



**R-2 ACADEMIC ACHIEVEMENT - MATHEMATICS
SUMMARY OF COMPLIANCE STATUS
APRIL 2020**

SUPERINTENDENT CERTIFICATION

With respect to R-2 *Academic Achievement – Mathematics* taken as a whole, the superintendent certifies that the proceeding information is accurate and complete, and the district is:

- Making Reasonable Progress
- Making Reasonable Progress, with Exception
- Failing to Make Reasonable Progress

Summary Statement by Administration

Monitoring of results policies is part of the ongoing process of district performance evaluation and superintendent evaluation. This report addresses nine indicators of the superintendent’s responsibility regarding Academic Achievement - Mathematics. Of the nine indicators, four demonstrated making reasonable progress, three demonstrated making reasonable progress, with exception, one indicator demonstrated failing to make reasonable progress, and one indicator was a baseline measurement.

Signed: 
Superintendent

Date: 4/13/2020

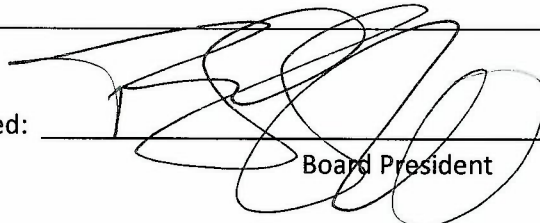
SCHOOL BOARD ACTION

With respect to R-2 *Academic Achievement – Mathematics*, the Board:

- Accepts the report as making reasonable progress
- Accepts the report as making reasonable progress, with exceptions
- Finds the district failing to make reasonable progress

Summary statement/motion of the Board

Motion by Mr. Lembke to accept the R-2 Academic Achievement – Mathematics Monitoring Report, with changes to Indicator 3, Fall to Spring 18-19 7th and 8th grade color coding to green, as Making Reasonable Progress, with Exception, seconded by Ms. Delorme. Motion carried.

Signed: 
Board President

Date: 4/13/2020

Data Analysis by Administration

The evidence below supports making reasonable progress with exceptions as it reflects improvement in the majority of indicators. There are a couple areas of note from the overall results. There are some discrepancies in MAP Growth for certain subgroups. On average, African American, American Indian, economically disadvantaged, and students with disabilities subgroups are performing seven to ten percent lower compared to Caucasians. Data indicates we are failing to make reasonable progress in the area of standards-based grades. Seven of nine grades have dropped compared to the prior year. This data is greatly influenced by the number of assignments entered and how the score is calculated, which is determined per teacher at this time. Growth is observed in ACT Aspire for freshman and sophomores, and we are consistently comparable to the state average on the ACT. Another highlight is that more than half of our students are taking courses above and beyond the minimum requirement for graduation.

R-2.1 Academic Achievement - Mathematics

Each student will meet or exceed targeted growth and proficiency using critical and creative thinking.

Each Student Will:

<p>2.1 Achieve targeted growth and proficiency in the following disciplines:</p> <p>ELA Mathematics Science Social Studies</p>	<p>Making Reasonable Progress, with Exception</p>
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2.1 Mathematics

Superintendent Interpretation:

- **External assessments** include assessments with national norms that are administered within specified windows as a part of state requirements.
- **Proficiency** means meeting or exceeding the knowledge and skill requirements of the specified measure.
- **Grade level target** on the NWEA (MAP) assessment is considered 50th percentile or higher.
- **Proficiency** on the NDSA is considered performing at or above grade level.
- **Proficiency** in the standards means that students have demonstrated that they know, understand, and are able to apply knowledge and skills at the “proficient” level of district proficiency scales.
- **Proficiency** is defined as “College Ready” on the ACT Aspire and ACT which is based upon the following percentiles and ACT cut scores. This score is an indication of the extent to which they are prepared for college-level work. The ACT consists of curriculum-based tests of educational development in English, mathematics, reading, and science designed to measure the skills needed for success in first-year college coursework.
- **Cut Score** is the minimum score needed on the ACT per subject-area to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding credit-bearing college courses.

	Minimum Expected Percentile			
	English	Math	Science	Reading
Aspire Grade 9	44	74	79	71
Aspire Grade 10	47	84	75	75
ACT	42	63	70	60
Minimum ACT Cut Score				
ACT	18	22	23	22

- **Targeted growth** is the expected growth defined by national norms on a particular assessment. National data indicates that 50% of students typically meet their expected targeted growth.
- **Minimum requirements** include BPS graduation expectations for high school and core courses in K-12.

