

Education

Annual Report Update
2014-2015



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Printed Version: ISSN No. 1927-4971 ISBN No. 978-1-4601-2608-0

Online Version: ISSN No. 1927-4610 ISBN No. 978-1-4601-2609-7

Education

2014-2015 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 1 of 2 performance measures in the Ministry of Education's Annual Report Update 2014–2015. 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 result is 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 2014.

My review was made in accordance with Canadian generally accepted standards for review engagements and, accordingly, consisted primarily of inquiry, 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 one performance measure identified as reviewed by the Office of the Auditor General in the ministry's annual report update 2014–2015 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

November 3, 2015

Edmonton, Alberta

Note: The 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

- The percentage of students achieving the acceptable standard on Language Arts diploma examinations did not meet the performance target for 2014-15 while the percentage of students achieving the standard of excellence met the target. The percentage of students achieving the acceptable standard has increased from 86.5 per cent in 2010-11 to 87.6 per cent in the current year, due primarily to the improvement in the results for English Language Arts 30-1. The overall proportion of students achieving the standard of excellence also increased, from 9.9 per cent in 2010-11 to 11.4 per cent in 2014-15.
- The percentages of students achieving the acceptable standard and the standard of excellence in diploma examinations have increased since 2010-11 for Social Studies 30-1, Biology 30, Chemistry 30, Physics 30 and Science 30. The proportions of students achieving the acceptable standard and the standard of excellence have decreased for Social Studies 30-2.
- Provincial achievement test results in Language Arts did not meet 2014-15 targets at the acceptable standard or the standard of excellence. The percentage of students that achieved the acceptable standard has decreased over time from 81.3 per cent in 2010-11 to 79.6 per cent in 2014-15, while the proportion of students who achieved the standard of excellence has decreased from 17.2 per cent to 16.6 per cent in 2014-15.
- Provincial achievement test results in Mathematics did not meet 2014-15 targets at the acceptable standard or the standard of excellence. The percentage of students that achieved the acceptable standard has decreased over time from 69.8 per cent in 2010-11 to 69.3 per cent in 2014-15, while the proportion of students who achieved the standard of excellence has decreased from 17.5 per cent to 15.9 per cent in 2014-15.
- The percentage of students achieving the acceptable standard in provincial achievement tests has remained stable for Science 6 and decreased for Science 9, Social Studies 6 and Social Studies 9. The percentage of students achieving the standard of excellence has increased for Science 9 and Social Studies 9, and remained stable for Science 6 and Social Studies 6.
- 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 Kindergarten-Grade 12 education system. No targets were set in the 2014-17 Business Plan for Language Arts diploma examination results for self-identified FNMI students. The overall percentage of self-identified FNMI students achieving the acceptable standard in 2014-15 was 84.5 per cent, a rate that has been stable over time. The proportion of self-identified FNMI students achieving the standard of excellence has increased from 4.4 per cent in 2010-11 to 7.1 per cent in 2014-15.
- The percentage of self-identified FNMI students achieving the acceptable standard in diploma examinations has increased for Chemistry 30, Physics 30 and Social Studies 30-1, remained stable for Biology 30 and Science 30, and decreased for Social Studies 30-2. The proportion achieving the standard of excellence has increased for Biology 30 and Chemistry 30, remained stable for Physics 30, Science 30 and Social Studies 30-1, and decreased for Social Studies 30-2.
- No targets were set in the 2014-17 Business Plan for Language Arts provincial achievement test results for self-identified FNMI students. The proportion of self-identified FNMI students who achieved the acceptable standard has remained stable from 2010-11 to 2014-15, with a percentage of 62.4 per cent in the current year. The percentage of self-identified FNMI

students that achieved the standard of excellence, 5.8 per cent in the current year, has remained stable over the same period.

- Over the past five years, the self-identified 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 80.9 per cent in 2010-11 to 83.4 per cent in 2014-15.
- No targets were set in the 2014-17 Business Plan for Mathematics provincial achievement test results for self-identified FNMI students. The proportion of self-identified FNMI students who achieved the acceptable standard has increased from 2010-11 to 2014-15, with a percentage of 46.1 per cent in the current year. The percentage of self-identified FNMI students that achieved the standard of excellence, 4.6 per cent in the current year, has remained stable over the same period.
- Over the past five years, the self-identified FNMI participation rate for Mathematics provincial achievement tests, which is the proportion of enrolled self-identified FNMI students that write the tests, has risen steadily from 80.5 per cent in 2010-11 to 83.8 per cent in 2014-15.
- Alberta Education is currently working with education partners to modernize provincial curriculum (programs of study, assessments, learning and teaching resources). To this end, the ministry is piloting new Student Learning Assessments to replace Grade 3 Provincial Assessment Tests. These new assessments are to 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 2014-15 are established in the Ministry of Education Business Plan for 2014-17.

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 9-41, including:

- 2014-15 target and results
- change over time (five-year trend).

Goal/Performance Measures			Prior Years' Results				Target	Current Actual
2	Success for every student							
2.a	Percentages of students who achieved standards on grade 6 and 9 provincial achievement tests: ¹							
	Language Arts, all students	acceptable	81.3%	80.3%	80.5%	79.5%	82.8%	79.6%
		excellence	17.2%	16.8%	15.5%	16.0%	18.7%	16.6%
			2010-11	2011-12	2012-13	2013-14		2014-15
	Mathematics, all students	acceptable	69.8%	70.5%	70.5%	70.2%	70.9%	69.3%
		excellence	17.5%	17.2%	17.1%	16.3%	17.5%	15.9%
			2010-11	2011-12	2012-13	2013-14		2014-15
2.b*	Percentages of students who achieved standards on Language Arts diploma examinations: ²							
		acceptable	86.5%	87.6%	87.4%	88.6%	87.9%	87.6%
		excellence	9.9%	11.2%	10.7%	12.4%	11.5%	11.4%
			2010-11	2011-12	2012-13	2013-14		2014-15

*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 42.

