Language Arts are calculated as an average of the proportion of students achieving standards in the following nine subjects weighted by the number of individuals that were enrolled:
 - English Language Arts 3, 6 and 9
 - French Language Arts 3, 6 and 9
 - Français 3, 6 and 9
- Overall results in Language Arts at the acceptable standard have remained stable over time with minor fluctuations. Results at the standard of excellence dropped in 2012/13.
- To support student learning in core subjects, the Ministry provides programs of study and implementation guides for teachers and develops or authorizes learning resources for students in all grades and subjects.

Overall Percentages of Students who Achieved Standards on Grades 3, 6 and 9 Language Arts Provincial Achievement Tests



Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Overall Language Arts results are a weighted average based on total enrolment in Grades 3, 6 and 9 Language Arts courses.
- The Language Arts measure now includes results from Grade 3 French Language Arts and Grade 3 Français. Historical data has been revised to include results for these subjects.
- Due to the flooding in southern Alberta in the summer of 2013, the number of students writing the Grade 9 English Language Arts Provincial Achievement Test was reduced and this may have impacted the overall result.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

Participation Rates for Language Arts Provincial Achievement Tests *(in percentages)*

Subject	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3					
English Language Arts	91	91	91	92	91
French Language Arts	96	97	95	96	96
Français	98	98	98	98	98
Grade 6					
English Language Arts	90	91	91	91	91
French Language Arts	98	98	97	97	98
Français	98	98	98	98	98
Grade 9					
English Language Arts	90	90	89	89	88
French Language Arts	95	98	97	97	97
Français	98	98	98	96	96
Overall Language Arts					
	90.5	91.0	90.7	90.9	90.7

Source: Alberta Education.

1.b Achievement Test Results in Language Arts by Individual Subject for Students in Grades 3, 6 and 9

Rationale

- Student results on Provincial Achievement Tests in each grade and subject provide detailed information on whether elementary and junior high students are achieving high standards in Language Arts, an important outcome for Alberta's K–12 education system.

Target

- Targets for individual language arts subjects were not set in the 2012-15 Business Plan.

Discussion

- The proportion of students achieving the acceptable standard has increased over time for French Language Arts 9 but decreased for French Language Arts 3 and 6, and English Language Arts 9. Results for English Language Arts 3 and 6, and Français 3, 6 and 9 have remained stable.
- The proportion of students achieving the standard of excellence has increased for French Language Arts 9 but decreased for French Language Arts 3 and English Language Arts 6. Results for English Language Arts 3 and 9, French Language Arts 6 and Français 3, 6 and 9 have remained stable.
- As adult literacy studies are not conducted regularly, Grade 9 results in Language Arts are regarded as indicators of literacy. Students who achieve the acceptable standard have developed the foundational skills needed to become literate adults. As indicated above, results at the acceptable standard have improved over time for French Language Arts 9 and have declined for English Language Arts 9.
- Note that the flooding in southern Alberta in the summer of 2013 resulted in a reduction of approximately one third in the number of students writing the Grade 9 English Language Arts Provincial Achievement Test and this may have impacted the overall provincial result. Caution needs to be exercised when comparing this result with prior years.

Percentages of Students in Grades 3, 6 and 9 who Achieved Standards on Provincial Achievement Tests in Language Arts

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13	Targets 2012/13
Grade 3							
English Language Arts	excellence	18	20	18	20	18	
	acceptable	81	82	82	82	81	
French Language Arts	excellence	16	16	16	15	12	
	acceptable	84	84	81	82	80	
Français	excellence	16	16	19	13	14	
	acceptable	83	86	84	82	83	
Grade 6							
English Language Arts	excellence	19	19	19	18	16	
	acceptable	82	83	83	83	83	
French Language Arts	excellence	16	16	17	17	16	
	acceptable	91	88	89	89	89	
Français	excellence	19	18	18	22	22	
	acceptable	93	91	92	91	94	
Grade 9							
English Language Arts	excellence	15	15	16	16	15	
	acceptable	79	79	79	77	76	
French Language Arts	excellence	10	12	15	12	14	
	acceptable	82	86	89	88	87	
Français	excellence	13	13	16	16	15	
	acceptable	86	84	90	85	84	
Overall Language Arts							
	excellence	17.1	17.6	17.4	18.0	16.3	18.7
	acceptable	80.9	81.7	81.6	81.1	81.0	82.5

Source: Alberta Education.

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- See Endnote A, page 37, for information on assessing results relative to targets.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

Supplementary Information:

Other Subjects

Percentages of Students in Grades 3, 6 and 9 who Achieved Standards on Provincial Achievement Tests in subjects other than Language Arts

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3						
Mathematics	excellence	27	–	26	26	25
	acceptable	80	–	77	77	76
Grade 6						
Mathematics	excellence	17	–	18	17	16
	acceptable	77	–	74	75	73
Science	excellence	25	26	25	28	26
	acceptable	77	77	76	78	77
Social Studies	excellence	–	16	19	19	19
	acceptable	–	71	71	73	73
Grade 9						
English Language Arts (Knowledge & Employability)	excellence	–	8	8	6	4
	acceptable	–	67	67	61	62
Mathematics	excellence	19	–	17	18	18
	acceptable	67	–	66	66	67
Mathematics (Knowledge & Employability)	excellence	–	15	15	15	15
	acceptable	–	66	65	62	66
Science	excellence	16	18	21	22	20
	acceptable	72	74	75	74	73
Science (Knowledge & Employability)	excellence	–	14	15	17	17
	acceptable	–	67	69	68	68
Social Studies	excellence	–	19	19	19	19
	acceptable	–	69	67	69	65
Social Studies (Knowledge & Employability)	excellence	–	16	14	14	13
	acceptable	–	65	62	64	65

Source: Alberta Education.

