

DATE: November 29, 2016

TO: Board of Trustees

FROM: Darrel Robertson, Superintendent of Schools

SUBJECT: Strategic Plan Update: Priority 1 Goal Two: Success for Every Student—Numeracy

ORIGINATOR: Dr. Sandra Stoddard, Executive Director, Governance, Strategic Services and Support for Schools

RESOURCE STAFF: Janice Aubry, Sanaa El-Hassany, Sonia Boctor, Sherelyn Caderma, Pina Chiarello, Patti Christensen, Blythe Evans, Greg McInulty

REFERENCE: N/A

ISSUE

The purpose of this report is to provide the Board of Trustees with an update of the District’s Strategic Plan for Priority 1 Goal Two: Success for Every Student —with a focus on numeracy. Using information and data from Alberta Education’s Accountability Pillar Provincial Achievement Tests (PATs), Provincial Diploma Examinations, the District’s Math Intervention Programming Initiative (MIPI) and additional initiatives that support Priority 1 Goal Two, this report focuses on areas of success and areas for growth, and is part of Administration’s commitment to providing the Board of Trustees with ongoing updates on progress relative to the District Strategic Plan. This analysis will also help to inform the District’s direction for the 2016-2017 operational year.

BACKGROUND

In 2014, Edmonton Public Schools formally launched its District Strategic Plan for the 2014-2018 term. The District Strategic Plan has three priorities with ten supporting goals and outcomes. The plan serves to provide common direction and alignment between the work of the Board of Trustees, the Superintendent, and District staff. The plan provides the foundation for a District culture of evidence-based decision making, assurance, and accountability.

In 2015, the District joined Alberta Education’s Assurance Pilot Project. The Assurance Model provides a framework for the District to report directly on how we are doing relative to the goals and outcomes in its 2014-2018 Strategic Plan. Before participating on the pilot project, the District reported annual education results based on outcomes in Alberta Education’s Business Plan. Reporting on the District’s Strategic Plan creates clarity and congruence as it enables the District to report results for one set of outcomes rather than two.

CURRENT SITUATION

Each year, Alberta Education requires school jurisdictions to submit a Three-Year Education Plan (3YEP) and an Annual Education Results Report (AERR) by November 30. The 3YEP/AERR reports the results from all ten of the goals and outcomes in the District’s Strategic Plan from the previous school year, and highlights the District’s strategies to advance its strategic priorities over the next three years.

This year, with the flexibility afforded through the Assurance Pilot, the District has established a new Assurance and Public Board reporting cycle in support of completing the AERR/3YEP. For the 2016-2017 school year, at each public board meeting, a high level overview and an analysis of results for one or two District Strategic Plan goals and outcomes will be presented. Trustees felt that reporting on one or two goals versus the entire Strategic Plan would allow them to engage in more meaningful dialogue on results and strategies for moving forward thus demonstrating greater assurance and transparency to the public. Consequently, a monthly reporting cycle, with links to the AERR report, was developed to achieve the following outcomes:

- Establish a planning and reporting cycle that considers when local and provincial data is available for analysis and to inform timely decisions.
- Use evidence to inform programming decisions that promote success for all students.
- Support a cycle of continuous improvement and reinforce how results and data drive District planning and reporting.
- Interpret and report on results in a manner that demonstrates assurance and transparency.

For this report, data has been gathered from four key sources: PATs, Provincial Diploma Examinations, and the District's MIPI. Results are provided for the District overall, and for elementary, junior high, and high school students.

At the provincial level, students in Grades 6 and 9 write PATs and high school students write Diploma examinations. The results from these tests provide the District with a snapshot of our students' progress toward achieving the student learning outcomes of the Alberta Programs of Study. Additionally, each year, students in Grades 2–9 participate in the District MIPI—a screening tool created by District teachers and principals to provide initial information about student progress with foundational outcomes in mathematics and support the identification of students who may require interventions with math concepts.

KEY POINTS

- The Strategic Plan Update: Success for Every Student—Numeracy report (Attachment I) provides information, data and descriptions of initiatives highlighting areas of success and growth relevant to the District Strategic Plan.
- The Strategic Plan Update: Success for Every Student—Numeracy report contains data gathered from three key sources: PATs, Provincial Diploma Examinations, the Accountability Pillar and the District MIPI.