For information on the methodology employed in the test measures please refer to Endnote B, pages 43-45

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

² Historical results for diploma examinations have been revised due to the implementation of the Provincial Approach to Student Information (PASI) which has provided a more complete rendering of students writing exams throughout the school year.

Discussion and Analysis of Results

GOAL 2

Success for Every Student

Success for every student means that students are engaged and demonstrate ethical citizenship and entrepreneurship, while being proficient in literacy and numeracy, and have achieved Alberta's student learning outcomes. 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 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 2 Performance Measures

2.a Overall 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.

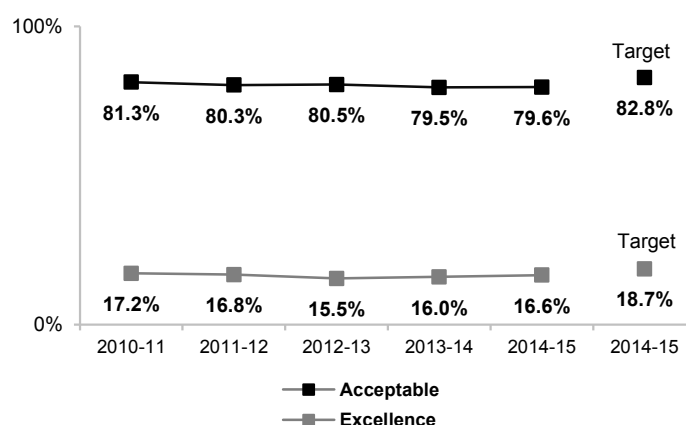
Target

- The targets for overall Language Arts provincial achievement test 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 results in the following seven subjects weighted by the number of individuals that were enrolled:
 - English Language Arts 6 and 9
 - French Language Arts 6 and 9
 - Français 6 and 9
 - English Language Arts 9 (Knowledge and Employability)
- Overall results in Language Arts at the acceptable standard and at the standard of excellence have declined over time.
- 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 in 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 6 and 9 Language Arts courses. Prior to 2013-14 this measure did not include results of English Language Arts 9 (Knowledge and Employability).
- See Endnote A, page 42, for information on assessing results relative to targets, and results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Discussion (continued):

- From 2010-11 to 2014-15, the overall participation rate for students taking Language Arts provincial achievement tests has remained stable.

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

Subject	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6					
English Language Arts	91	91	91	90	91
French Language Arts	97	97	98	98	98
Français	98	98	98	97	97
Grade 9					
English Language Arts	89	89	88	88	89
English Language Arts (Knowledge and Employability)	82	80	80	80	82
French Language Arts	97	97	97	97	96
Français	98	96	96	95	95
Overall Language Arts					
	90.2	90.1	90.1	89.7	90.0

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Note:

- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.

2.a Achievement Test Results in Language Arts by Individual Subject for Students in Grades 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 subject results were not set in the 2014-17 Business Plan.

Discussion

- The proportion of students achieving the acceptable standard has decreased over time for French Language Arts 6 and 9, English Language Arts 9 and English Language Arts 9 (Knowledge and Employability). Results for English Language Arts 6 have remained stable.
- The proportion of students achieving the standard of excellence has decreased over time for French Language Arts 6 and 9, English Language Arts 9 and English Language Arts 9 (Knowledge and Employability) and has increased for English Language Arts 6.
- 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 decreased over time for French Language Arts 9 and 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 for that year. Caution needs to be exercised when comparing this result with current and prior years.

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

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15	Targets 2014-15
Grade 6							
English Language Arts	excellence	19	18	16	18	20	
	acceptable	83	83	83	82	83	
French Language Arts	excellence	17	17	16	16	14	
	acceptable	89	89	89	88	88	
Français	excellence	18	22	22	17	15	
	acceptable	92	91	94	91	89	
Grade 9							
English Language Arts	excellence	16	16	15	15	14	
	acceptable	79	77	77	76	76	
English Language Arts (Knowledge and Employability)	excellence	8	6	4	4	5	
	acceptable	67	61	62	63	63	
French Language Arts	excellence	15	12	14	11	10	
	acceptable	89	88	87	86	86	
Français	excellence	16	16	15	18	20	
	acceptable	90	85	84	86	88	
Overall Language Arts							
	excellence	17.2	16.8	15.5	16.0	16.6	18.7
	acceptable	81.3	80.3	80.5	79.5	79.6	82.8

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for information on assessing results relative to targets, and results over time.
- See Endnote B, Provincial Achievement Tests, page 43-44.

2.a Overall Achievement Test Results in Mathematics

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 Mathematics, an important outcome for Alberta's K–12 education system.

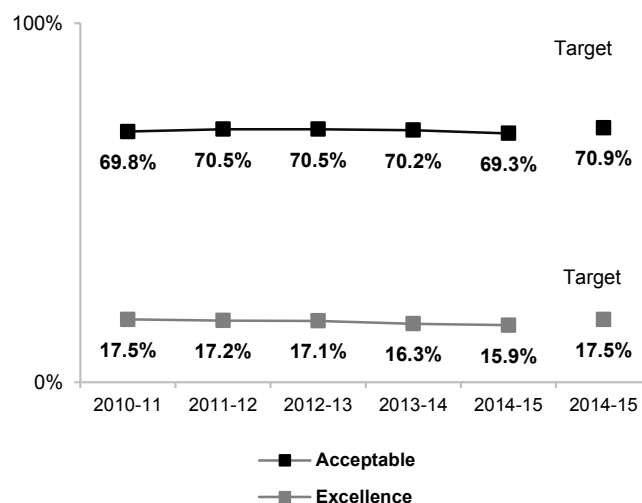
Target

- The targets for overall Mathematics provincial achievement test results at the acceptable standard and at the standard of excellence were not met.