- **Critical and creative thinking** refers to the success skills which include critical thinking, creativity, collaboration and communication. Done well, students will collect, assess and analyze relevant information, reason effectively, reflect critically on learning experiences, use a wide range of idea creation techniques to create new and worthwhile ideas, work collaboratively in teams for sustained periods of time to develop high quality products, and communicate ideas through the creation of authentic products using a combination of words, data, and visual representations to inform, persuade and entertain others.
- **Routine application** means evidence (e.g. elect/classroom observation data, survey data, Danielson, ND DPI student engagement survey (ESSA), Advanced Ed survey data) indicates that critical and creative thinking is a clearly understood and regular part of the classroom environment.

Green	Met or Increased
Blue	Flat or Decrease Under 2%
Yellow	Decrease of 2% to 4.9%
Red	5% or More Decrease

Indicator 1: Each student will show continuous improvement toward, or attainment of a target so that at least 80% of all students are considered proficient in each grade level assessed on the NDSA in the area of mathematics	Making Reasonable Progress, with Exception
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Evidence:

Grade	Target	Spring 15-16	Spring 16-17	Spring 17-18	Spring 18-19
3	80%	49%	51%	55%	62%
4	80%	49%	47%	52%	48%
5	80%	39%	40%	45%	55%
6	80%	41%	35%	41%	47%
7	80%	38%	36%	41%	39%
8	80%	33%	32%	43%	45%
11	80%	44%	33%	*33%	*30%

*17-18, 18-19 the ACT was used as the 11th grade NDSA Assessment

Indicator 2: Each student will show continuous improvement toward, or attainment of a target so that at least 80% of all students are considered at grade level target on the NWEA (MAP) assessment in the area of mathematics.	Making Reasonable Progress
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Evidence:

Grade	Target	n	Spring 15-16	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19
2	80%	1001	60.8%	969	60.5%	958	54.9%	997	53.0%
3	80%	966	59.7%	1007	61.9%	955	61.5%	954	61.6%
4	80%	979	60.7%	984	56.8%	1015	59.0%	973	58.0%
5	80%	901	57.4%	994	58.8%	995	56.9%	1038	57.7%
6	80%	875	55.9%	921	54.5%	987	54.8%	1006	52.0%
7	80%	880	63.0%	905	60.0%	919	58.9%	996	58.5%
8	80%	866	62.9%	874	65.2%	912	65.8%	905	63.3%

Cohort Data

Grad Class of	Target	n	Spring 15-16	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19
2029	80%							858	54.8%
2028	80%					820	56.8%	836	62.2%
2027	80%			850	63.1%	818	65.5%	806	62.2%
2026	80%	858	62.7%	834	63.7%	800	61.3%	797	61.1%
2025	80%	831	61.0%	803	59.1%	782	59.3%	773	54.2%
2024	80%	785	62.9%	771	63.0%	747	58.8%	737	61.5%
2023	80%	682	60.7%	671	56.8%	660	62.1%	646	66.3%

Indicator 3: Each student will show continuous improvement toward, or attainment of a target so that at least 60% of all students will meet their expected targeted growth in each grade level assessed on the NWEA (MAP) in the area of mathematics.

Making Reasonable Progress

Evidence:

Grade	Target	n	Fall to Spring 15-16	n	Fall to Spring 16-17	n	Fall to Spring 17-18	n	Fall to Spring 18-19
2	60%	513	46.8%	518	40.4%	455	39.1%	310	44.8%
3	60%	964	54.4%	1006	52.3%	953	52.1%	954	58.1%
4	60%	979	48.4%	982	43.8%	1015	48.3%	973	49.1%
5	60%	901	48.5%	994	50.3%	993	53.3%	1038	50.8%
6	60%	873	53.5%	920	56.5%	983	55.8%	1006	54.6%
7	60%	874	59.6%	903	57.4%	919	61.3%	996	60.5%
8	60%	861	52.1%	873	64.4%	911	65.2%	905	61.3%

Indicator 4: Each student will show continuous improvement toward, or attainment of a growth target so that at least 60% of all students categorized into subgroups (Low SES; race, gender, exceptional above and below), will meet their expected targeted growth in each grade level assessed on the NWEA (MAP) in the area of mathematics.	Making Reasonable Progress, with Exception
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Evidence:

Disaggregated subgroups:	Target	n	Spring 15-16	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19
Economically Disadvantaged	60%	1551	47.5%	1523	47.3%	1490	51.3%	1512	48.9%
African American	60%	245	47.8%	266	47.0%	279	50.2%	274	47.5%
American Indian	60%	569	45.3%	494	45.3%	531	49.9%	534	47.0%
Asian	60%	78	52.6%	66	54.6%	69	59.4%	75	58.7%
Caucasian	60%	5806	53.3%	5466	53.4%	5368	55.1%	5269	56.1%
Hispanic	60%	161	49.7%	163	47.2%	158	51.3%	151	51.0%
Students w/ Disabilities	60%	786	48.2%	761	45.5%	744	47.3%	778	48.2%
EL	60%	72	47.2%	77	57.1%	116	65.5%	134	58.2%
Female	60%	3400	50.1%	3202	50.9%	3157	54.1%	3105	55.6%
Male	60%	3500	54.5%	3294	53.7%	3283	54.8%	3247	54.2%
Gifted	60%	242	60.7%	310	51.0%	121	62.0%	148	58.1%
Title 1/District Support Services	60%							747	48.3%