ATTACHMENTS and APPENDICES

ATTACHMENT I Strategic Plan Update—Numeracy

SB: sb

Strategic Plan Update: Success for Every Student—Numeracy

INTRODUCTION

Confidence and competence in numeracy provide the foundations for lifelong learning. In all aspects of daily life, including making the best choices, we rely on mathematical data, projections, inferences and systematic thinking. That is why numeracy, like literacy, is so fundamental. Numeracy enables one to develop logical thinking and reasoning strategies in daily life. It is a necessary skill that supports problem solving and the ability to make sense of time, numbers, patterns and shapes.

As a result, Edmonton Public Schools has identified *Success for Every Student* as a key goal in the District Strategic Plan, with the targeted outcome that *more students demonstrate growth and achieve student learning outcomes, with a specific focus on literacy and numeracy*. This priority in our Strategic Plan ensures that as students move through Kindergarten to Grade 12 they are provided multiple opportunities to refine their numeracy skills to support them in gaining access to learning and experiencing success in life (please note that literacy was the focus of the November 1, 2016 Strategic Plan Update report).

District students participate in annual assessments and testing to ensure information is available to District, schools and teachers. This information supports effective programming and evidence-based decision making. At the provincial level, students in Grades 6 and 9 write PATs and high school students write Diploma exams for mathematics every year. The results from these tests provide the District with a snapshot of our students' progress toward achieving the Alberta Program of Study's student learning outcomes.

Additionally, each year, students in Grades 2–9 participate in the District MIPI—a locally-developed screening tool created by District teachers and principals to provide initial information about student progress with foundational outcomes in mathematics and support the identification of students who may require interventions with math concepts. Together, these assessments provide valuable information for teachers, administrators, parents, students and the District relative to progress being made, and flag students who may require intervention supports.

The purpose of this report is to provide the Board of Trustees with an update on the progress the District is making in achieving its outcome relative to growth in numeracy. The first section of this report highlights the results of the Key Performance Indicator data. The second section provides an analysis of the results of the Key Performance Indicators. The section begins with background information, including the context of today's classrooms, followed by an analysis of strengths and potential opportunities for growth. The third section of this report provides further discussion about the areas of strength including possible strategies implemented in the 2015-2016 school year that may account for the growth. Additionally, section four highlights priority strategies that will be in place for the 2016-2017 school year to address potential areas for improvement.

SECTION ONE: KEY PERFORMANCE INDICATORS (KPIs) FOR PRIORITY I GOAL TWO: SUCCESS FOR EVERY STUDENT—NUMERACY

Outlined below is a summary of the data for KPIs in the area of numeracy. The results highlight data for the past five years in order to support the District in conducting a trend analysis. As well, Alberta Education has provided an evaluation that summarizes overall improvement for each of the overall District results on the Accountability Pillar data. This has been included for interpretation purposes.

Where possible, the data is further disaggregated to enable the examination of numeracy achievement for First Nations, Métis and Inuit students, English language learners, and students in need of specialized supports and services. It is important to note that a more detailed analysis of achievement data with respect to closing the achievement gap for our First Nations, Métis and Inuit students will be coming as a Strategic Plan Update report to public board on December 13, 2016.