Discussion

- Overall results in Mathematics are calculated as an average of the results in the following three subjects weighted by the number of individuals that were enrolled:
 - Mathematics 6 and 9
 - Mathematics 9 (Knowledge and Employability)
- Overall results in Mathematics at the acceptable standard and at the standard of excellence have declined over time.
- 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 in Mathematics 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 Mathematics results are a weighted average based on total enrolment in Grades 6 and 9 Mathematics courses.
- See Endnote A, page 42, for information on assessing results relative to targets, and results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Discussion (continued):

- From 2010-11 to 2014-15, the overall participation rate for students taking Mathematics provincial achievement tests has remained stable.

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

Subject	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6					
Mathematics	91	91	91	91	91
Grade 9					
Mathematics	89	90	89	89	89
Mathematics (Knowledge & Employability)	87	87	88	86	86
Overall Mathematics					
	90.1	90.3	90.0	89.8	90.0

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Note:

- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.

2.a Achievement Test Results in Mathematics by Individual Subject for Students in Grades 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 Mathematics, an important outcome for Alberta's K–12 education system.

Target

- Targets for individual Mathematics subject results were not set in the 2014-17 Business Plan.

Discussion

- The proportion of students achieving the acceptable standard has decreased over time for Mathematics 6 and Mathematics 9 (Knowledge and Employability), while the proportion for Mathematics 6 has remained stable.
- The proportion of students achieving the standard of excellence has decreased over time for Mathematics 6, while the proportion for Mathematics 9 (Knowledge and Employability) has remained stable. The proportion of students achieving the standard of excellence has increased for Mathematics 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 Mathematics Provincial Achievement Test, and this may have impacted the overall provincial result for that year. Caution needs to be exercised when comparing this result with current and prior years.

Percentages of Students in Grades 6 and 9 who Achieved Standards on Provincial Achievement Tests in Mathematics

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15	Targets 2014-15
Grade 6							
Mathematics	excellence	18	17	16	15	14	
	acceptable	74	75	73	73	73	
Grade 9							
Mathematics	excellence	17	18	18	17	18	
	acceptable	66	66	67	67	65	
Mathematics (Knowledge and Employability)	excellence	15	15	15	15	14	
	acceptable	65	62	66	63	61	
Overall Mathematics							
	excellence	17.5	17.2	17.1	16.3	15.9	17.5
	acceptable	69.8	70.5	70.5	70.2	69.3	70.9

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for information on assessing results relative to targets, and results over time.
- See Endnote B, Provincial Achievement Tests, page 43-44.

Supplementary Information: Other Subjects

Discussion

- From 2010-11 to 2014-15, the participation rates for students taking Provincial Achievement Tests in subjects other than Mathematics and Language Arts have remained stable.
- The proportion of students achieving the acceptable standard has remained stable since 2010-11 for Science 6 and decreased for Science 9 and Science 9 (Knowledge and Employability).
- The proportion of students achieving the standard of excellence has increased since 2010-11 for Science 9 and remained stable for Science 6 and Science 9 (Knowledge and Employability).
- The proportion of students achieving the acceptable standard has decreased since 2010-11 for Social Studies 6 and 9, and Social Studies 9 (Knowledge and Employability).
- The proportion of students that achieved the standard of excellence has increased since 2010-11 for Social Studies 9, remained stable for Social Studies 6, and declined for Social Studies 9 (Knowledge and Employability).

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

Subject	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6					
Science	90	91	91	90	90
Social Studies	91	91	90	90	90
Grade 9					
Science	90	90	89	90	90
Science (Knowledge & Employability)	87	86	87	86	87
Social Studies	89	89	89	89	89
Social Studies (Knowledge & Employability)	84	84	87	85	85

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Note:

- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.

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

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6						
Science	excellence	25	28	26	25	25
	acceptable	76	78	77	76	76
Social Studies	excellence	19	19	19	17	18
	acceptable	71	73	73	70	70
Grade 9						
Science	excellence	21	22	20	22	23
	acceptable	75	74	73	73	74
Science (Knowledge & Employability)	excellence	15	17	17	15	15
	acceptable	69	68	68	64	64
Social Studies	excellence	19	19	19	20	20
	acceptable	67	69	66	66	65
Social Studies (Knowledge & Employability)	excellence	14	14	13	11	11
	acceptable	62	64	65	62	57

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Supplementary Information:

Overall 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 self-identified FNMI elementary and junior high students are achieving high standards in Language Arts, an important outcome for Alberta's K–12 education system.

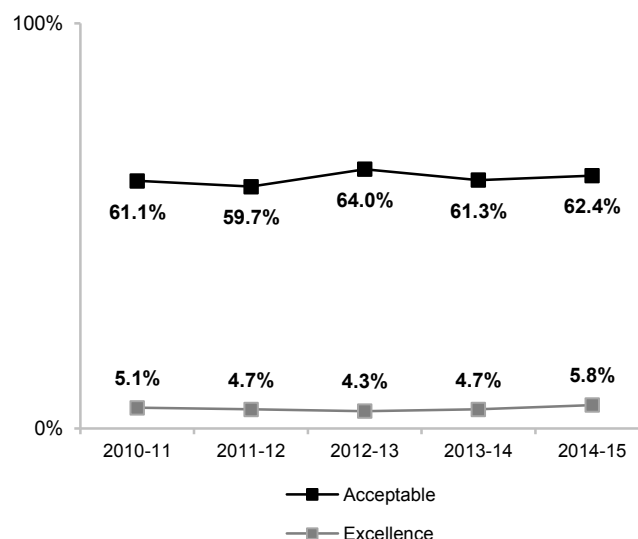
Target:

- Targets were not set for self-identified FNMI students in the 2014-17 Business Plan.

