

Assertion of Progress and Exceptions Form

March 5, 2018

ER 2: Science

<p>Assertion of Progress with Evidence</p>	<p>Reasonable progress is demonstrated in all indicators for the all student, male, female and white categories. Other categories have mixed progress.</p> <p>Reasonable progress is demonstrated in all categories for 9th graders earning full credit for science - 96% of 9th graders earned full credit for science. This indicator shows positive trending for all subgroups, specifically ELL, Special Education and Low Income.</p> <p>Specifically, overall student performance in science at all grade levels is relatively strong, as evidenced by:</p> <ul style="list-style-type: none"> • Ranking of 2 to 6 of the 48 comparison WA State Districts >6500 students. • 85-87% of students rated proficient at all three grade levels (5, 8, 10) • Percent of students meeting or exceeding state standards does not fall off dramatically in higher grades (86.7% in 5th to 85.5% in 10th), suggesting that student success is established early and then maintained. • Trends towards improvement in specific student groups: Latino/Hispanic, ELL and Special Ed show trend gains in all indicators, except 5th grade.
<p>Exceptions with Evidence</p>	<p>A convincing upward trend toward the 95% at standard objective is not observed in majority of student groups. In many trend analyses (all students, or demographic subsets thereof) and at all grade levels (5, 8 and 10) the three-year trends are flat, and sometimes declining, indicating that absolute performance is not obviously improving. Specifically, African American show a significant declining trend over 3-years for each of the standardized test indicators.</p> <p>Achievement gaps exist when comparing specific demographic subsets of students.</p> <ul style="list-style-type: none"> • SpEd gaps are dramatic (30-40%) and persistent across grade levels. • Post-ELL gap of ~10% is persistent in grade 10, suggesting that additional support may be needed for post-ELL students in high school • Low-income student performance gaps (20-30%) are significant at all grade levels, and do not seem to diminish. • Achievement gaps of 20-25% are persistent for Latino and African American students.
<p>Strengths</p>	<p>Relative performance (ranking) compared to other districts is strong overall, across a majority of subgroups/indicators</p> <p>Performance gaps are minimal for post-ELL students. Current ELL student lags non-ELL peers, but post-ELL student performance is within 10% of non-ELL students in grades 5 and 8, suggesting that the K-5 ELL program has prepared students for later success.</p> <p>Reasonable interventions/Strategies to close gaps were outlined</p> <ul style="list-style-type: none"> ○ Curriculum (Differentiation, supplements) ○ Professional development ○ Teaching Methodology (Inclusion, Co-Teaching) <p>Targeted strategies to improve Low income student outcomes</p> <ul style="list-style-type: none"> ○ Early intervention (Head Start) ○ Parent engagement and wraparound services <p>The performance of post-ELL students in elementary and middle school speaks well to the efficacy of LWSD K-5 ELL programs.</p>

Weaknesses	<ul style="list-style-type: none"> In nearly all trend analyses (all students, or demographic subsets thereof) and at all grade levels (5, 8 and 10) the three-year trends are not obviously improving. Gaps in specific demographic subsets (SpEd, Low Income, African American/Black and Latino/Hispanic) are dramatic (more than 15%), and persistent over time Current strategies limited to curricular and professional development for the most part – that have not closed these gaps. New strategies listed do not appear to be significantly different.
Focus/ Priority Moving Forward	<ol style="list-style-type: none"> <u>Close the achievement gap for low-income students.</u> In comparison with other districts we have room to improve. <u>Research opportunities for “best practices” from districts that are outperforming</u> in our subgroups, specifically special education and low-income. <u>Review and Evaluate SIP process to ensure alignment with long-term outcomes and trends.</u> We are not consistently seeing strong trends across all student populations, and this is listed as a current strategy. <u>Address low performance of EL students in Science.</u> State that need to emphasize language acquisition that includes academic vocabulary. No strategies are listed that provide a focus there. <u>Continue work with equity and addressing issues that impact student performance.</u> Explore expansion or other opportunities to expand or add to work that is occurring to effectively close gaps. Consider extracurricular or experiential science opportunities to expand exposure to the concepts.
Presentation Comments	<p>Report/Presentation Overall:</p> <ul style="list-style-type: none"> Include a version of slide 14 for all students (not broken out by subgroup) between slides 10 and 11 to provide a baseline sense for trends across all students. Research/utilize other statistical methods to evaluate the gap and impacts of race/ethnicity, income, gender, disabilities, such as Relative risks (see attached) <p>Feedback on Indicators</p> <ul style="list-style-type: none"> <u>Breakout Special Education into categories</u>, in order to better understand what is causing the gaps. Need to distinguish between SLD and cognitive disability, in order to assess where strengths and weaknesses might exist within the SpEd system. <u>REVISE Indicator</u>: “Passing science in 9th grade.” Indicator is not useful to understand level of science passed in 9th grade and if sets up on path to graduation. <u>NEW Indicator</u> – % of students taking a dual credit course in science (AP, IB, College in High School, CTE course, WaNIC). <u>NEW Indicator</u> – Something to deal with “opportunity” to explore science concepts; extracurricular, during school, course in secondary, during summer. <u>Data Displays</u>: Trend gap data and compare to other districts, i.e. show low-income outcomes for the other 49 districts and how we compare in written report. <u>ELL Breakout</u>: When discussing (in the text), speak to those students who have exited ELL and those who are in ELL currently.

