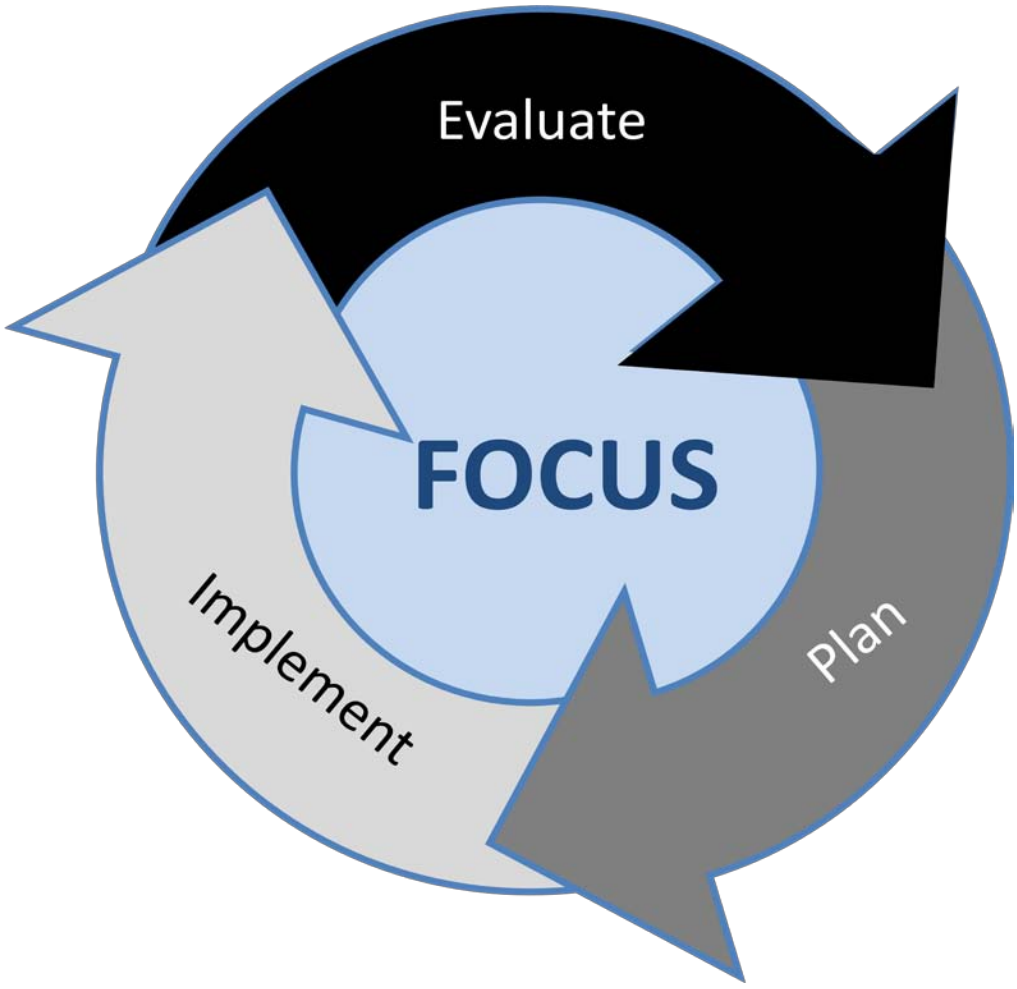
School Improvement Planning Basics:
DATA ANALYSIS



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This resource guide was developed for Clark County School District by the Center for Transforming Learning and Teaching in the School of Education and Human Development at the University of Colorado Denver. Some of the material included in this guide was adapted from resources originally developed through a contract with the Colorado Department of Education.