Indicator 5: Each student will show continuous improvement toward, or attainment of a target so that at least 80% of students are considered proficient in each grade level assessed on the ACT Aspire in the area of mathematics.	Making Reasonable Progress
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Evidence:

Grade	Target	n	Fall 15-16	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19
9	80%	891	35.7%	912	41.9%	908	47.8%	923	52.0%
10	80%	<10	NA	856	37.5%	874	38.7%	884	42.9%

Indicator 6: The district mean scores will match or exceed the state mean score on the ACT in the area of mathematics.	Making Reasonable Progress, with Exception
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Evidence:

Year	Number of Students Tested		Math	
	District	State	District	State
2016	849	7379	20.2	20.3
2017	834	7399	20.3	20.4
2018	827	7282	20.1	20.3
2019	845	7451	20.0	19.9

Indicator 7: Each student will show continuous improvement toward, or attainment of a target so that at least 80% of students are proficient in grade level mathematics standards.	Failing to Make Reasonable Progress
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Evidence:

Proficiency = 3.0

Grade	Target	n	Spring 15-16	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19
K	80%	1011	46.2%	1027	41.7%	1019	42.7%	1061	30.8%
1	80%	1028	52.9%	1033	46.5%	1014	37.6%	1032	29.6%
2	80%	1043	49.0%	1032	48.0%	996	35.2%	1017	26.7%
3	80%	1018	19.4%	1082	20.1%	1018	18.1%	1002	15.6%
4	80%	1021	27.9%	1037	24.0%	1080	24.8%	1026	16.3%
5	80%	937	24.7%	1052	24.8%	1039	21.8%	1085	16.7%
6	80%	878	34.7%	895	30.1%	946	30.8%	982	31.7%
7	80%	852	11.6%	911	16.0%	906	12.4%	951	16.0%
8	80%	693	39.8%	715	39.3%	689	48.5%	725	45.8%

Proficiency = 2.75

Grade	Target	n	Spring 15-16	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19
K	80%							1061	53.8%
1	80%							1031	54.1%
2	80%							1017	50.2%
3	80%							1002	31.5%
4	80%							1026	34.6%
5	80%							1085	34.7%
6	80%							982	45.6%
7	80%							950	29.4%
8	80%							725	56.0%

Indicator 8: At least 40% of all students are participating in courses that promote college and career readiness specific to mathematics beyond minimum requirements.	Making Reasonable Progress
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Evidence:

