



ACHIEVEMENT INDEX UPDATE AND AWARDS

Policy Consideration

The Washington State Board of Education was delegated the authority to redesign the Achievement Index for the purpose of meeting state and federal accountability requirements. The SBE engaged with numerous stakeholder groups to create the Revised Achievement Index in a manner that thoughtfully includes student growth model data and a Targeted Subgroup calculation. The SBE found the Index to provide valid and reliable school ratings which can be utilized for recognition and differentiated supports.

The Board will consider whether to adopt the Revised Achievement Index for use in State and Federal accountability, including the identification of schools in need of differentiated support. This also includes the use of the Revised Index as the basis from which to identify recipients of the Washington Achievement Awards.

Summary

Four major findings for the 3-Year Composite Index school ratings are summarized below. The findings include:

1. The distribution of the highest and lowest performing schools by grade level configuration is similar to the statewide distribution. This means that there is no analytical bias based on the grade configuration of schools.
2. School characteristics (including grade level configuration, number of students assessed, percentage of FRL program participants, and percentage of gifted students) are not good predictors of the 3-Year Composite Index rating, indicating a lack of analytical bias.
3. The proficiency rates for reading, math, and science for most schools are increasing and the improvements are evident in both high and low performing schools, indicating that academic growth is not limited to low performing schools.
4. The median increase in graduation rate for high schools is less than one percent over the three most recent years, which may be lower than one would expect.

The SBE and the OSPI agree that a Transitional Plan should be enacted to facilitate the identification of Priority and Focus Schools for the purpose of providing school districts with ample planning time for newly identified schools. The proposed Transitional Plan meets both federal and state accountability requirements.

Background

Revised Achievement Index

The Washington State Board of Education (SBE) has expended considerable resources on the development and implementation of the Revised Achievement Index, a school

accountability system to differentiate recognition and support for schools. At the previous SBE meeting (January 2014), the SBE staff presented on the validity of the Revised Index based on two years of achievement data. Since that time, the SBE staff received Index computations for the Composite Index based on three full years of achievement data. As the Board was tasked with creating a new school accountability system for state and federal reporting, the Board should be certain that the Revised Index accurately identifies schools for recognition and supports in a fair, unbiased, and accurate manner.

Relationship to the Old Index

We use correlation coefficients to numerically describe the relationship between two variables. A correlation is characterized as positive when high scores on one variable associate with high scores on the other variable and low scores on the first variable associate with low scores on the second variable. A negative correlation results when high scores from one variable are associated to low scores on the other variable. Correlation coefficients range from +1.00 to -1.00. Correlation coefficients near zero indicate no consistent relationship among the measured variables. Depending on the variables analyzed, a high correlation may be desirable or a negative correlation may be desirable.

At the previous SBE meeting (January 2014), the SBE were presented with a graphic and a statistical analysis indicating a correlation coefficient of approximately 0.650. This means that schools rated high on the old Index would be predicted to score generally high on the Revised Index but that some differences would be expected. As was discussed, the Board should be concerned if the correlation of the old and Revised Index were too similar or too dissimilar. If the correlations are too high, the Revised Index might be criticized as being essentially “the same” as the old Index. If the correlations are too low, the Revised Index might be criticized as being far too different from the old Index. A nice balance appears to have been achieved, as the Revised Index is sufficiently different from the old Index, values growth, and remains credible because the Revised Index is not too different from the old Index.

Relationship to School Characteristics

School Grade Level Configuration

To characterize the Index as being fair for all schools, the school grade level configuration (elementary, middle, and high schools) should not be a determining factor of school rating. One way to assess this relationship is to compare the percentage of elementary, middle, and high schools in the highest and lowest performing tiers to the percentage of schools at each grade level configuration across the state.

Table 1: Shows the distribution of highest and lowest performing schools by school-level configuration.

	Highest and Lowest Performing Schools		State
	#	%	%
Elementary Schools	129	56	57
Middle Schools	34	15	19
High Schools	37	17	15
Combined	32	13	9

The table shows that the percentages of the highest and lowest performing schools by grade level configuration are very similar to the percentages of elementary and middle schools across the state, and this is what we would hope for in this simple examination. Overall, the distribution of the highest and lowest performing schools by grade level configuration is very close to that which would be predicted. As a stakeholder in this analysis, the SBE wants to be sure that the highest and lowest performing schools are in fact being identified, and nothing observed here leads one to any other conclusion; the analysis is identifying the highest and lowest performing schools as intended.