Key Performance Indicator		Results (in percentages)					Evaluation
		2012	2013	2014	2015	2016	Improvement
<u>NUMERACY</u>							
Overall percentage of students in Grades 6 who achieved the acceptable standard in Math on Provincial Achievement Tests. (Source: Accountability Pillar)	Overall (n =)	76.3 (5164)	76.9 (5294)	77.4 (5578)	76.2 (5910)	75.6 (5976)	Declined
	ELL (n =)	65.0 (774)	68.9 (960)	74.2 (1304)	71.1 (1490)	73.0 (1145)	+
	FNMI (n =)	54.7 (497)	55.3 (497)	51.0 (498)	51.1 (544)	55.1 (544)	+
	Specialized Supports (n =)	53.9 (890)	55.1 (936)	53.7 (977)	49.3 (922)	53.7 (935)	+
Overall percentage of students in Grades 6 who achieved the standard of excellence in Math on Provincial Achievement Tests. (Source: Accountability Pillar)	Overall (n =)	18.9 (5164)	21.0 (5294)	20.5 (5578)	18.2 (5910)	17.9 (5976)	Declined Significantly
	ELL (n =)	13.0 (774)	17.5 (960)	16.6 (1304)	14.9 (1490)	17.2 (1145)	+
	FNMI (n =)	4.0 (497)	3.8 (497)	4.0 (498)	5.5 (544)	5.3 (544)	-
	Specialized Supports (n =)	21.5 (890)	20.9 (936)	22.2 (977)	16.5 (922)	23.1 (935)	+
Overall percentage of students in Grades 9 who achieved the acceptable standard in Math on Provincial Achievement Tests. (Source: Accountability Pillar)	Overall (n =)	69.1 (5148)	71.3 (5362)	70.8 (5264)	70.2 (5532)	73.0 (5530)	Improved Significantly
	ELL (n =)	56.5 (359)	60.3 (579)	66.8 (784)	63.4 (1052)	69.3 (1045)	+
	FNMI (n =)	34.1 (464)	40.7 (523)	39.7 (527)	39.6 (485)	40.3 (461)	+
	Specialized Supports (n =)	23.5 (519)	24.4 (579)	30.0 (603)	44.9 (815)	46.9 (813)	+

Key Performance Indicator		Results (in percentages)					Evaluation
		2012	2013	2014	2015	2016	Improvement
Overall percentage of students in Grades 9 who achieved the standard of excellence in Math on Provincial Achievement Tests. (Source: Accountability Pillar)	Overall (n =)	24.1 (5148)	25.5 (5362)	24.2 (5264)	23.9 (5532)	24.6 (5530)	Maintained
	ELL (n =)	13.4 (359)	18.8 (579)	19.9 (784)	18.0 (1052)	19.0 (1045)	+
	FNMI (n =)	3.0 (464)	4.2 (523)	4.9 (527)	6.6 (485)	4.8 (461)	-
	Specialized Supports (n =)	2.5 (519)	3.1 (579)	6.8 (603)	26.6 (815)	26.3 (813)	=
Overall percentage of students who achieved the acceptable standard on Math 30-1 diploma examinations. (Source: Accountability Pillar)	Overall (n =)	n/a	78.4 (4381)	74.0 (4325)	76.1 (4187)	72.2 (4119)	Declined Significantly
	ELL (n =)	n/a	80.6 (273)	73.0 (355)	73.3 (524)	66.4 (610)	-
	FNMI (n =)	n/a	66.3 (89)	59.6 (99)	60.7 (89)	51.1 (90)	-
	Specialized Supports (n =)	n/a	69.0 (42)	69.2 (39)	61.0 (41)	55.1 (49)	-
Overall percentage of students who achieved the acceptable standard on Math 30-2 diploma examinations. (Source: Accountability Pillar)	Overall (n =)	n/a	70.8 (1941)	71.3 (2139)	76.0 (2279)	79.1 (2396)	Improved Significantly
	ELL (n =)	n/a	58.4 (137)	62.7 (185)	71.5 (291)	69.0 (332)	-
	FNMI (n =)	n/a	66.3 (86)	63.7 (102)	69.6 (102)	75.6 (127)	+
	Specialized Supports (n =)	n/a	58.6 (58)	56.7 (67)	57.4 (94)	69.5 (128)	+
Overall percentage of students who achieved the standard of excellence on Math 30-1 diploma examinations (overall results). (Source: Accountability Pillar)	Overall (n =)	n/a	33.3 (4381)	29.0 (4325)	33.1 (4187)	28.6 (4119)	Declined Significantly
	ELL (n =)	n/a	37.0 (273)	27.3 (355)	30.5 (524)	27.5 (610)	-
	FNMI (n =)	n/a	22.5 (89)	16.2 (99)	14.6 (89)	14.4 (90)	-
	Specialized Supports (n =)	n/a	9.5 (42)	20.5 (39)	19.5 (41)	22.4 (49)	+
Overall percentage of students who achieved the standard of excellence on Math 30-2 diploma examinations (overall results). (Source: Accountability Pillar)	Overall (n =)	n/a	10.6 (1941)	15.1 (2139)	18.3 (2279)	21.2 (2396)	Improved Significantly
	ELL (n =)	n/a	6.6 (137)	27.3 (355)	15.5 (291)	14.2 (332)	-
	FNMI (n =)	n/a	5.8 (86)	7.8 (102)	12.7 (102)	20.5 (127)	+
	Specialized Supports (n =)	n/a	5.2 (58)	6.0 (67)	9.6 (94)	7.8 (128)	-