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- The curricula for Mathematics changed in 2009-10. Results from 2008-09 are not comparable with results from subsequent years.
- The curricula for Social Studies changed in 2008-09. Results from previous years are not comparable with the results from subsequent years.
- Knowledge and Employability courses are designed for students who meet the criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- A dash (–) indicates that data are not available.
- See Endnote B, Provincial Achievement Tests, pages 38-39

Discussion

- For the years 2008-09 to 2012-13, after rising for 4 years, the proportion of students achieving the acceptable standard has leveled out for Science 6. The proportion of students achieving the acceptable standard has remained stable for Science 9.
- After rising for 4 years, the proportion of students achieving the standard of excellence has leveled out for both Science 6 and 9.
- For the years 2009-10 to 2012-13, the proportion of students achieving the acceptable standard has improved for Social Studies 6 and declined for Social Studies 9. The percentage of students that achieved the standard of excellence has remained stable for Social Studies 6 and 9 for the past three years.

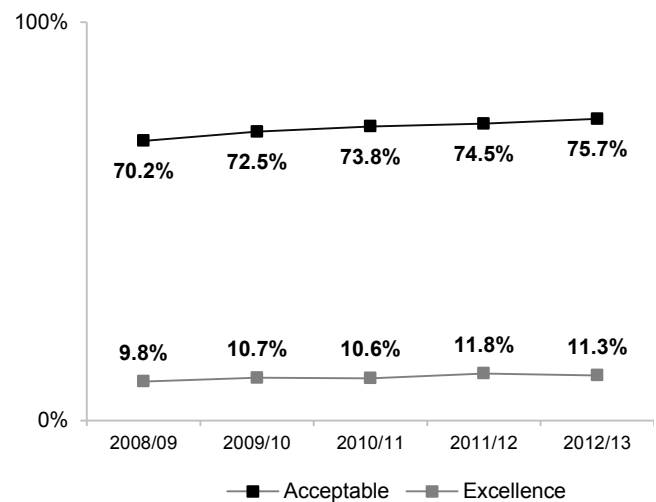
Supplementary Information:

English as a Second Language (ESL) Students Achievement Test Results in English Language Arts

Discussion:

- ESL programs help students learn English while also learning about Canadian cultural values, customs and social expectations. The goal of ESL programs is to provide students with planned systematic instruction and support that will enable them to speak the English language fluently, further their education and become productive and contributing members of Albertan and Canadian society. ESL programming is funded for both Canadian-born and foreign-born students.
- The proportion of ESL students that achieved standards on English Language Arts Provincial Achievement Tests has improved over time at both the acceptable and excellence levels.
- No targets were set for this subgroup.

Overall Percentages of ESL Students who Achieved Standards on Grades 3, 6 and 9 English Language Arts Provincial Achievement Tests



Source: Alberta Education.

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Overall Language Arts results are a weighted average based on total enrolment in Grades 3, 6 and 9 English Language Arts courses.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

English Language Arts Achievement Test Results by Individual Subject for ESL Students in Grades 3, 6 and 9

Discussion:

- The participation rate for ESL students taking English Language Arts provincial achievement tests has increased from 85.9 per cent in 2008-09 to 89.7 per cent in 2012-13.
- Results at the acceptable standard have improved over time for English Language Arts 3, 6 and 9.
- Results at the standard of excellence have improved over time for English Language Arts 3, 6 and 9.

ESL Participation Rates for English Language Arts Provincial Achievement Tests (in percentages)

Subject	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3					
English Language Arts	87	89	89	91	90
Grade 6					
English Language Arts	86	89	89	90	91
Grade 9					
English Language Arts	83	84	85	86	87
Overall Language Arts					
	85.9	87.9	88.3	89.2	89.7

Source: Alberta Education.

Percentages of ESL Students in Grades 3, 6 and 9 who Achieved Standards on Provincial Achievement Tests in English Language Arts

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3						
English Language Arts	excellence	12	13	11	14	13
	acceptable	73	75	75	76	76
Grade 6						
English Language Arts	excellence	10	11	12	11	11
	acceptable	73	75	77	78	78
Grade 9						
English Language Arts	excellence	7	7	8	8	9
	acceptable	62	64	67	67	65
Overall English Language Arts						
	excellence	9.8	10.7	10.6	11.8	11.3
	acceptable	70.2	72.5	73.8	74.5	75.7

Source: Alberta Education.

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

Other Subjects (ESL Students)

Percentages of ESL Students in Grades 3, 6 and 9 who Achieved Standards on Provincial Achievement Tests in subjects other than English Language Arts

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3						
French Language Arts	excellence	19	16	17	14	16
	acceptable	80	80	75	78	82
Français	excellence	16	13	16	12	14
	acceptable	82	86	78	89	79
Mathematics	excellence	23	–	22	22	23
	acceptable	73	–	73	73	72
Grade 6						
French Language Arts	excellence	21	15	14	17	17
	acceptable	90	80	80	92	87
Français	excellence	23	14	13	21	21
	acceptable	93	87	87	89	93
Mathematics	excellence	15	–	17	15	16
	acceptable	70	–	68	71	70
Science	excellence	17	18	17	20	19
	acceptable	68	69	68	71	72
Social Studies	excellence	–	11	13	15	15
	acceptable	–	63	64	68	68
Grade 9						
French Language Arts	excellence	7	10	20	11	15
	acceptable	77	80	78	82	82
English Language Arts (Knowledge & Employability)	excellence	–	4	2	0	3
	acceptable	–	52	61	38	52
Français	excellence	12	9	15	8	3
	acceptable	78	79	85	73	66
Mathematics	excellence	20	–	19	18	19
	acceptable	62	–	63	62	61
Mathematics (Knowledge & Employability)	excellence	–	15	11	9	19
	acceptable	–	51	50	52	54
Science	excellence	13	15	18	19	15
	acceptable	60	62	68	67	64
Science (Knowledge & Employability)	excellence	–	7	9	5	12
	acceptable	–	56	62	47	59
Social Studies	excellence	–	13	13	13	13
	acceptable	–	58	60	62	56
Social Studies (Knowledge & Employability)	excellence	–	14	13	10	6
	acceptable	–	60	54	58	60

Source: Alberta Education.