School Size

For the Index analyses to be considered fair and unbiased with respect to school size, we would hope to see a very low correlation between the Index score and school size. In this analysis, we use the number of continuously enrolled (CE) assessed students as a proxy for school size. The correlation coefficient was computed comparing the 3-Year Composite Index rating to the number of CE students in 2012-13. The correlation coefficient ($r = 0.064$, $n = 1800$) is very weak and positive. This indicates that there is virtually no relationship between the variables. The low correlation means that the number of assessed students (proxy for school size) is a very poor predictor of Composite Index rating. As we would hope, the analysis shows that the Revised Index is fair and unbiased with respect to school enrollment or school size.

Poverty

Under NCLB, the old AYP analyses relied exclusively on proficiency rates and resulted in very strong correlations (-0.800 and higher) between school identifications and poverty. The Revised Index includes measures of student academic growth as indicators which would be expected to lower the relationship between the Index and poverty, which is most desirable. For this analysis, we use the percentage of students at the school who participated in the Free and Reduced Price Lunch (FRL) Program in 2012 as a proxy for school poverty. The correlation coefficient ($r = -0.468$, $n = 1795$) was computed comparing the 3-Year Composite Revised Index rating to school poverty. Just as was the case for the 2-Year Composite Index, the relatively low correlation means that the analysis is only mildly biased with respect to school poverty. The bias here is not excessive as I would be concerned if this correlation were to be greater than -0.700 .

Percent English Language Learners

The SBE engaged stakeholders in robust discussion around the potential impacts of English Language Learners (ELLs) on the Composite Index rating. The SBE would seek to ensure that the correlation between the percentage of ELLs at a school and the Composite Index rating is low. The correlation coefficient ($r = -0.262$, $n = 1576$) was computed comparing the 3-Year Composite Revised Index rating to ELL program participation at a school. This indicates that there is weak relationship between the variables. The low correlation means that the percentage of ELL students at a school) is a poor predictor of Composite Index rating. As we would hope, the analysis shows that the Revised Index is fair and unbiased with respect to the percent of ELL students at a school.

Percent Gifted

If the Revised Index is fair to all schools, there should be no bias toward schools with high percentages of gifted students as compared to schools with low percentages of gifted students. The correlation coefficient ($r = 0.078$, $n = 1800$) was computed for the percentage of gifted students at a school and the 3-Year Composite Index rating. This indicates that there is virtually no relationship between the variables. The low correlation means that the percentage of gifted students at a school is a very poor predictor of Composite Index rating. As we would

hope, the analysis shows that the Revised Index is fair and unbiased with respect to the gifted population at a school.

Because the State Board of Education was tasked with school accountability, the Board should be concerned if the school index score is too closely related to school characteristics, such as school enrollment, percentage of FRL students, percentage of gifted students, percentage of ELL, students, and percentage of students with a disability. A very close relationship or high correlation may imply that the Revised Index is unfair to a school for one reason or another. The analyses conducted and presented here do not indicate any serious analytical bias, meaning that the Index is fair for all schools.

There are some limitations in the data available. To better assess the relationships of the Index to school characteristics future work should include:

- the percentage of FRL program participants assessed at the school should be used in place of the total FRL population because the school FRL percentage can differ substantially from the assessed population,
- an analysis demonstrating the relationship between the percentage of students with a disability participating in the state assessments and the 3-Year Composite Index rating.

Based on the data available, it is safe to say that neither school size, nor percentage of FRL participants, nor the percentage of gifted students at a school are good predictors of the 3-Year Composite Index rating. This is exactly what we would hope to see.

Improvement in Proficiency/Growth/Graduation and the Revised Index

Previous paragraphs demonstrate that the school ratings computed through the Composite Index are statistically similar to the school ratings computed through the old Index methodology and that the analysis is for the most part unbiased with respect to school characteristics.

One of the strengths of the Revised Index is the use of averages to compute the annual school rating and three years of data to compute the Composite rating. The SBE would hope that the averaging would reduce the little year-to-year wobble or variation while not masking actual improvement made by the students at schools. Some of the questions the Board might be concerned with or asking are:

1. Are proficiency, median SGP, and graduation rates for schools improving over time?
2. Are increases in reading and math proficiency rates associated with increases in median SGPs?
3. Are indicator increases associated with higher or lower Index ratings?