Discussion:

- Overall results in Language Arts are calculated as an average of the results in the following seven subjects, weighted by the number of individuals that were enrolled (Note that Français 9 was excluded from the calculations as less than six students wrote the test):
 - English Language Arts 6 and 9
 - French Language Arts 6 and 9
 - Français 6 and 9
 - English Language Arts 9 (Knowledge and Employability)
- Overall FNMI results in Language Arts at the acceptable standard and at the standard of excellence have remained stable over time.

Overall Percentages of Self-Identified FNMI Students who Achieved Standards in 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 Language Arts results are a weighted average based on total enrolment in Grades 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 average for that year.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Discussion (continued):

- From 2010-11 to 2014-15, the overall participation rate for self-identified FNMI students taking Language Arts provincial achievement tests increased from 80.9 per cent to 83.4 per cent.

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

Subject	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6					
English Language Arts	86	87	87	86	87
French Language Arts	97	95	98	92	94
Français	*	*	*	*	100
Grade 9					
English Language Arts	76	76	79	79	80
English Language Arts (Knowledge & Employability)	73	70	76	77	75
French Language Arts	95	100	92	97	89
Français	*	n/a	*	*	*
Overall Language Arts					
	80.9	81.4	83.3	82.5	83.4

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- An asterisk (*) indicates suppression has been applied because fewer than six students wrote the test, while n/a indicates no self-identified FNMI students wrote the test.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.

FNMI Achievement Test Results in Language Arts by Individual Subject for Students in Grades 6 and 9

Rationale:

- Self-identified FNMI student results on provincial achievement tests in each grade and subject provide detailed information on whether self-identified 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 were not set for self-identified FNMI students in the 2014-17 Business Plan.

Discussion:

- The proportion of self-identified FNMI students achieving the acceptable standard and the standard of excellence has increased for English Language Arts 6 and remained stable for English Language Arts 9.
- As adult literacy studies are not conducted regularly, Grade 9 results in Language Arts are regarded as indicators of literacy. Self-identified FNMI 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 remained stable for English 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 for that year.

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

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6						
English Language Arts	excellence	6	5	4	5	7
	acceptable	66	67	68	67	69
French Language Arts	excellence	3	14	9	8	10
	acceptable	80	85	78	75	76
Français	excellence	*	*	*	*	0
	acceptable	*	*	*	*	86
Grade 9						
English Language Arts	excellence	4	4	4	4	4
	acceptable	55	51	59	55	55
English Language Arts (Knowledge and Employability)	excellence	7	4	2	4	5
	acceptable	57	49	56	58	57
French Language Arts	excellence	2	8	5	3	4
	acceptable	75	83	79	74	74
Français	excellence	*	n/a	*	*	*
	acceptable	*	n/a	*	*	*
Overall Language Arts						
	excellence	5.1	4.7	4.3	4.7	5.8
	acceptable	61.1	59.7	64.0	61.3	62.4

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

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.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Supplementary Information:

Overall First Nations, Métis and Inuit (FNMI) Achievement Test Results in Mathematics

Rationale:

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

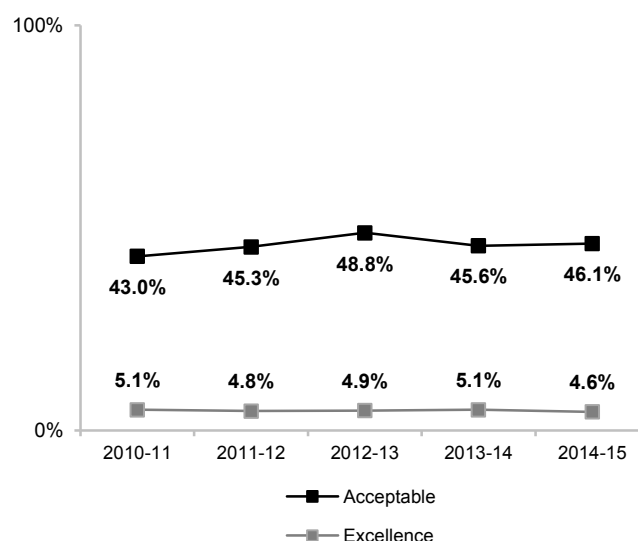
Target:

- Targets were not set for self-identified FNMI students in the 2014-17 Business Plan.

Discussion:

- Overall results in Mathematics are calculated as an average of the results in the following three subjects weighted by the number of individuals that were enrolled:
 - Mathematics 6 and 9
 - Mathematics 9 (Knowledge and Employability)
- Overall results in Mathematics at the acceptable standard have increased over time while overall results at the standard of excellence have remained stable.
- 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 Self-Identified FNMI Students who Achieved Standards in Mathematics 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 Mathematics results are a weighted average based on total enrolment in Grades 6 and 9 Mathematics courses.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Discussion (continued):

- From 2010-11 to 2014-15, the overall participation rate for self-identified FNMI students taking Mathematics provincial achievement tests increased from 80.5 per cent to 83.8 per cent.

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

Subject	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6					
Mathematics	84	86	87	86	86
Grade 9					
Mathematics	76	77	81	80	81
Mathematics (Knowledge & Employability)	80	79	84	82	82
Overall Mathematics					
	80.5	81.8	84.5	82.8	83.8

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Note:

- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.

FNMI Achievement Test Results in Mathematics by Individual Subject for Students in Grades 6 and 9

Rationale:

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

Target:

- Targets were not set for self-identified FNMI students in the 2014-17 Business Plan.

Discussion:

- The proportion of self-identified FNMI students achieving the acceptable standard has increased over time for Mathematics 9 and remained stable for Mathematics 6.
- The proportion of self-identified FNMI students achieving the standard of excellence has increased over time for Mathematics 9 and decreased for Mathematics 6.