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- The curricula for Mathematics changed in 2009-10. Results from 2008-09 are not comparable with results from subsequent years.
- The curricula for Social Studies changed in 2008-09. Results from previous years are not comparable with the results from subsequent years.
- Knowledge and Employability courses are designed for students who meet the criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- A dash (–) indicates that data are not available.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

Discussion

- The proportion of students reaching the acceptable standard and the standard of excellence has improved for ESL students in Science 6 and Social Studies 6.
- The proportion of students reaching the acceptable standard has been stable for ESL students in Social Studies 9 but has fluctuated at the standard of excellence.

1.c Diploma Examination Results In Language Arts and Mathematics

Rationale:

- Student results on diploma examinations are a solid indicator of whether high school students are achieving high standards.
- Two diploma examination measures are reported. The first is an aggregate of four Language Arts courses and the second is an aggregate of two Mathematics courses. This reflects a focus on fundamental literacy and numeracy skills, an important outcome for Alberta's K–12 education system.

Targets:

- The target for the overall Language Arts results at the standard of excellence was met and the target at the acceptable standard was exceeded.
- The targets for the overall Mathematics results were not assessed as the targets were set in 2011 based on past results of Pure Mathematics and Applied Mathematics courses. The current year results of the replacement courses, namely Mathematics 30-1 and 30-2, are not comparable to prior years and cannot be used to assess the achievement of targets. These results are provided as information only.

Discussion:

- The Language Arts measure is an average of the results in the following four subjects, weighted by the total number of individuals that wrote each of the exams:
 - English Language Arts 30-1
 - English Language Arts 30-2
 - French Language Arts 30-1
 - Français 30-1

Based on 2008-09 to 2012-13 data, the average proportion of students achieving the acceptable standard in Language Arts has been stable and the proportion of students achieving the standard of excellence has declined, primarily due to lower results in English Language Arts 30-1.

- Prior to 2012-13 the Mathematics measure was an average of the results in the following two subjects weighted by the total number of individuals that wrote each of the exams:

- Pure Mathematics 30
- Applied Mathematics 30

For 2012-13 the Mathematics measure is an average of the results in the following two subjects weighted by the total number of individuals that wrote each of the exams:

- Mathematics 30-1
- Mathematics 30-2

- Based on 2008-09 to 2012-13 data, results at the acceptable standard have improved over time for English Language Arts 30-2 and remained stable for other Language Arts subjects.
- Based on 2008-09 to 2012-13 data, results at the standard of excellence have improved over time for English Language Arts 30-2 and have declined over time for English Language Arts 30-1 and French Language Arts 30-1.
- The ministry is undertaking a major curriculum redesign aimed at ensuring Alberta's curriculum (programs of study, assessment, and learning and teaching resources) remains responsive and relevant for students. This project reflects the province's commitment to continually improve its work in providing a world-class, student-centred curriculum for students now and in the future.

Percentages of Students Writing Language Arts and Mathematics Diploma Examinations who Achieved Standards

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13	Targets 2012/13
English Language Arts 30-1	excellence	12	10	10	11	10	
	acceptable	86	85	84	86	86	
English Language Arts 30-2	excellence	8	10	9	11	11	
	acceptable	88	89	89	90	90	
French Language Arts 30-1	excellence	19	16	14	13	12	
	acceptable	95	94	95	96	95	
Français 30-1	excellence	33	16	20	19	18	
	acceptable	95	94	94	96	97	
Overall Language Arts	excellence	11.4	10.2	9.9	11.2	10.8	10.6
	acceptable	87.1	86.6	86.1	87.4	87.4	87.0
Mathematics 30-1	excellence					35	
	acceptable					80	
Mathematics 30-2	excellence					10	
	acceptable					69	
Overall Mathematics¹	excellence					27.0	24.1¹
	acceptable					76.5	80.6¹

¹The targets for the overall Diploma Examination Mathematics measures were set in 2011 based on past results of Pure Mathematics and Applied Mathematics courses. The current year results of the replacement courses, namely Mathematics 30-1 and 30-2, are not comparable to prior years and cannot be used to assess the achievement of targets. These results are provided as information only.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the percentages of students who achieved the standard of excellence.
- Equating of diploma examinations has been phased in over the past number of years making results directly comparable from year to year for the equated tests. Results are comparable for all years reported from 2008-09 to 2012-13 for English Language Arts 30-1 and 30-2.
- Overall results for language arts are a weighted average of results for the four language arts subjects.
- See Endnote A, page 37, for information on assessing results relative to targets.
- See Endnote B, Diploma Examinations, pages 39-40.

Supplementary Information:

Other Subjects

Percentages of Students Writing Diploma Examinations other than Language Arts and Mathematics who Achieved Standards

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
Social Studies 30-1	excellence	—	16	15	17	15
	acceptable	—	84	83	86	85
Social Studies 30-2	excellence	—	14	16	14	14
	acceptable	—	85	86	83	82
Biology 30	excellence	27	28	30	28	32
	acceptable	83	81	82	82	84
Chemistry 30	excellence	28	30	28	28	32
	acceptable	76	79	75	77	79
Physics 30	excellence	23	20	28	30	30
	acceptable	79	74	77	81	81
Science 30	excellence	21	23	21	22	26
	acceptable	86	80	80	80	84

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the percentages of students who achieved the standard of excellence.
- A dash (—) indicates data are not available.
- Equating of diploma examinations has been phased in over the past number of years making results directly comparable from year to year for the equated tests. Results are comparable for Biology 30 since 2005-06, Science 30 and the new Chemistry 30 since 2010-11, Social Studies 30-2 since 2011-12, and Social Studies 30-1 since 2012-13.
- See Endnote B, Diploma Examinations, pages 39-40.