Based on three full years of data, the discussion of changes over time (improvement) is only beginning. For the purpose of discussing improvement, the 2011 value (median SGP, proficiency rate, or graduation rate) is subtracted from the corresponding 2013 rate, and three results are possible:

1. A negative number results which means the 2013 value was less than the 2011 value (the rate went down).
2. A positive number results which means the 2013 rate was greater than the 2011 rate (the value went up).
3. The result is zero which means the rate is unchanged from 2011 to 2013.

Are proficiency, median SGP, and graduation rates for schools improving over time? For reading, math, writing, and science proficiency rates, the answer is mostly yes but to different

degrees. From 2011 to 2013 the median proficiency rates increased 2.7 percentage points for reading, 3.7 percentage points for math, 7.9 percentage points for science, but declined 0.1 percentage points for writing. For reading and math school median SGPs, the median change is zero for both measures. For the change in extended (5-Year) graduation rate, the median improvement is 0.8 percentage points. The statewide improvement in reading, math, and science would be expected but the slight decline in writing over the three years is somewhat troubling and worthy of a deeper look. We would not necessarily expect to see any significant change in median SGPs over time, as the SGPs are normative measures. An improvement in graduation rate would be expected, but the magnitude of change (less than one percent over three years) is lower that might be expected.

Are increases in reading and math proficiency rates associated with increases in median SGPs? For reading, a weak to moderate correlation ($r = 0.436$, $n = 1766$) is indicated for the improvement in reading proficiency rate and the improvement in median SGP. The relationship for math is the same as the reading, a weak to moderate correlation ($r = 0.469$, $n = 1763$) is indicated for the improvement in math proficiency rate and the improvement in median SGP in math. This means that (in general), schools in which students improved median SGPs also were subject to increased proficiency rates for the corresponding content area measure, which is what we would expect and hope to see.

Are the indicator increases (or decreases) associated with higher or lower Index ratings? When the correlation coefficient is computed for each improvement indicator and the 3-Year Composite Index rating, a negligible R-value (mostly ± 0.050) is reported which means that the magnitude of the improvement for any of the indicators is essentially unrelated to school rating. This means that improvements (and declines) are occurring at both high and low performing schools, which provides more evidence that the Revised Index is working as designed in a fair and unbiased manner. As a stakeholder in this system, the Board will want to ensure that measurable improvement is possible at all schools irrespective of current rating or status and this is exactly what we are seeing.

As a policy making agency, the SBE will want to be sure that the Revised Index accurately represents the academic performance of the students at schools. Further, the Board should be certain that the analyses are unbiased with respect to school characteristics making it possible for all schools to be favorably portrayed. Neither the preliminary analyses conducted on the 2-Year Composite Index nor those conducted on the 3-Year Composite Index indicate any serious analytical bias. Nothing in this work indicates that the Index ratings are mischaracterizing the academic performance of students at schools.

Next Steps for Validation

The SBE has initiated a process by which outside groups can conduct various investigations to confirm the reliability and validity of the Revised Index. What follows is a short description of the start of that process.

1. Descriptive and other statistical analyses by the Center for Educational Effectiveness (Greg Lobdell).
2. Descriptive and other statistical analyses conducted by external stakeholders with a de-identified school file.
3. Review and analysis by school district assessment and accountability coordinators or directors. A select group will be provided with a partially de-identified school file from which to conduct the analyses.

School district personnel previously validated the underlying or source data for their respective schools through the OSPI's assessment validation process, growth model validation process, and the Cohort graduation validation process. It is expected that school district personnel will use the data set to learn more about the calculations for use in school improvement and for internal professional development opportunities.

Next Steps for the Revised Index

Several key tasks are right on the horizon regarding the Revised Index and some of these include:

1. Addressing questions and potential concerns from external evaluators regarding the Index. The SBE does not expect challenges to the Index, rather a myriad of questions.
2. Develop web-based support and instructional materials regarding the Revised Index for use by school personnel.
3. Begin to address the role and possible inclusion of "adequate growth" in the Revised Index.
4. Begin to address the inclusion of Dual Credit Attainment (CCR Indicator) in the Revised Index.

Priority and Focus School Identification

As a Board responsible for the design and implementation of a school accountability system, you want to be sure that schools identified for support are in fact the lowest performing across the state. You also want to be sure that the OSPI provides lists of schools to the USED that are in need of supports and that which conform to the methodology delineated in the approved ESEA Waiver. The Board must also be assured that the identification of schools for supports is aligned with Washington Statute and Administrative Code.