Percentages of Self-Identified FNMI Students in Grades 6 and 9 who Achieved Standards on Provincial Achievement Tests in Mathematics

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6						
Mathematics	excellence	5	4	5	4	4
	acceptable	49	52	52	49	51
Grade 9						
Mathematics	excellence	4	4	5	5	5
	acceptable	34	37	43	40	38
Mathematics (Knowledge & Employability)	excellence	13	10	9	14	10
	acceptable	55	51	60	57	58
Overall Mathematics						
	excellence	5.1	4.8	4.9	5.1	4.6
	acceptable	43.0	45.3	48.8	45.6	46.1

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for information on assessing results relative to targets, and results over time.
- See Endnote B, Provincial Achievement Tests, page 43-44.

Supplementary Information: Other Subjects (FNMI Students)

Discussion:

- The participation rate for self-identified FNMI students taking provincial achievement tests has increased significantly over time for a number of other subjects including Social Studies 9 and Science 9.

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

Subject	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6					
Science	86	88	88	86	87
Social Studies	86	88	86	85	85
Grade 9					
Science	78	78	82	81	82
Science (Knowledge & Employability)	80	78	85	82	80
Social Studies	75	76	81	80	80
Social Studies (Knowledge & Employability)	73	75	82	79	80

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Note:

- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.

Discussion (continued):

- The proportion of self-identified FNMI students achieving the acceptable standard and the standard of excellence has increased since 2010-11 for Science 6 and 9.
- The proportion of self-identified FNMI students achieving the acceptable standard and the standard of excellence has increased since 2010-11 for Social Studies 9, and remained stable for Social Studies 6.

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

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6						
Science	excellence	9	10	9	8	11
	acceptable	54	57	59	55	58
Social Studies	excellence	6	6	5	5	6
	acceptable	48	52	50	47	48
Grade 9						
Science	excellence	6	6	7	7	8
	acceptable	46	45	52	50	50
Science (Knowledge & Employability)	excellence	11	12	13	11	12
	acceptable	63	60	64	62	62
Social Studies	excellence	5	6	7	7	7
	acceptable	38	40	44	42	41
Social Studies (Knowledge & Employability)	excellence	10	8	10	7	8
	acceptable	51	53	60	58	55

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

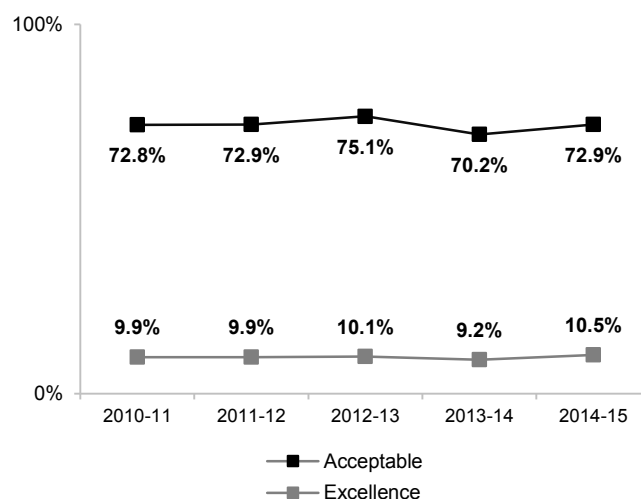
Supplementary Information:

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

Discussion:

- 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 remained stable over time at both the acceptable standard and the standard of excellence.
- Targets were not set for ESL students in the 2014-17 Business Plan.

Overall Percentages of ESL Students who Achieved Standards in 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 English Language Arts results are a weighted average based on total enrolment in Grades 6 and 9 English Language Arts courses.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Discussion (continued):

- The participation rate for ESL students taking English Language Arts provincial achievement tests, 88.5 per cent in the current year, has remained stable over time.

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

Subject	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6					
English Language Arts	89	90	91	89	90
Grade 9					
English Language Arts	85	86	87	83	86
English Language Arts (Knowledge & Employability)	84	71	75	77	79
Overall English Language Arts					
	87.6	88.1	89.5	86.9	88.5

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Note:

- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.

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

Discussion:

- The proportions of ESL students achieving the acceptable standard and the standard of excellence have increased since 2010-11 for English Language Arts 6.
- The proportions of students achieving the acceptable standard and the standard of excellence have decreased over time for English Language Arts 9.

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

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6						
English Language Arts	excellence	12	11	11	10	13
	acceptable	77	78	78	76	79
Grade 9						
English Language Arts	excellence	8	8	9	8	6
	acceptable	67	67	65	62	64
English Language Arts (Knowledge & Employability)	excellence	2	0	3	1	6
	acceptable	61	38	52	56	60
Overall English Language Arts						
	excellence	9.9	9.9	10.1	9.2	10.5
	acceptable	72.8	72.9	75.1	70.2	72.9

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

Other Subjects (ESL Students)

Discussion

- The proportion of ESL students achieving the acceptable standard has increased over time for Mathematics 6, Science 6 and Social Studies 6, and has decreased for Mathematics 9, Science 9 and Social Studies 9.
- The proportion of ESL students achieving the standard of excellence has increased over time for Science 6 and Social Studies 6, has remained stable for Science 9 and Social Studies 9, and has declined for Mathematics 6 and 9.