Discussion:

- The proportion of students that achieved the acceptable standard has increased for Social Studies 30-1, Biology 30, Chemistry 30 and Physics 30; the proportion has declined for Social Studies 30-2 and Science 30.
- The proportion of students that achieved the standard of excellence has increased for Biology 30, Chemistry 30, Physics 30 and Science 30; the proportion has remained stable for Social Studies 30-2 and declined for Social Studies 30-1.

Supplementary Information:

English as a Second Language (ESL) Students Diploma Examination Results

Discussion:

- ESL programs help students learn English while also learning about Canadian cultural values, customs and social expectations. The goal of ESL programs is to provide students with planned systematic instruction and support that will enable them to speak the English language fluently, further their education and become productive and contributing members of Albertan and Canadian society. ESL programming is funded for both Canadian-born and foreign-born students.
- Targets were not set in the 2012-15 Business Plan for ESL students.
- Overall English Language Arts diploma examination results at the acceptable standard have improved over time for ESL students, whereas overall results at the standard of excellence have remained stable with some fluctuation.
- The improvement in English Language Arts results at the acceptable standard is due primarily to an increase in the percentage of students achieving the acceptable standard in English Language Arts 30-2.

Percentages of ESL Students Writing English Language Arts and Mathematics Diploma Examinations who Achieved Standards

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
English Language Arts 30-1	excellence	3	1	2	4	3
	acceptable	60	60	57	65	65
English Language Arts 30-2	excellence	1	2	2	3	3
	acceptable	61	64	68	72	73
Overall English Language Arts	excellence	2.3	1.7	1.7	3.3	3.4
	acceptable	60.5	62.2	61.7	68.4	68.6
Mathematics 30-1	excellence					37
	acceptable					78
Mathematics 30-2	excellence					4
	acceptable					55
Overall Mathematics¹	excellence					28.3
	acceptable					72.2

¹The current year results of Mathematics 30-1 and 30-2 are not comparable to Mathematics results from prior years and are provided as information only.

Source: Alberta Education.

Notes

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- A dash (–) indicates that data are not available.
- Equating of diploma examinations has been phased in over the past number of years making results directly comparable from year to year for the equated tests. Results are comparable for all years reported from 2008-09 to 2012-13 for English Language Arts 30-1 and 30-2.
- Overall results for English Language Arts are a weighted average of results for the English Language Arts subjects.
- See Endnote B, Diploma Examinations, pages 39-40.

Other Subjects (ESL Students)

Percentages of ESL Students Writing Diploma Examinations other than Language Arts and Mathematics who Achieved Standards

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
French Language Arts 30-1	excellence	24	20	24	25	18
	acceptable	76	88	82	90	95
Français 30-1	excellence	15	4	20	24	10
	acceptable	93	93	83	97	100
Social Studies 30-1	excellence	—	10	8	13	9
	acceptable	—	75	72	79	75
Social Studies 30-2	excellence	—	11	11	13	11
	acceptable	—	75	74	73	70
Biology 30	excellence	28	27	28	28	33
	acceptable	77	76	75	76	78
Chemistry 30	excellence	31	35	29	30	35
	acceptable	74	77	73	71	78
Physics 30	excellence	27	23	29	33	32
	acceptable	77	70	71	79	75
Science 30	excellence	19	15	14	17	20
	acceptable	68	63	68	68	71

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the percentages of students who achieved the standard of excellence.
- A dash (—) indicates that data are not available.
- Equating of diploma examinations has been phased in over the past number of years making results directly comparable from year to year for the equated tests. Results are comparable for Biology 30 since 2005-06, Science 30 and the new Chemistry 30 since 2010-11, Social Studies 30-2 since 2011-12, and Social Studies 30-1 since 2012-13.
- See Endnote B, Diploma Examinations, pages 39-40.

Discussion:

- The proportion of ESL students achieving the acceptable standard has declined in Social Studies 30-2.

GOAL 3

Success for First Nations, Métis and Inuit Students

Alberta's First Nations, Métis and Inuit students are provided with high-quality learning opportunities and supports to engage in successful learning. The ministry will work collaboratively with First Nations and the federal government to enable equitable educational opportunities for all First Nations students so that they can achieve educational outcomes at the same level as all students. The ministry supports First Nations, Métis and Inuit student success by raising awareness of their unique needs; developing culturally relevant learning resources and programming opportunities; focusing on continuous improvement through appropriate accountability mechanisms; and working collaboratively with First Nations, Métis and Inuit communities.

Goal 3 Performance Measures

3.b First Nations, Métis and Inuit (FNMI) Achievement Test Results in Language Arts

Rationale:

- Overall FNMI student achievement of standards on provincial achievement tests is a sound indicator of whether FNMI elementary and junior high students are achieving high standards in Language Arts, an important outcome for Alberta's K–12 education system.

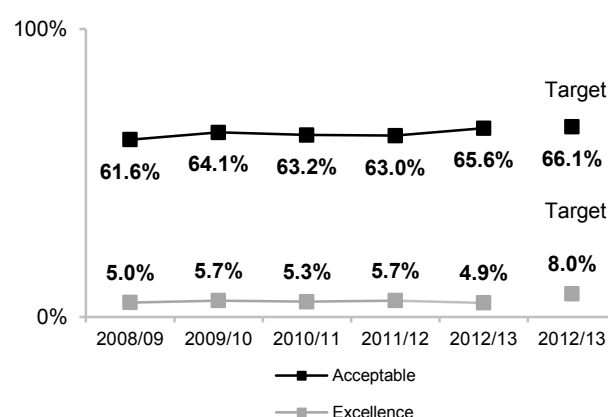
Target:

- The target for the overall Language Arts results for self-identified FNMI students at the acceptable standard was met but the target at the standard of excellence was not met.