To this end, Washington's approved ESEA Waiver specifies that the State will identify the bottom five percent of Title I schools based on low performance and low progress as Priority Schools and provide differentiated supports to those schools. The State must also identify the bottom ten percent of Title I schools based on low subgroup performance as Focus Schools. In all, the State must identify at least 46 Priority Schools and 92 Focus schools. As an additional consideration, the OSPI and SBE must identify and provide similar supports to Non-Title I schools in accordance with state legislation.

The SBE staff and the OSPI agree that Washington is in a transitional year in which both Title I and Non-Title I schools must be identified for support. Both the SBE staff and the OSPI agree that a Transitional School Identification plan is warranted and believe a Transitional plan would be viewed favorably by school district personnel and the USED. Both agencies agree that all future school identification should be accomplished through the AI methodology.

Priority Schools – Transitional Plan

For Priority School identification, the following Transitional plan is proposed;

1. Provide the USED with a list of 46 Title I Priority Schools following the methodology in the approved ESEA Waiver.
2. Create a list of Title I and Non-Title I Priority Schools following the Transitional plan outlined below:
 - a. Identify schools with a 3-Year reading and math (combined) average proficiency rate that is less than 40 percent proficient.
 - b. Identify different schools with the lowest 3-Year Composite Index rating based on the Revised Index methodology.

- c. Identify high schools with an extended graduation rate of less than 60 percent over the previous three years.
- d. Steps a., b., and c. results in the identification of 90 Priority Schools.
- e. Identify additional schools from the Priority Continuing and Priority New list.
- f. Identify additional schools that place in the bottom five percent of schools in reading or math in each of the previous three years.
- g. The most recent school identification list shows that the OSPI would be serving 108 Priority Schools, the list of 46 provided to USED and an additional 62 schools not on the USED list derived from the AI methodology and other business rules.

Focus Schools – Transitional Plan

The SBE staff and the OSPI are developing the methodology for the Focus School Transitional Plan at the time this document is due. The agencies do agree that the Focus School Transitional methodology should mimic the plan for Priority School identification. To that end, the following Transitional Plan for Focus School identification is proposed:

1. Provide the USED with a list of 92 Title I Focus Schools following the methodology in the approved ESEA Waiver.
2. Create a list of Title I and Non-Title I Focus Schools following the Transitional plan outlined below:
 - a. Identify the lowest Title I schools with a minimum subgroup, 3-Year average, reading and math (combined) proficiency rate less than 15 percent.
 - b. Identify Title I-eligible high schools with a 3-Year average extended graduation rate less than 60 percent.
 - c. Identify additional schools on the basis of lowest subgroup AI 3-Year rating.
 - d. Steps a, b, and c result in the identification of 180 Focus Schools.
 - e. The most recent school identification list shows that the OSPI will be serving 180 Focus Schools, the list of 92 provided to USED and an additional 88 schools not on the USED list derived from the AI methodology and other business rules.

Underperforming Schools – Transitional Plan

The SBE staff and the OSPI tentatively agree that the list of Underperforming Schools should be comprised of:

1. All remaining schools with a minimum subgroup, 3-Year average, reading and math (combined) proficiency rate less than 15 percent..
2. All remaining High schools with a 3-Year average extended graduation rate less than 60 percent.
3. Remaining schools with a the lowest 3-Year AI rating
4. Steps 1, 2, and 3. result in the identification of 120 Underperforming Schools.

Reward School Identification

The approved ESEA Waiver requires the identification of Reward Schools based on high performance and high progress. Washington will continue to identify the Highest Performing and High Progress schools for the USED per the approved ESEA Waiver. The SBE expects that a Transitional Plan will be developed following the methodological process utilized for the Priority, Focus, and Underperforming Schools, and will present that plan at the March SBE meeting in Renton.

Washington Achievement Awards

The ESEA Waiver approved by the USED specifically requires the State to recognize and reward schools demonstrating high progress, high performance, and high graduation rates. Even before this requirement, the State Board of Education supported the recognition of high performing schools through the Washington Achievement Awards. It is important that the SBE develop and apply recognition criteria that is commensurate with that currently in place to identify a similar number of schools for a similar number of awards. The award or recognition criteria for the new Washington Achievement Awards should be at least as rigorous as those used in previous years.

In prior years, measures used for the Washington Achievement Awards were derived from the old Achievement Index. In 2013, the Washington State Board of Education introduced the Revised Achievement Index, a database that provides a clear and comprehensive analysis of Washington schools' performance. The SBE and the Office of the Superintendent of Public Instruction (OSPI) propose to utilize the Revised Achievement Index to identify and celebrate our state's top-performing schools through the Washington Achievement Awards. Schools are recognized for Overall Excellence and or Special recognition.