Key Performance Indicator		Results (in percentages)					Evaluation
		2012	2013	2014	2015	2016	Improvement
NUMERACY							
Percentage of students who may need interventions based on the District's Math Intervention Programming Initiative (MIPI). (Source: MIPI) <i>Note: The MIPI was implemented in the 2014-2015 school for Grades 2 to 9, and was extended to include Grade 10 students in 2015-2016.</i>	Overall	n/a	n/a	28.0	24.5	24.8	maintaining

SECTION TWO: ANALYSIS OF RESULTS

Context of Results

As Edmonton's population continues to grow and change, so does diversity in our schools. Edmonton Public Schools classrooms today welcome and serve a wide range of students, including those new to Canada, children in need of specialized supports and services, and those self-identifying as First Nations, Métis, or Inuit. As well, our schools must support and program for students facing a range of socio-economic, social and emotional factors that may impact learning. The data presented in this report is gathered from various sources. It reflects the District's numeracy and mathematics results and future areas of focus that are identified to meet the needs of our diverse student population.

In the 2015-2016 school year, Edmonton Public Schools served a total of 92,227 students, including 8,044 students who self-identified as First Nations, Métis or Inuit, 11,779 students in need of specialized supports and services and 22,107 English language learners (ELLs) (as of September 30, 2015). This was an increase of 2,707 students overall and includes an increase of 165 First Nations, Métis and Inuit (FNMI) students, 506 students in need of specialized supports and services, and 1,703 English language learners. The increasing enrolment of students with diverse needs contributes to an increase in classroom complexity.

The following section provides an assessment of provincial data and local District data disaggregated for elementary, junior high and high school. Where possible, the data is analyzed to enable the examination of numeracy achievement for FNMI students, ELLs, and students in need of specialized supports and services. This level of information enables the District to further understand areas of strength and areas for growth to target improvement initiatives moving forward.

Elementary: Grade 1–6 Analysis of Numeracy Data

Provincial Achievement Tests (PATs)

While both the District and the province showed a slight decrease in the percentage of students meeting the acceptable standard and the standard of excellence in the Grade 6 PATs in mathematics, the five year trend data shows the percentage of District students meeting the acceptable standard and the standard of excellence has remained consistently higher than that of the province. Overall, the percentage of District students meeting the acceptable standard in Grade 6 Mathematics decreased this year from 76.2 per cent to 75.6 per cent as compared to a decrease from 73.2 per cent to 72.2 per cent for the province. The percentage of District students meeting the standard of excellence in Grade 6 Mathematics decreased slightly this year from 18.2 per cent to 17.9 per cent as compared to a slight decrease from 14.1 per cent to 14.0 per cent for the province.

When the PAT data is disaggregated to reflect the achievement of ELLs, FNMI students and students in need of specialized support, trends in the data indicate that:

- The percentage of ELL students achieving the acceptable standard and the standard of excellence has shown positive growth over the past five years. In fact, results for our ELL students are almost on par this year with the overall District results.
- The percentage of FNMI students achieving the acceptable standard and the standard of excellence has shown improvement over the past five years. However, there continues to be a considerable observable achievement gap between the results for these students compared to the overall results for the District.
- The percentage of students in need of specialized supports and services who are achieving the acceptable standard improved from the previous year, but an achievement gap still exists as compared to the District. The percentage of students achieving the standard of excellence has shown an overall improvement over the past five years, with the results this year being higher than the overall results for the District. This is due to the fact that those high achieving students who are coded Gifted and Talented are included in this population.