Discussion:

- Overall results in Language Arts are calculated as an average of the proportion of students achieving standards in the following nine subjects, weighted by the number of individuals that were enrolled (three subjects, namely Français 3, 6 and 9 were excluded from the calculations as less than six students wrote these tests):
 - English Language Arts 3, 6 and 9
 - French Language Arts 3, 6 and 9
 - Français 3, 6 and 9
- Overall results in Language arts for self-identified FNMI students have improved at the acceptable standard. Results at the standard of excellence have remained stable over time with minor fluctuations.
- Overall language arts test participation rates for self-identified FNMI students have increased over time, primarily because participation rates for Grades 3, 6 and 9 English Language Arts have increased.

Overall Percentages of Self-Identified FNMI Students who Achieved Standards on Grades 3, 6 and 9 Language Arts Provincial Achievement Tests



Source: Alberta Education.

Notes:

- The results reported are solely based on students who identified themselves as Indian/First Nations, Métis, and Inuit. These students may not be fully representative of the population of Aboriginal students. Discretion should be applied when interpreting the results over time.
- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Overall results are a weighted average based on total enrolment in Grades 3, 6 and 9 Language Arts courses.
- Due to the flooding in southern Alberta in the summer of 2013, the number of students writing the Grade 9 English Language Arts Provincial Achievement Test was reduced and this may have impacted the overall result.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

FNMI Participation Rates for Provincial Achievement Tests *(in percentages)*

Subject	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3					
English Language Arts	85	86	87	90	89
French Language Arts	95	95	94	92	94
Français	n/a	n/a	*	*	*
Grade 6					
English Language Arts	81	84	86	87	87
French Language Arts	96	95	97	95	98
Français	*	*	*	*	*
Grade 9					
English Language Arts	75	76	76	76	79
French Language Arts	90	98	95	100	92
Français	n/a	n/a	*	n/a	*
Overall Language Arts					
	81.0	82.4	83.3	84.7	85.5

Source: Alberta Education.

Notes:

- An asterisk (*) indicates suppression has been applied because fewer than six students wrote the test, while n/a indicates no FNMI students wrote the test.

3.b FNMI Achievement Test Results in Language Arts—by Subject and Grade

Rationale:

- FNMI student results on provincial achievement tests in each grade and subject provide detailed information on whether FNMI elementary and junior high students are achieving high standards in Language Arts, an important outcome for Alberta's K-12 education system.

Target:

- Targets for individual Language Arts subjects were not set in the 2012-15 Business Plan.

Discussion:

- The participation rate for FNMI students taking Language Arts provincial achievement tests has increased from 81.0 per cent to 85.5 per cent.
- The proportion of students achieving the acceptable standard has increased over time for English Language Arts 6 and 9. Results for the English Language Arts 3, French Language Arts 6 and 9 have remained stable and results for French Language Arts 3 has declined.
- The proportion of students achieving the standard of excellence has remained stable over time for English Language Arts 3, 6, and 9 and French Language Arts 3, 6 and 9.
- As adult literacy studies are not conducted regularly, Grade 9 results in Language Arts are regarded as indicators of literacy. Students who achieve the acceptable standard have developed the foundational skills needed to become literate adults. As indicated above, results at the acceptable standard have improved over time for English Language Arts 9 and remained stable for French Language Arts 9.
- Note that the flooding in southern Alberta in the summer of 2013 resulted in a reduction in the number of students writing the Grade 9 English Language Arts Provincial Achievement Test and this may have impacted the overall result.

Percentages of Self-Identified FNMI Students in Grades 3, 6 and 9 who Achieved Standards on Provincial Achievement Tests in Language Arts

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13	Targets 2012/13
Grade 3							
English Language Arts	excellence	6	7	6	7	6	
	acceptable	68	68	67	68	68	
French Language Arts	excellence	9	3	7	10	2	
	acceptable	80	75	58	68	64	
Français	excellence	n/a	n/a	*	*	*	
	acceptable						
Grade 6							
English Language Arts	excellence	6	6	6	5	4	
	acceptable	62	68	66	67	68	
French Language Arts	excellence	2	3	3	14	9	
	acceptable	87	70	80	85	78	
Français	excellence	*	n/a	*	*	*	
	acceptable						
Grade 9							
English Language Arts	excellence	3	4	4	4	4	
	acceptable	53	55	55	51	58	
French Language Arts	excellence	2	11	2	8	5	
	acceptable	69	71	75	83	79	
Français	excellence	n/a	n/a	*	n/a	*	
	acceptable						
Overall Language Arts							
	excellence	5.0	5.7	5.3	5.7	4.9	8.0
	acceptable	61.6	64.1	63.2	63.0	65.6	66.1

Source: Alberta Education.

Notes:

- The results reported are solely based on students who identified themselves as Indian/First Nations, Métis, and Inuit. These students may not be fully representative of the population of Aboriginal students. Discretion should be applied when interpreting the results over time.
- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- An asterisk (*) indicates suppression has been applied because fewer than six self-identified FNMI students wrote the test, while n/a indicates no self-identified FNMI students wrote the test.
- Overall language arts measure results include only English Language Arts 3, 6 and 9, and French Language Arts 3, 6 and 9.
- See Endnote A, page 37, for assessing results relative to targets.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

Supplementary Information:

Other Subjects (FNMI Students)

FNMI Participation Rates for Provincial Achievement Tests in Other Subjects (*in percentages*)

Subject	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3					
Mathematics	86	–	87	90	90
Grade 6					
Mathematics	81	–	84	86	87
Science	80	84	86	88	88
Social Studies	–	85	86	88	86
Grade 9					
English Language Arts (Knowledge & Employability)	–	75	73	70	76
Mathematics	75	–	76	77	81
Mathematics (Knowledge & Employability)	–	82	80	79	84
Science	77	77	78	78	82
Science (Knowledge & Employability)	–	82	80	78	85
Social Studies	–	77	75	76	81
Social Studies (Knowledge & Employability)	–	82	73	75	82

Source: Alberta Education.