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

Subject	Standard	2010-11	2011-12	2012-13 ¹	2013-14	2014-15
Grade 6						
French Language Arts	excellence	14	17	17	25	12
	acceptable	80	92	87	89	88
Français	excellence	13	21	21	16	14
	acceptable	87	89	93	89	88
Mathematics	excellence	17	15	16	14	13
	acceptable	68	71	70	71	72
Science	excellence	17	20	19	17	19
	acceptable	68	71	72	69	72
Social Studies	excellence	13	15	15	11	14
	acceptable	64	68	68	64	66
Grade 9						
French Language Arts	excellence	20	11	15	10	13
	acceptable	78	82	82	85	81
Français	excellence	15	8	3	8	18
	acceptable	85	73	66	72	76
Mathematics	excellence	19	18	19	17	15
	acceptable	63	62	61	61	59
Mathematics (Knowledge & Employability)	excellence	11	9	19	11	16
	acceptable	50	52	54	55	56
Science	excellence	18	19	15	17	17
	acceptable	68	67	64	62	64
Science (Knowledge & Employability)	excellence	9	5	12	7	11
	acceptable	62	47	59	56	61
Social Studies	excellence	13	13	13	12	13
	acceptable	60	62	56	54	57
Social Studies (Knowledge & Employability)	excellence	13	10	6	8	9
	acceptable	54	58	60	56	61

¹ Results for 2012-13 have been restated to exclude students that did not write Provincial Achievement Tests because of the flooding in southern Alberta in 2013.

Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Knowledge and Employability courses are designed for students who meet enrollment criteria and learn best through experiences that integrate essential and employability skills in occupational contexts.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Provincial Achievement Tests, pages 43-44.

2.b Diploma Examination Results In Language Arts

Rationale:

- Student results on diploma examinations are a solid indicator of whether high school students are achieving high standards.
- The language arts diploma examination measure is an aggregate of four Language Arts courses. This reflects a focus on fundamental literacy skills, an important outcome for Alberta's K–12 education system.

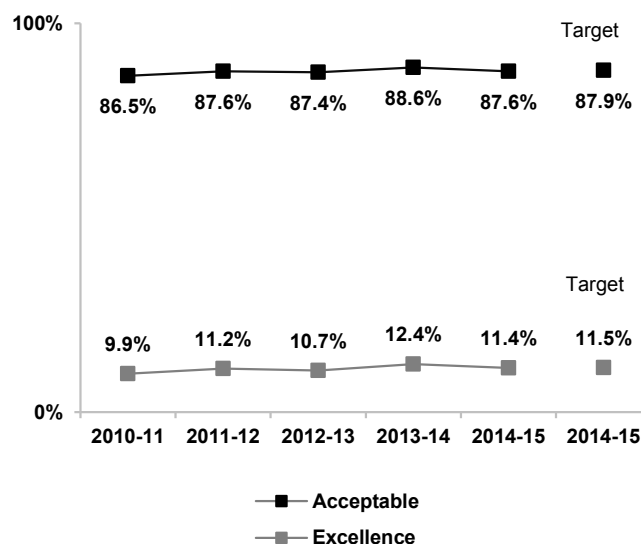
Targets:

- The target for overall Language Arts results at the acceptable standard was not met; the target at the standard of excellence was met.

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
- The proportion of students achieving the acceptable standard in Language Arts has increased over time, primarily due to higher results in English Language Arts 30-1.
- The proportion of students achieving the standard of excellence in Language Arts has increased over time, primarily due to higher results in English Language Arts 30-1 and 30-2.

Overall Percentages of Students who Achieved Standards in Language Arts Diploma Examinations



Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Overall results for language arts are a weighted average of results for the four language arts subjects.
- See Endnote A, page 42, for information on assessing results relative to targets, and results over time.
- See Endnote B, Diploma Examinations, pages 44-45.

Discussion (continued):

- Results at the acceptable standard have improved over time for English Language Arts 30-1, and have remained stable for English Language Arts 30-2.
- Results at the standard of excellence have improved over time for English Language Arts 30-1 and 30-2.

Percentages of Students Writing Language Arts Diploma Examinations who Achieved Standards

Subject	Standard	2010-11 ¹	2011-12 ¹	2012-13 ¹	2013-14 ¹	2014-15	Targets 2014-15
English Language Arts 30-1	excellence	10	11	10	12	11	
	acceptable	85	86	86	88	87	
English Language Arts 30-2	excellence	9	11	11	13	11	
	acceptable	89	90	89	90	89	
French Language Arts 30-1	excellence	14	13	12	15	10	
	acceptable	95	96	95	97	95	
Français 30-1	excellence	20	19	18	29	17	
	acceptable	94	97	97	99	95	
Overall Language Arts	excellence	9.9	11.2	10.7	12.4	11.4	11.5
	acceptable	86.5	87.6	87.4	88.6	87.6	87.9

¹Historical results for diploma examinations have been revised due to the implementation of the Provincial Approach to Student Information (PASI) which has provided a more complete rendering of students writing exams throughout the school year.

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 2010-11 to 2014-15 for English Language Arts 30-1 and 30-2, but not for French Language Arts 30-1 and Français 30-1.
- Overall results for language arts are a weighted average of results for the four language arts subjects.
- See Endnote A, page 42, for information on assessing results relative to targets and results over time.
- See Endnote B, Diploma Examinations, pages 44-45.

Supplementary Information:

Other Subjects

Discussion:

- The proportion of students that achieved the acceptable standard has increased since 2010-11 for Social Studies 30-1, Biology 30, Chemistry 30, Physics 30 and Science 30; the proportion has declined for Social Studies 30-2.
- The proportion of students that achieved the standard of excellence has increased since 2010-11 for Social Studies 30-1, Biology 30, Chemistry 30, Physics 30 and Science 30; the proportion has declined for Social Studies 30-2.

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

Subject	Standard	2010-11 ¹	2011-12 ¹	2012-13 ¹	2013-14 ¹	2014-15
Mathematics 30-1	excellence	–	–	36	28	32
	acceptable	–	–	81	75	76
Mathematics 30-2	excellence	–	–	10	15	15
	acceptable	–	–	70	71	74
Social Studies 30-1	excellence	15	17	15	14	16
	acceptable	83	86	85	86	87
Social Studies 30-2	excellence	16	14	14	15	12
	acceptable	86	83	82	84	81
Biology 30	excellence	30	28	32	32	33
	acceptable	82	82	84	85	86
Chemistry 30	excellence	28	29	32	35	34
	acceptable	75	77	79	81	82
Physics 30	excellence	28	30	30	34	36
	acceptable	77	81	81	83	84
Science 30	excellence	21	22	26	25	27
	acceptable	80	80	84	85	84

¹Historical results for diploma examinations have been revised due to the implementation of the Provincial Approach to Student Information (PASI) which has provided a more complete rendering of students writing exams throughout the school year.