Overall Excellence

The Overall Excellence Awards honor the top five percent of Title I and Non-Title I elementary, middle/junior, high, and comprehensive schools based on the highest 3-Year Composite AI rating. The top 10 percent of elementary, middle/junior, high, and comprehensive schools that are Title I-eligible or served in 2012-13 also qualify for the Overall Excellence Award based on the highest 3-Year Composite AI rating. Only schools with a total opportunity gap of less than or equal to 1.50 are eligible. For purposes here, the Opportunity Gap is defined as the All Students 3-Year AI rating minus the Targeted Subgroup 3-Year AI rating. Negative opportunity gaps are possible where the Targeted Subgroup outperforms the All Students group. Schools that have more than 10 percent gifted student population also receive recognition.

The criteria specified above is quite similar to the award criteria applied in previous years in that only the highest rated schools as identified by the Index with minimal opportunity gaps qualify for the recognition. In Table 2, see that the number of schools qualifying for the Overall Excellence Award based on the 2012-1 Revised Index (140 schools) is comparable to the previous year and that the distribution (by grade configuration) of proposed Overall Excellence awards is also comparable to the previous year.

Table 2: Shows the distribution of Washington Achievement Awards by award type and school level configuration under the old Index and new (Revised) Index.

	ES		MS		HS		Com.		Total	
	Old	New	Old	New	Old	New	Old	New	Old	New
Overall Excellence	65	84	21	21	22	19	18	16	126	140
Special Recognition	239	164	36	51	96	122	43	57	414	424
Total	304	248	57	72	118	141	61	73	540	564

Special Recognition Awards

The Special Recognition Awards are criterion-based as compared to the normative-based Overall Excellence Awards and are awarded on high performance in English Language Arts (ELA), math, and or science. High schools may also receive the recognition for high extended (5-Year) graduation rates. Schools may also qualify for Special Recognition Awards for closing Opportunity Gaps based on total gap reduction and or growth gap reduction. These awards are irrespective of Title I status. The specific criteria for each award are described below.

- Language Arts (ELA) – school must have a 3-Year AI average rating ≥ 9.5 for ELA and have 3-Year AI average ratings > 9 in reading and writing in each of the three most recent years.
- Math - school must have a 3-Year AI average rating ≥ 9.5 for math.
- Science - school must have a 3-Year AI average rating ≥ 9.5 for science.
- Extended Graduation Rate - school must have a 3-Year AI average rating > 9 for the extended graduation rate.

The Special Recognition – Gap Reduction can be awarded on the basis of Total Gap Reduction or Growth Gap Reduction. The Total Gap reduction is the combination of low proficiency gaps (all content areas), low growth gaps (reading and math), and low graduation gaps (for high schools). Schools qualify for the award if the Total Gap is less than or equal to zero meaning that the Targeted Subgroup outperformed the All Students group. The Growth Gap reduction is a measure of low growth gaps in combined reading and math. Schools qualify for the award if the Growth Gap between the Targeted Subgroup and the All Students group is less than or equal to zero and the Targeted Subgroup, 3-Year AI average, for growth is ≥ 6.0 .

The Special Recognition – High Progress Awards recognize Title I schools that have improved their reading and math proficiency rates (separately) by at least ten percentage points over the previous three years and have a minimum school proficiency rate (3-Year average) of at least 40 percent in combined reading and math.

The SBE is considering a Growth Award under the Special Recognition category of the Washington Achievement Awards. Schools would be recognized under the following criteria:

1. Be among the highest five percent of MGPs (3-Year Avg. – whole school) in reading.
2. Be among the highest five percent of MGPs (3-Year Avg. – whole school) in math
3. A school would be recognized for Exemplary Growth if it meets the thresholds of steps 1 and 2.

The recognition criteria specified above is similar to that which was utilized in prior years. Table 2 shows the distribution of different awards by grade level configuration as proposed for 2013 and for the prior year. The award criteria for the new Washington Achievement Awards is at least as rigorous as those used in previous years and identified a similar number of schools for a similar listing of awards.

Action

The Board will consider whether to adopt the Revised Achievement Index for use in State and Federal accountability, including the identification of schools in need of differentiated support, and whether to use of the Revised Index as the basis from which to identify recipients of the Washington Achievement Awards.