Note:

- Knowledge and Employability courses are designed for students who meet the criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- A dash (–) indicates that data are not available.

Percentages of Self-Identified FNMI Students in Grades 3, 6 and 9 who Achieved Standards on Provincial Achievement Tests in Other Subjects

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
Grade 3						
Mathematics	excellence	11	–	10	11	10
	acceptable	62	–	58	59	57
Grade 6						
Mathematics	excellence	5	–	5	4	5
	acceptable	51	–	49	52	52
Science	excellence	8	10	9	10	9
	acceptable	52	58	54	57	59
Social Studies	excellence	–	5	6	6	5
	acceptable	–	49	48	52	50
Grade 9						
English Language Arts (Knowledge & Employability)	excellence	–	5	7	4	2
	acceptable	–	59	57	49	56
Mathematics	excellence	4	–	4	4	5
	acceptable	36	–	34	37	43
Mathematics (Knowledge & Employability)	excellence	–	11	13	10	9
	acceptable	–	54	55	51	60
Science	excellence	3	5	6	6	7
	acceptable	44	45	46	45	52
Science (Knowledge & Employability)	excellence	–	10	11	12	13
	acceptable	–	58	63	60	64
Social Studies	excellence	–	6	5	6	7
	acceptable	–	41	38	40	44
Social Studies (Knowledge & Employability)	excellence	–	12	10	8	10
	acceptable	–	56	51	53	60

Source: Alberta Education.

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- The curricula for Mathematics changed in 2009-10. Results from 2008-09 are not comparable with results from subsequent years.
- The curricula for Social Studies changed in 2008-09. Results from previous years are not comparable with the results from subsequent years.
- Knowledge and Employability courses are designed for students who meet the criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- A dash (–) indicates that data are not available.
- See Endnote B, Provincial Achievement Tests, pages 38-39.

Discussion:

- The participation rate for FNMI students taking provincial achievement tests has increased significantly for a number of subjects including Mathematics 6 and 9, and Science 6 and 9.
- For the years 2008-09 to 2012-13, the proportion of students achieving the acceptable standard has increased for both Science 6 and Science 9 whereas the proportion of students achieving the standard of excellence has remained stable for Science 6 and increased for Science 9.
- For the years 2009-10 to 2012-13, the proportion of students achieving the acceptable standard and the standard of excellence remained stable for both Social Studies 6 and 9.

3.c First Nations, Métis and Inuit (FNMI) Diploma Examination Results in Language Arts and Mathematics

Rationale:

- FNMI student results on diploma examinations are a solid indicator of whether FNMI high school students are achieving high standards.
- Two diploma examination measures are reported. The first is an aggregate of four Language Arts courses and the second is an aggregate of two Mathematics courses. This reflects a focus on fundamental literacy and numeracy skills, an important outcome for Alberta's K–12 education system.

Targets:

- The targets for overall Language Arts results at both the acceptable standard and the standard of excellence for self-identified FNMI students were not met.
- The targets for the overall Mathematics results were not assessed as the targets were set in 2011 based on past results of Pure Mathematics and Applied Mathematics courses. The current year results of the replacement courses, namely Mathematics 30-1 and 30-2, are not comparable to prior years and cannot be used to assess the achievement of targets. These results are provided as information only.

Discussion:

- The Language Arts measure is an average of the results in the following four subjects, weighted by the total number of individuals that wrote each of the exams:
 - English Language Arts 30-1
 - English Language Arts 30-2
 - French Language Arts 30-1
 - Français 30-1

- Based on 2008-09 to 2012-13 data, overall results in Language Arts at the acceptable standard and standard of excellence have been stable over time with some fluctuations. Note that fewer than six self-identified FNMI students wrote the Français 30-1 exam from 2008-09 to 2012-13.
- Prior to 2012-13 the Mathematics measure was an average of the results in the following two subjects weighted by the total number of individuals that wrote each of the exams:
 - Pure Mathematics 30
 - Applied Mathematics 30

For 2012-13 the Mathematics measure is an average of the results in the following two subjects weighted by the total number of individuals that wrote each of the exams:

- Mathematics 30-1
 - Mathematics 30-2
- Based on 2008-09 to 2012-13 data, results at the acceptable standard and the standard of excellence for English Language Arts 30-2 have improved over time. Results for English Language Arts 30-1 and French Language Arts 30-1 at both the acceptable standard and the standard of excellence have remained stable over time.
- The ministry is undertaking a major curriculum redesign aimed at ensuring Alberta's curriculum (programs of study, assessment, and learning and teaching resources) remains responsive and relevant for students. This project reflects the province's commitment to continually improve its work in providing a world-class, student-centred curriculum for students now and in the future.

Percentages of Self-Identified FNMI Students Writing Language Arts and Mathematics Diploma Examinations that Achieved Standards

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13	Targets 2012/13
English Language Arts 30-1	excellence acceptable	6 78	4 75	1 80	5 75	4 73	
English Language Arts 30-2	excellence acceptable	4 83	7 88	7 87	9 89	7 88	
French Language Arts 30-1	excellence acceptable	15 85	0 75	0 95	10 90	0 100	
Français 30-1	excellence acceptable	n/a n/a	n/a n/a	n/a n/a	n/a n/a	* *	
Overall Language Arts	excellence acceptable	4.9 81.3	5.7 82.6	4.4 84.2	7.0 83.1	5.8 82.0	8.4 84.7
Mathematics 30-1	excellence acceptable					18 66	
Mathematics 30-2	excellence acceptable					7 62	
Overall Mathematics¹	excellence acceptable					12.7 64.1	12.7¹ 73.6¹

¹ The targets for the overall Diploma Examination Mathematics measures were set in 2011 based on past results of Pure Mathematics and Applied Mathematics courses. The current year results of the replacement courses, namely Mathematics 30-1 and 30-2, are not comparable to prior years and cannot be used to assess the achievement of targets. These results are provided as information only.