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 Chemistry 30 since 2010-11, Social Studies 30-2 since 2011-12, Social Studies 30-1 since 2012-13 and Physics 30 since 2013-14.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Diploma Examinations, pages 44-45.

Supplementary Information:

First Nations, Métis and Inuit (FNMI) Diploma Examination Results in Language Arts

Rationale:

- Self-identified FNMI student results on diploma examinations are a solid indicator of whether self-identified FNMI high school students are achieving high standards.
- The language arts diploma examination measure is an aggregate of four Language Arts courses. This reflects a focus on fundamental literacy skills, an important outcome for Alberta's K–12 education system.

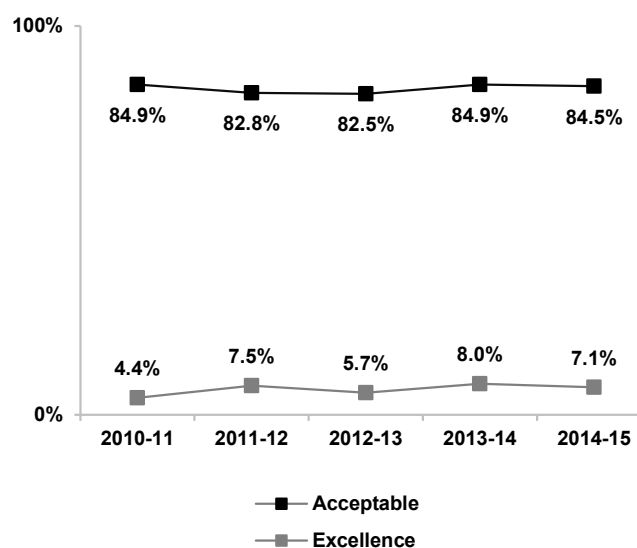
Targets:

- Targets were not set for self-identified FNMI students in the 2014-17 Business Plan.

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
- Results for Français 30-1 have not been included because fewer than six self-identified FNMI students wrote the exam.
- The proportion of self-identified FNMI students achieving the acceptable standard has been stable over time.
- The proportion of self-identified FNMI students achieving the standard of excellence increased from 2010-11 to 2011-12 and has remained stable since 2011-12.

Overall Percentages of Self-Identified FNMI Students who Achieved Standards in Language Arts Diploma Examinations



Source: Alberta Education

Notes:

- The percentages of students who achieved the acceptable standard include the students who achieved the standard of excellence.
- Overall results for language arts are a weighted average of results for the four language arts subjects.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Diploma Examinations, pages 44-45.

Discussion (continued):

- Results at the acceptable standard have been stable over time for English Language Arts 30-1 and 30-2.
- Results at the standard of excellence have improved over time for English Language Arts 30-1 and remained stable for English Language Arts 30-2.

Percentages of Self-Identified FNMI Students Writing Language Arts Diploma Examinations who Achieved Standards

Subject	Standard	2010-11 ¹	2011-12 ¹	2012-13 ¹	2013-14 ¹	2014-15
English Language Arts 30-1	excellence	1	5	4	5	5
	acceptable	79	75	75	80	80
English Language Arts 30-2	excellence	7	9	7	10	8
	acceptable	88	88	88	88	87
French Language Arts 30-1	excellence	0	5	0	7	3
	acceptable	96	86	100	93	94
Français 30-1	excellence	n/a	n/a	n/a	*	*
	acceptable	n/a	n/a	n/a	*	*
Overall Language Arts	excellence	4.4	7.5	5.7	8.0	7.1
	acceptable	84.9	82.8	82.5	84.9	84.5

¹Historical results for diploma examinations have been revised due to the implementation of the Provincial Approach to Student Information (PASI) which has provided a more complete rendering of students writing exams throughout the school year.

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 2010-11 to 2014-15 for English Language Arts 30-1 and 30-2, but not for French Language Arts 30-1 and Français 30-1.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Diploma Examinations, page 44-45.

Supplementary Information:

Other Subjects (FNMI Students)

Discussion:

- The proportion of students achieving the acceptable standard has increased since 2010-11 for Social Studies 30-1, Chemistry 30 and Physics 30, and remained stable for Biology 30 and Science 30; the proportion has declined for Social Studies 30-2.
- The proportion of students achieving the standard of excellence has increased since 2010-11 for Biology 30 and Chemistry 30, and remained stable for Social Studies 30-1, Physics 30 and Science 30; the proportion has declined for Social Studies 30-2.

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

Subject	Standard	2010-11 ¹	2011-12 ¹	2012-13 ¹	2013-14 ¹	2014-15
Mathematics 30-1	excellence	–	–	19	15	16
	acceptable	–	–	67	59	64
Mathematics 30-2	excellence	–	–	9	11	10
	acceptable	–	–	63	64	69
Social Studies 30-1	excellence	4	6	6	5	6
	acceptable	71	76	72	72	78
Social Studies 30-2	excellence	10	7	7	9	6
	acceptable	79	75	72	76	73
Biology 30	excellence	13	11	15	14	17
	acceptable	72	68	72	75	76
Chemistry 30	excellence	10	12	14	16	16
	acceptable	56	61	60	71	72
Physics 30	excellence	14	11	18	19	21
	acceptable	66	64	73	68	78
Science 30	excellence	12	16	18	20	17
	acceptable	74	77	79	81	76

¹Historical results for diploma examinations have been revised due to the implementation of the Provincial Approach to Student Information (PASI) which has provided a more complete rendering of students writing exams throughout the school year.