Using Relative Risk to Evaluate Achievement Gaps

Based on Science ER2 – Board Presentation

Evaluating the achievement gap by race in grade 8 (slide 32) is on the right track, but the table does not clearly deliver the intended message - how do the data shown relate to the assertion that “Achievement gaps by race/ethnicity persist when accounting for income”? Relative risks are an easier way to grapple with this problem

Example 1: **Within each race/ethnic subset**, what is the risk that a low-income (LI) student will not be at standard, relative to non-LI students of the same race/ethnicity? To calculate this, we need the absolute risks for LI and non-LI students, within the race/ethnicity.

- There are 74 white/LI students, of whom 22 are not at standard. The absolute risk for white/LI students is $22/74 = 30\%$
- There are 1133 white/non-LI students, of whom 113 are not at standard. The absolute risk for white/non-LI students is 10%.
- The Relative Risk (RR) that a white/LI student will not be at standard, relative to white/non-LI students is the ratio of the absolute risks: $30\%/10\% = 3.0$. A LI/white student is 3-fold more likely to be below standard than a non-LI/white student.
- Using the same calculation for the relative risk that LI students will not meet standard, relative to non-LI students, **within** other race/ethnicity subsets we get:
 - RR = 3.0 for Whites
 - RR = 4.1 for Asians
 - RR = 1.4 for Blacks
 - RR = 2.7 for Latinos

Evaluating the Relative Risks is all about the reference set. So now let's look at how to compare risks between race/ethnic subsets. For this type of comparison, the standard is to always compare each group against the largest group (whites, in this case).

Example 2: **Within Non-LI students**. To compare performance of Asian/non-LI students and white/non-LI students, we need the absolute risk of not being at standard for each of these subsets.

- 113 out of 1133 white/non-LI students not at standard. $113/1133 = 10\%$
- 34 out of 439 Asian/non-LI students were not at standard. $34/439 = 7.7\%$
- Considering only non-LI students, the relative risk that an Asian student is not at standard (relative to white students) is $7.7\%/10\% = 0.77$. Non-LI/Asian students are at slightly lower risk of not being at standard than non-LI/whites.
- The relative risk of not being at standard for non-LI/Latinos is roughly twice that of non-LI/whites (RR=1.8) and the risk of being below standard for non-LI/blacks is more than four-fold higher (RR=4.1), demonstrating that *a performance gap persists for these subsets after stratifying on income*.
 - RR = 0.8 for non-LI/Asians
 - RR = 1.8 for non-LI/Latinos
 - RR = 4.1 for non-LI/ Blacks

Example 3: **Within Low-income**. To compare performance of Asian/LI students and white/LI students, we need the absolute risk of being below standard for each of these subsets.

- 22 out of 74 white/LI students were below standard. $22/74 = 29.7\%$
- 11 out of 35 asian/LI students were below standard. $11/35 = 31.4\%$
- Considering only LI students, the relative risk that a LI/Asian student is below standard (relative to LI/white students) is $31.4\%/29.7\% = 1.1$
- LI/Asian students are at almost exactly the same risk of being below standard as LI/white students.
- The relative risk of being below standard for LI Latinos is 60% higher than that of whites (RR=1.6) and the risk of being below standard for LI blacks is two-fold higher (RR=2.0).
 - RR = 1.1 for LI/Asians
 - RR = 1.6 for LI/Latinos
 - RR = 2.0 for LI/Blacks

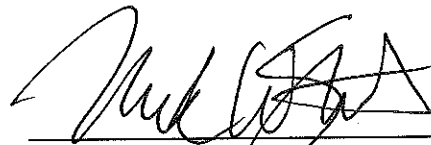
Important to note that both race/ethnicity have impact upon student achievement, independently of the other. The effect of race/ethnicity appears stronger among non-LI students than LI students. The effect of low-income shows across all race/ethnicities. To effectively address student achievement, the impact of both factors must be addressed.

March 5, 2018 Board Meeting
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