Source: Alberta Education.

Notes

- The results reported are based solely on students who identified themselves as Indian/First Nations, Métis, and Inuit. These students may not be fully representative of the population of Aboriginal students. Discretion should be applied when interpreting the results over time.
- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- An asterisk (*) indicates suppression has been applied because fewer than six self-identified FNMI students wrote the test, while n/a indicates no self-identified FNMI students wrote the test.
- Equating of diploma examinations has been phased in over the past number of years making results directly comparable from year to year for the equated tests. Results are comparable for all years reported from 2008-09 to 2012-13 for English Language Arts 30-1 and 30-2.
- Overall results for language arts are a weighted average of results for the language arts subjects.
- See Endnote B, Diploma Examinations, pages 39-40.

Supplementary Information:

Other Subjects (FNMI Students)

Percentages of Self-Identified FNMI Students Writing Diploma Examinations other than Language Arts and Mathematics that Achieved Standards

Subject	Standard	2008/09	2009/10	2010/11	2011/12	2012/13
Social Studies 30-1	excellence	–	7	3	6	5
	acceptable	–	72	71	75	73
Social Studies 30-2	excellence	–	7	10	6	7
	acceptable	–	77	78	75	72
Biology 30	excellence	12	13	12	11	14
	acceptable	69	64	71	67	73
Chemistry 30	excellence	14	12	10	12	13
	acceptable	61	64	56	59	58
Physics 30	excellence	14	11	15	11	16
	acceptable	67	61	66	61	70
Science 30	excellence	15	15	11	17	19
	acceptable	80	77	73	79	81

Source: Alberta Education.

Notes

- The percentages of students who achieved the acceptable standard include the percentages of students who achieved the standard of excellence.
- A dash (–) indicates data are not available.
- Equating of diploma examinations has been phased in over the past number of years making results directly comparable from year to year for the equated tests. Results are comparable for Biology 30 since 2005-06, Science 30 and the new Chemistry 30 since 2010-11, Social Studies 30-2 since 2011-12, and Social Studies 30-1 since 2012-13.
- See Endnote B, Diploma Examinations, pages 39-40.

Discussion:

- For the years 2008-09 to 2012-13, the proportion of students achieving the acceptable standard and the standard of excellence remained stable for Biology 30, Chemistry 30, Physics 30 and Science 30.
- For the years 2009-10 to 2012-13, the proportion of students achieving the acceptable standard in Social Studies 30-1 remained stable whereas it decreased for Social Studies 30-2. The proportion of students achieving the standard of excellence remained stable for both Social Studies 30-1 and 30-2.

Endnotes for Performance Measures

Endnote A: Technical Notes

Assessing Results Over Time

Changes over time are assessed with a Chi-square statistical test for measures based on tests of student learning. The test determines whether the difference between two proportions is significant. The calculation of Chi-square is based on the difference between what was observed and what would be expected assuming that the proportions were the same. Under a simple test of proportions, a Chi-square value of 1 represents a difference of one standard deviation, while a Chi-square value of 3.84 is significant at the five per cent level. Discussion of results over time for test measures is supported by this test of significant difference.

Assessing Results Relative to Targets

Performance targets set expectations for results within specific time frames and are the basis for planning improvements and assessing results that are within the sphere of influence of the ministry and school authorities. They are an important way to gauge whether the education system is improving or falling behind in obtaining desired results in key areas. Targets clearly establish desired levels of performance better than recent performance, to be attained within a specific timeframe. Targets are quantifiable and expressed in numerical terms, such as percentages or ratios. They are used as a key tool to drive, measure, improve and manage performance.

For measures based on achievement tests, on diploma exams and on administrative data, the Chi-square statistical test is used to determine whether the result is significantly different from the target. The magnitude of the difference required between the result and the target for each test to establish significance depends on the sample size, i.e., the number of students writing an exam, and the proportion, i.e., the percentage of students meeting standards.

Trend Lines

Although not appearing in the annual report, trend lines are an aid to interpreting the results for measures reported in the annual report. Trend lines augment data interpretation techniques already in use such as the calculation of chi-square values, which are used to determine the significance of changes in measure results over time.

Trend lines are used to develop an expected value for a current result given historical results. The expected value can then be compared with the actual result. In this way, trend lines provide a useful method of understanding year-to-year fluctuations and shift the focus from smaller year-to-year changes to providing information about the direction of results over the longer term. In particular it is of interest whether results are tracking towards the performance target for the measures that have not met targets.

Discussion of results over time for measures with at least three data points are supported by trend lines. The type of trend line used is selected based on an informed interpretation of the data series underlying the trend.

Logarithmic trend lines are appropriate for proportional data, i.e., data expressed as percentages of a whole, and therefore ranging between 0 per cent and 100 per cent, such as the performance measures in this report. A logarithmic trend line is a best-fit straight line that is most useful when the rate of change in the data increases or decreases quickly, then levels out. The leveling out can be seen in the results for some measures in the report, along with examples of year-to-year increases or decreases on other measures.

A logarithmic trend line is calculated using the following formula:

$$Y = c(\ln x) + b$$
, where c and b are constants and \ln is the natural logarithm function and x is the year of the series.

Endnote B: Methodology for Performance Measures

Described below are the methodologies used to calculate the measures that are derived from provincial assessments of student learning.

Definition of Alberta Student

Results are reported for Alberta students, i.e., students whose education is the responsibility of the Alberta government. An Alberta student is age 19 or younger on September 1 of the school year and is registered in an Alberta school authority, i.e., a public, separate or francophone school board, a charter school or an accredited private school on September 30 of the school year. Students attending a school in Lloydminster are not included.