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 Chemistry 30 since 2010-11, Social Studies 30-2 since 2011-12, Social Studies 30-1 since 2012-13, and Physics 30 since 2013-14.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Diploma Examinations, pages 44-45.

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

Discussion:

- 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 for ESL students in the 2014-17 Business Plan.
- The proportions of ESL students that achieved the acceptable standard and the standard of excellence in English Language Arts diploma examinations have increased over time.
- ESL results at the acceptable standard have improved over time for English Language Arts 30-1 and remained stable for English Language Arts 30-2.
- ESL results at the standard of excellence have improved over time for English Language Arts 30-1 and 30-2.

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

Subject	Standard	2010-11 ¹	2011-12 ¹	2012-13 ¹	2013-14 ¹	2014-15
English Language Arts 30-1	excellence	2	3	2	3	3
	acceptable	58	66	64	64	65
English Language Arts 30-2	excellence	2	3	3	5	3
	acceptable	69	73	71	70	72
Overall English Language Arts	excellence	1.7	2.7	2.5	4.0	3.0
	acceptable	62.9	69.1	67.1	67.0	68.5

¹Historical results for diploma examinations have been revised due to the implementation of the Provincial Approach to Student Information (PASI) which has provided a more complete rendering of students writing exams throughout the school year.

Source: Alberta Education

Notes

- The percentages of students who achieved the acceptable standard include the 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 2010-11 to 2014-15 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 A, page 42, for information on assessing results over time.
- See Endnote B, Diploma Examinations, pages 44-45.

Other Subjects (ESL Students)

Discussion:

- The proportion of ESL students achieving the acceptable standard has increased since 2010-11 for Biology 30, Physics 30 and Science 30, remained stable for Social Studies 30-1 and Chemistry 30; the proportion has declined for Social Studies 30-2.
- The proportion of ESL students achieving the standard of excellence has increased since 2010-11 for Science 30, and remained stable for Social Studies 30-1, Social Studies 30-2, Biology 30, Chemistry 30 and Physics 30.

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

Subject	Standard	2010-11 ¹	2011-12 ¹	2012-13 ¹	2013-14 ¹	2014-15
French Language Arts 30-1	excellence	22	24	11	5	13
	acceptable	83	94	95	89	95
Français 30-1	excellence	20	21	0	7	15
	acceptable	84	97	92	93	89
Mathematics 30-1	excellence	—	—	35	29	30
	acceptable	—	—	79	72	73
Mathematics 30-2	excellence	—	—	5	13	12
	acceptable	—	—	58	63	67
Social Studies 30-1	excellence	8	12	7	9	8
	acceptable	72	79	73	73	75
Social Studies 30-2	excellence	11	13	11	12	10
	acceptable	75	72	69	73	70
Biology 30	excellence	29	26	30	27	27
	acceptable	75	76	78	81	81
Chemistry 30	excellence	31	30	34	33	32
	acceptable	74	72	78	78	77
Physics 30	excellence	30	31	32	32	30
	acceptable	73	79	76	77	78
Science 30	excellence	13	17	22	19	20
	acceptable	68	68	73	74	74

¹Historical results for diploma examinations have been revised due to the implementation of the Provincial Approach to Student Information (PASI) which has provided a more complete rendering of students writing exams throughout the school year.

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, but results are not comparable for French Language Arts 30-1 and Français 30-1.
- See Endnote A, page 42, for information on assessing results over time.
- See Endnote B, Diploma Examinations, pages 44-45.

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 5% level. Discussion of results over time for the non-survey 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, diploma exams and 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, e.g., the number of students writing an exam, and the proportion, e.g., 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 confidence intervals, which is 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 and from other information about Alberta students in the Ministry of Education's data systems.

Definition of Alberta Student

Starting with 2013-14, the definition of an Alberta student is an individual who is registered as of September 30 of the school year in a school located in Alberta, where "school" means a structured learning environment through which an education program is offered to a student by: a board (includes public, separate, Francophone, Lloydminster); an operator of a private school; an early childhood services (ECS) program private operator; the operator of a charter school; a parent giving a home education program; the Minister. It also includes other Alberta-located educational institutions providing ECS to Grade 12 curriculum instruction, specifically Federal (First Nations schools and those operated by Corrections Canada); and provincial authorities (such as the four former Alberta Vocational Colleges).

From 2008-09 to 2012-13, the definition of an Alberta Education student is an individual who is 19 years of age or younger on September 1 of the school year and is registered as of September 30th of the school year in an Alberta Education School operated by a public, separate, francophone, charter or accredited funded private school authority. The definition includes children registered in an ECS program in an Alberta Education School operated by a public, separate, francophone, charter or accredited funded private school authority or approved private ECS operator as of September 30 of the school year.

Results for First Nations, Métis and Inuit (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. For example, Grade 6 students funded for ESL in 2014-15 are included in the Grade 6 ESL Provincial Achievement Test results.

Provincial Achievement Tests

Students in Grades 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 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, science and social studies 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 points on each test are considered significant. French Language Arts and Français courses have higher significant difference values (1.1 to 3.7 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
- 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 also administered in selected courses in November and April. Provincial Assessments are meant to complement day-to-day classroom assessment. 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.

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:

- Biology 30, English Language Arts 30-1, and English Language Arts 30-2 since 2005-06
- Science 30 and Chemistry 30 since 2010-11
- Social Studies 30-2 since 2011-12,
- Social Studies 30-1 since 2012-13 and
- Physics 30 since 2013-14.

Diploma Examination results are reported in relation to the acceptable standard and the standard of excellence. Results for mathematics, sciences and social studies include results for both English and French versions of the tests. Provincial overall results in Language Arts present weighted averages based on the numbers of students writing Language Arts 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 from 2010-11 to 2014-15, 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 math and science 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>.