Junior High: Grade 7–9 Analysis of Numeracy Data

Provincial Achievement Tests (PATs)

Overall, the percentage of District students meeting the acceptable standard in Grade 9 Mathematics has shown significant improvement compared to the provincial results. The percentage increased this year from 70.2 per cent to 73.0 per cent as compared to an increase from 65.3 per cent to 67.8 per cent for the province. The percentage of District students meeting the standard of excellence in Grade 9 Mathematics increased this year from 23.9 per cent to 24.6 per cent as compared to a decrease from 17.9 per cent to 17.5 per cent for the province. Trends in the data over the past five years indicate that the percentage of District students meeting the acceptable standard and the standard of excellence in Grade 9 Mathematics has remained consistently higher than that of the province.

When the PAT data is disaggregated to reflect achievement of ELLs, FNMI students and students in need of specialized supports and services, trends in the data indicate that:

- The percentage of ELL students achieving the acceptable standard has shown significant improvement over the past five years and those achieving at the standard of excellence has remained relatively static. These results are noteworthy, considering this population of students has nearly tripled over the same time frame.
- The percentage of FNMI students achieving the acceptable standard has remained relatively static over the past four years with those achieving at the standard of excellence showing improvement. There continues to be an achievement gap compared to the overall results for the District.
- The percentage of students in need of specialized supports and services achieving the acceptable standard has shown improvement over the past five years, but an achievement gap still exists as compared to the District. This gap is to be expected as the majority of students have been identified as being below grade level and are on Individualized Program Plans. The percentage of students achieving the standard of excellence has shown a significant improvement over the past five years, with the results this year being higher than the overall results for the District. This is due to the fact that those high achieving students who are coded Gifted and Talented are included in this population.

High School Analysis of Numeracy Data

Diploma Examination—Mathematics

Overall, both the District and province showed a decrease in the percentage of students meeting the acceptable standard and standard of excellence in Mathematics 30-1 exams over the past five years. While the percentage of District students meeting the acceptable standard and the standard of excellence in Mathematics 30-1 is higher than the province, the District's results for students meeting the acceptable standard decreased from the previous year from 76.1 per cent to 72.2 per cent as compared to the province which decreased from 76.1 percent to 70.7 per cent. The percentage of District students meeting standard of excellence decreased from 33.1 per cent to 28.6 per cent compared to the province which decreased from 31.6 per cent to 25.9 per cent. Conversations with Alberta Education have revealed that the June 2016 Mathematics 30-1 exam has now met the standards for both the acceptable and the excellence levels. While reflecting on results, a future exam will serve as baseline for comparison.

When the Mathematics 30-1 data is disaggregated to reflect achievement of ELLs, FNMI students and students in need of specialized supports and services, the data compared to the previous year reveal that:

- The percentage of ELL students achieving the acceptable standard and the standard of excellence decreased; however, significantly more students wrote the 30-1 exam from the previous year
- The percentage of FNMI students achieving the acceptable standard and the standard of excellence decreased. However, in both instances the decrease is due to one less student achieving at the standard.
- The percentage of students in need of specialized supports and services achieving the acceptable standard decreased and the percentage achieving the standard of excellence increased. In both instances, significantly more students wrote the exam from the previous year.

Overall, the percentage of District students meeting the acceptable standard and the standard of excellence in Mathematics 30-2 has increased significantly over the past five years. Furthermore, the results are higher than the province. The percentage of District students meeting the acceptable standard in Mathematics 30-2 increased this year from 76.0 per cent to 79.1 per cent as compared to an increase from 73.9 percent to 75.4 per cent for the province. The percentage of District students meeting the standard of excellence in Mathematics 30-2 increased this year from 18.3 per cent to 21.2 per cent as compared to an increase from 15.5 per cent to 16.8 per cent for the province. It is important to note that, in examining the Diploma exam data for mathematics, 117 more students wrote the 30-2 exam as compared to 68 less students writing the 30-1 exam. The increase could be due to the fact that the entrance requirements for university are not limited to 30-1 Mathematics, as many programs accept 30-2 as a requirement. Teachers are counselling students to engage in the math course level best suited to the requirements reflecting their future goals.

When the Mathematics 30-2 data is disaggregated to reflect achievement of ELLs, FNMI students and students in need of specialized supports and services, the trend data indicates that:

- The percentage of ELL students achieving the acceptable standard and the standard of excellence increased from 2013 yet decreased from the previous year. Despite the decrease from the previous year, more ELL students achieved the standard.
- The percentage of FNMI students achieving the acceptable standard and the standard of excellence increased significantly in both the five year trend data and from the previous year.
- The percentage of students in need of specialized supports and services achieving the acceptable standard increased significantly in both the five year trend data and from the previous year, however, the percentage achieving the standard of excellence decreased.