Results for FNMI Students

Calculating results for FNMI students is possible because school jurisdictions have been required to include a voluntary FNMI self-identification question on school registration forms for several years and to report the identifier to the ministry's student data system. Self-identification of students has increased each year. Students' FNMI self-identification information associated with their most recent school registration is used to calculate results. This provides the most complete results and reflects the student's intent to be identified.

Results for English as a Second Language (ESL) Students

The calculation of results for ESL students is based on the number of ESL students for whom funding was provided to school authorities for ESL programming. ESL programming is designed for children/students who require additional English language supports and instruction to achieve grade level expectations in English and other subject areas. This group includes both Canadian-born and foreign-born students. Students funded for an ESL program in the year reflected in the measure are included in the ESL results, so that, for example, Grade 3 students funded for ESL in 2011-12 are included in the Grade 3 ESL Provincial Achievement Test results.

Provincial Achievement Tests

Students in Grades 3, 6 and 9 write Provincial Achievement Tests annually in language arts and mathematics. Grades 6 and 9 students also write tests in science and social studies. The achievement test results for Grades 3, 6 and 9 provide information on how well Alberta students in public, separate, francophone, charter and accredited private schools are meeting provincial standards in the core academic subjects. Tests are developed and administered by teachers and educators and are based on the provincial curriculum. Results are reported in relation to the standards of acceptable and excellence.

A student achieving the acceptable standard in a specific grade shows an adequate understanding of the core knowledge and adequate basic skills essential to that course. A student achieving the standard of excellence consistently shows a deeper understanding of the concepts of the course by demonstrating an ability to integrate information and evaluate it from various points of view.

For each achievement test, the cut scores for the acceptable standard and the standard of excellence are set initially by a standard-setting committee of about 20 teachers using the Modified Angoff and Bookmark Standard Setting Procedures. These procedures use teachers' judgment to determine a minimum number of items a student must answer correctly – the cut score – to achieve each standard. In subsequent years, the cut scores for each test are adjusted through test equating. This ensures the standards remain constant even if test difficulty varies slightly from year to year. Whenever curriculum is revised, the standard-setting process is done again.

Results on Provincial Achievement Tests are calculated and presented on the basis of the total number of students in each grade who demonstrated the standards. Results for mathematics include student results on both English and French versions of the tests. Given the large number of students in each grade (more than 40,000), differences in results from year to year of more than 0.4 percentage point on each test are considered significant. French language arts and Français courses have higher significant difference values (1.2 to 3.8 percentage points, depending on the number of students in each course), because fewer students are in these courses.

Not all students write the Provincial Achievement Tests. Achievement test results are not available for students who:

- were absent,
- were excused from writing by the superintendent because participation would be harmful to the student or the student could not respond to the test instrument,
- wrote but whose results were withheld or invalidated, or
- wrote only one part of the two-part language arts test.

It is possible that some of these students, under different circumstances, could have demonstrated achievement of standards on the test.

Participation rates in achievement tests are calculated by dividing the number of students in the grade who wrote the test by the sum of total enrolment in the grade plus the ungraded students who are in the corresponding year of schooling.

Provincial overall results in Language Arts present weighted averages based on the number of students enrolled in each Language Arts course. Test results and participation are recorded and aggregated in ministry systems. Provincial, school authority and school results are available at <http://www.education.alberta.ca/admin/testing.aspx>.

Diploma Examinations

Examinations are administered in all Diploma Examination courses in January, June and August each year. Examinations are administered in three courses in both November and April, for a total of six courses. Results on Diploma Examinations show how well Alberta students in public, separate, francophone, charter and accredited private schools are meeting provincial expectations as outlined in the Programs of Study. Examination items are developed and standards are established by committees of teachers. The examination design is vetted through committees of stakeholders and by a standard-setting committee of teachers.

A test equating initiative has been phased in for the Diploma Examination Program so that over time examinations are consistent and the results are comparable. The multiple-choice portion of the examinations contains a set of items common to administrations in subsequent years. By comparing the achievement of students writing in a baseline session with those writing in any subsequent administration on the common items and on the unique items, Alberta Education is able to determine whether or not the examinations are of equal difficulty. Student scores on the subsequent examinations can then be equated back to the baseline examinations to remove any influence that differences in examination difficulty may have on student scores. The equating process was implemented for Pure Mathematics 30 in January 2005 and for English Language Arts 30-1 and 30-2, and Applied Mathematics 30 in January 2006.

Through equating, test results for a particular course are based on an identical standard and, consequently, can be directly compared over time. As a result of implementing the equating process, diploma examination results are comparable over time as follows:

- Pure Mathematics 30 from 2004-05 to 2012-13¹

¹ In 2012-2013 less than 150 students wrote Pure Mathematics 30 or Applied Mathematics 30 examinations as these subjects are being phased out, whereas a majority of students wrote Mathematics 30-1 or Mathematics 30-2.

- English Language Arts 30-1 and 30-2, and Applied Mathematics 30 from 2005-06 to 2012-13.

Diploma Examination results are reported in relation to the acceptable standard and the standard of excellence. Results for mathematics include results for both English and French versions of the tests. The overall results present weighted averages based on the numbers of students achieving standards in all Diploma Examinations. Students achieving the acceptable standard demonstrate that they have met the basic requirements of the course. A mark of 50 per cent on the examination represents the acceptable standard in a Diploma Examination course. A mark of 80 per cent on the examination represents the standard of excellence and indicates the student has demonstrated performance significantly beyond the minimum requirements of the course. For student marks in Diploma Examination courses, the diploma examination mark is worth 50 per cent of the final mark in a course and the school-awarded mark contributes the other 50 per cent.

Starting from the 2009-10 school year, the written response component has been removed from the mathematics Diploma Examinations. More machine-scored items, particularly numerical response items, have been added to these examinations to maintain the same quality and standards.

Diploma Examination results are recorded and aggregated in ministry systems. Provincial, school authority and school results reports are available at <http://www.education.alberta.ca/admin/testing.aspx>.