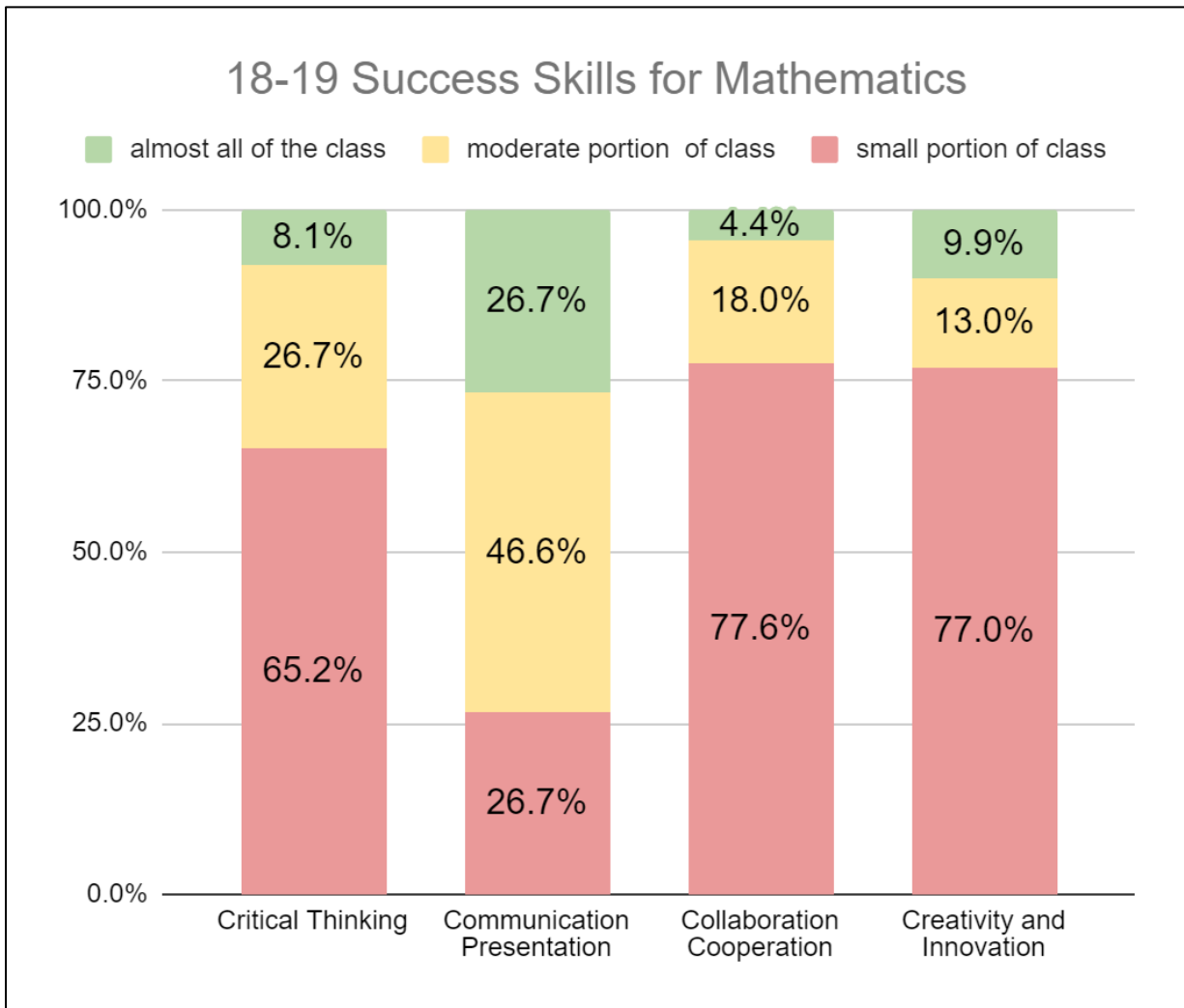
Grade	Target	n	Spring 15-16	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19
12	40%	873	48.9%	854	55.1%	858	52.2%	884	52.3%

Indicator 9: Students will report and show continuous improvement toward, or attainment of, a target so that at least 80% of students are routinely applying critical and creative thinking in Mathematics.	Baseline will be for the 2018-2019 school year
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Evidence: Eleot (The Effective Learning Environments Observation Tool) is a learner-centric observation tool that measures and quantifies student learning behaviors. In the chart below, Red (small portion of class) indicates that less than 50% of students observed during those particular observations were observed applying the item and that the quality of application was routine and of moderate to high complexity. Yellow (moderate portion of class) indicates that between 50% - 79% of students were observed applying the item and that the quality of application was routine and of moderate to high complexity. Green (almost all of the class) indicates that between 80% -100% of

students were observed applying the item and that the quality of application was routine and of moderate to high complexity.

Overall, across observations of students engaged in Mathematics, 8.1% of the classroom observations illustrated that at least 80% of the students were observed to be applying critical thinking. Additionally, 9.9% of the observations found that at least 80% of students were observed to be applying creative thinking. The total number of observations in Mathematics = 162.



Capacity Building

Input by Administration

A couple notable recent inputs into the area of Math include but are not limited to:

- K-12 Math Steering Committee
- Streamlining Interventions across general ed and special education departments
- Supplementing Tier 1 instruction with Dreambox K-8 district-wide
- Minds on Math

Formation of elementary professional learning pathways for teachers that are more deconstructed, specific in nature, and timed appropriately to reflect instructional delivery and pacing compared to years past such as:

- Building a Rich Math Block
- Conceptually Understanding and Teaching Fractions
- Conceptually Understanding and Teaching Addition and Subtraction
- Conceptually Understanding and Teaching Multiplication and Division
- Math Interventions in the K-8 Classroom

Regarding Standards-Based Grading, recent inputs into the area of Mathematics includes the formation of curriculum review teams engaging in a review of standards, proficiency scales, assessments, and resources. The results of this review will help identify gaps in curriculum development as well as training needs to build the capacity of district leadership, teachers, specialists, and instructional coaches. Standards-based grading inputs are dependent upon a number of variables including gradebook configuration, number of grades entered into gradebooks, and inter-rater reliability e.g. agreement of teachers on what constitutes proficiency. Assessment and grading are a subject of continuous focus in collaborative teacher work (i.e., content teams, professional learning communities and continued professional learning).

We believe these are critical components to the future of meeting our desired results in mathematics.