Math Intervention Programming Initiative (MIPI)

In 2016, the results of the MIPI indicate that the overall number of students requiring intervention has remained steady over three years. While the data from year to year shows the number of students requiring interventions is consistent, there are some important considerations to bear in mind. Each year of the MIPI administration, the items on the instrument have been revised; therefore, the comparison of the results from year to year is less reliable. The data collected for 2014 and 2015 represents the number of students achieving below 60 per cent on the instrument combined with the teacher professional judgment to determine the number of students requiring intervention. The data collected for 2016 strictly represents the number of students achieving below 60 per cent on the instrument. The items of the instrument and the methods of data collection continue to be revised and edited on an annual basis as part of the generative process; therefore the comparability of the data collected from year to year may vary depending on the specific changes to the instrument.

The District recognizes that teacher professional judgment is key in determining the grade level of programming for their students in mathematics. While internal District data, such as MIPI, is inconsistent with the PAT data, the purposes of the District data collection are to inform programming and determine which students might require additional supports each year. It is through the provision of targeted support to those who need it most that overall mathematics results on Accountability Measures continue to improve. Overall, the District continues to work on improving results in mathematics and numeracy by continuing to use data to inform programming in order to create excellent opportunities for success in mathematics for all students.

SECTION THREE: 2015-2016 SUPPORTS TARGETED TO INCREASE STUDENT ACHIEVEMENT IN NUMERACY

Much work was completed in 2015-2016 to improve mathematics and numeracy skills in students across the District. A four year District-wide plan was developed to ensure targeted, quality supports would be identified, developed and made available collaboratively by schools and central departments. This *Numeracy Guiding Document and Action Plan 2015-2019* was completed by the Numeracy Principal Advisory Committee and introduced in the fall of 2015, and identified the targeted outcomes, strategies and a four year plan of activities for improving student achievement in numeracy and mathematics. The initiatives described below are activities that were identified and implemented from this action plan.

Math Intervention Programming Initiative (MIPI) Implementation

In 2014-2015, the District implemented the MIPI for Grades 2–9 to provide teachers with information to develop individualized math intervention plans. In 2015-2016, the MIPI was administered to students in Grades 2–10. Analysis of the MIPI has led to continued review and revision of the tool.

Expanded Opportunities for Numeracy and Mathematics Professional Learning Support

Building staff expertise and capacity in research-based, high impact numeracy and mathematics strategies for individual, small group and whole class instruction was a focus for the 2015-2016 school year. Through access to central surplus funds, three additional numeracy consultants were made available to schools. This ensured each of the four leadership groups had a consultant assigned to provide support and consultant expertise related to Grades 7–12 numeracy programming. This addition significantly increased opportunities for professional learning in numeracy and mathematics for teachers, educational assistants, parents and school leaders. Professional learning offerings were expanded, sessions were provided for parents, and several District-wide professional learning events were provided, including: two Principal and Lead Teacher Professional Learning Days, which were attended by 653 staff; two Numeracy Across the Curriculum Best Practices Professional Learning Days,

which were attended by 486 staff; and numeracy and mathematics summer institutes, that were attended by 42 teachers.

A total of 3,077 teachers, principals and educational assistants received in-service sessions and coaching or consultation sessions to support their numeracy and mathematics professional learning. These sessions were provided through schools, catchment groups, leadership groups or through central sessions. The two professional learning series, “Foundations of Mathematics” and “Numeracy Foundations”, provided key foundational understanding and skills to teachers of mathematics and teachers of other content areas. Sessions such as “A Guided Approach to Math”, “Mathematical Processes”, and “Supporting Students at Various Levels in Mathematics” were also foundational to improving teacher practice in mathematics.

Throughout 2015-2016, schools provided a range of mathematics interventions to students who required additional supports, including guided math practices. Trustees will be able to gather further information about informal numeracy and mathematics interventions through their attendance at catchment and school Results Reviews.

Additional Integration of Supports in Mathematics and Numeracy for FNMI and ELL Students

Targeted work was completed in 2015-2016 to ensure that additional resources and professional learning content was provided to enable teachers to better support FNMI students and ELLs. For example, numeracy tasks were developed for the existing FNMI Edukits; new sample lesson plans for teachers were developed and provided; new professional learning sessions, such as “Reconciliation Through Numeracy”, were delivered. Through the District-wide Focus on Reading work, materials were developed that identified explicit strategies to support language and reading development in mathematics. Strategies to support English language learners were embedded into mathematics and numeracy professional learning sessions (such as the use of manipulatives, technology supports, visuals, and the provision of explicit vocabulary support).

Review and Development of Numeracy Resources

In the 2015-2016, a number of numeracy and mathematics resources were reviewed and/or developed to support administrators as well as teachers and educational assistants in the classroom.

- District-developed and published resources, such as *Maximizing Math*, were reviewed by teachers and recommendations were made regarding further improvements to align with provincial requirements, including curriculum changes.
- Additional resources were developed. These included draft Handbooks for Supporting Students in Meeting the Reading Demands of Mathematics for Grades 1–6, Strategy Cards for junior high and high school teachers to support students in meeting the reading demands of mathematics, support materials for principals, etc.
- A numeracy literature review was commissioned from the University of Alberta, in response to key questions developed by the Numeracy Principal Advisory Committee.
- A numeracy website for District staff to effectively share information and resources was developed.
- A Google + community was created to promote District-wide sharing and collaboration and grew to include 311 members by the end of the school year.

Increased Collaboration with External Partners

In 2015-2016, work with external organizations in support of student learning was expanded. The MIPI was shared with ten external school districts. Collaboration with the University of Alberta, Concordia University and the Edmonton Regional Learning Consortium took place. These initiatives enabled the District to expand learning opportunities for staff.

SECTION FOUR: PRIORITY STRATEGIES MOVING FORWARD

To advance the outcome that more students demonstrate growth and achieve learner outcomes with a specific focus on numeracy and mathematics, the District will pursue the following strategies:

- Use data from the Prior Level of Achievement Reports to identify sites that have demonstrated improvement in their mathematics results at the Grade 3, 6, and 9 levels. These reports serve as a predictor of students' level of achievement on current PATs based on their prior PAT results. Schools whose actual average is significantly above the predicted school average recently and consistently over the past five years have been identified as sites demonstrating improvement. These sites will be consulted to determine the strategies and approaches that have contributed to the increase in results and learnings will be shared across the District.
- Use data from the Accountability Pillar for Mathematics 30-1 and 30-2 to identify schools that have demonstrated an improvement that is greater than the provincial per cent difference and have consistently shown results that have exceeded provincial results. These sites can also be consulted to determine the strategies and approaches that have contributed to the increase in results and learnings will be shared across the District.
- Professional learning supports and resources will continue to be developed and provided to support classroom teachers in implementing research based best practices to support numeracy and mathematics teaching and learning. This includes:
 - Supports for schools in assessing and identifying students who require interventions and ensuring these students receive quality, targeted support.
 - Exploration and potential development of a formal mathematics intervention process, potentially based on components of the First Steps in Math resource.
 - Review and revision of the MIPI tool and processes for documenting both quantitative and qualitative data to inform professional learning.
 - Expanding professional development for Kindergarten to Grade 12 teachers with a focus on research-based approaches in the area of numeracy and mathematics. This includes expanding access to sessions and coaching. Key professional learning sessions include Foundations of Mathematics, Numeracy Foundations (for teachers of subjects other than mathematics), Guided Math, formal and informal mathematics interventions, and sessions to support the analysis of MIPI and provincial achievement test data to determine and implement needed supports for students in targeted areas.
 - Continuing to offer summer institutes to deepen teacher capacity in numeracy and mathematics on a variety of topics.
 - Continue to gather research and build effective processes for whole class, small group and one on one intervention practices.
 - Enhancing access to professional learning opportunities for junior high and high school teachers in the area numeracy and mathematics instruction and intervention.
 - Using central surplus funds, bring in external subject matter experts to support professional learning and to enhance District capacity in the area of numeracy and mathematics.
 - Expanding access to high-leverage resources, including Mathletics.