Learning Outcomes

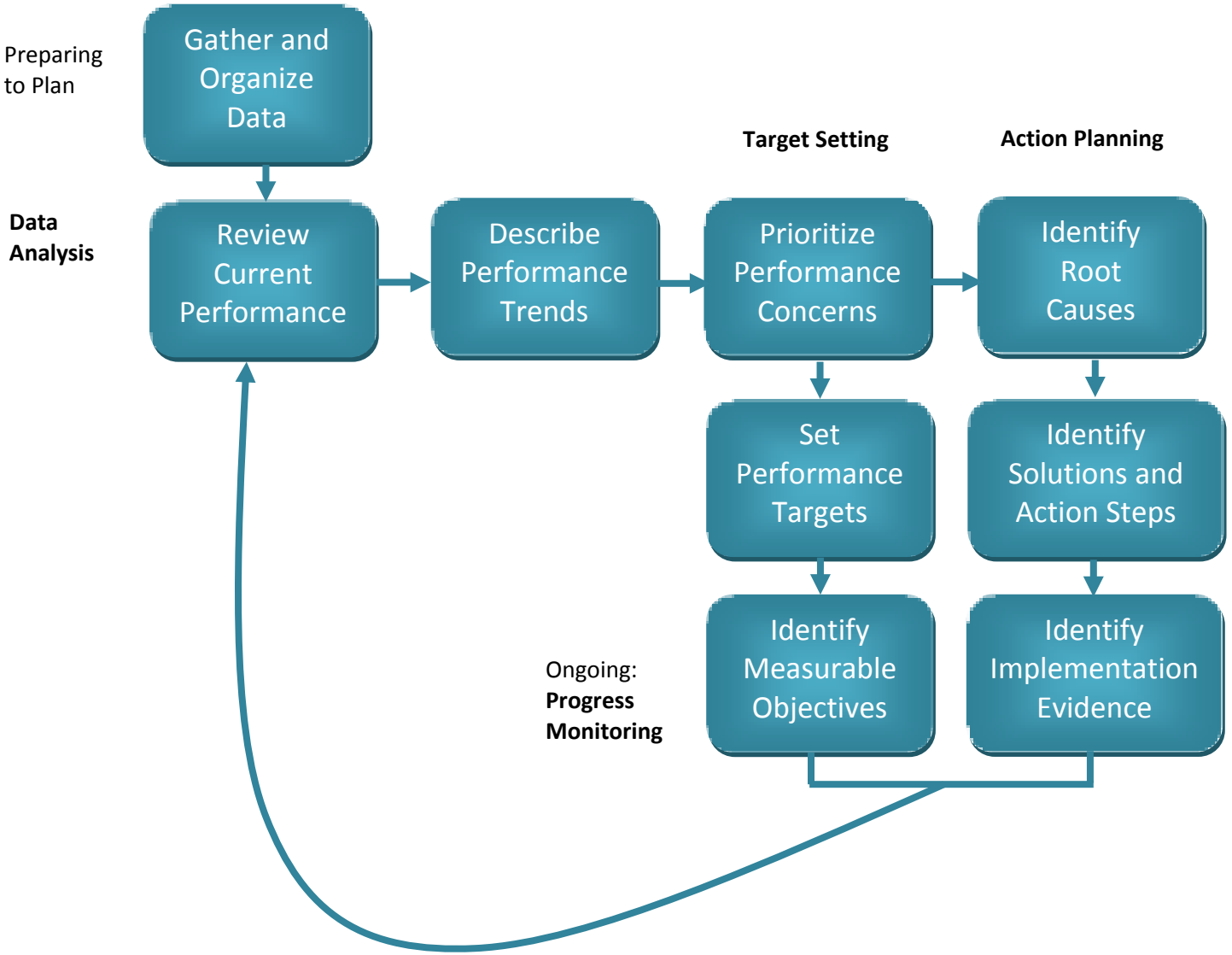
- Explain how improvement planning will improve student learning and system effectiveness.
- Identify data sources to use in improvement planning.
- Identify the data analyses processes included in the Improvement Plan template.
- Interpret district-required performance measures and metrics.
- Identify where school performance did not meet expectations.
- Describe performance trends (over at least 3 years).
- Determine which performance challenges will focus improvement activity for the coming year.
- Develop a plan for completing the data analysis for the schools' improvement plan.

Progress Monitoring

Learning Target	I don't know what this is	I need more practice	I've got It	I can teach someone else	Reflections
Explain how improvement planning will improve student learning and system effectiveness. This means:					
Identify data sources to use in improvement planning. This means:					
Identify the data analyses processes included in the Improvement Plan template. This means:					
Interpret district-required performance measures and metrics. This means:					
Identify where school performance did not meet expectations. This means:					

Learning Target	I don't know what this is	I need more practice	I've got It	I can teach someone else	Reflections
Describe performance trends (over at least 3 years). This means:					
Determine which performance challenges will focus improvement activity for the coming year. This means:					
Develop a plan for completing the data analysis for the schools' improvement plan. This means:					

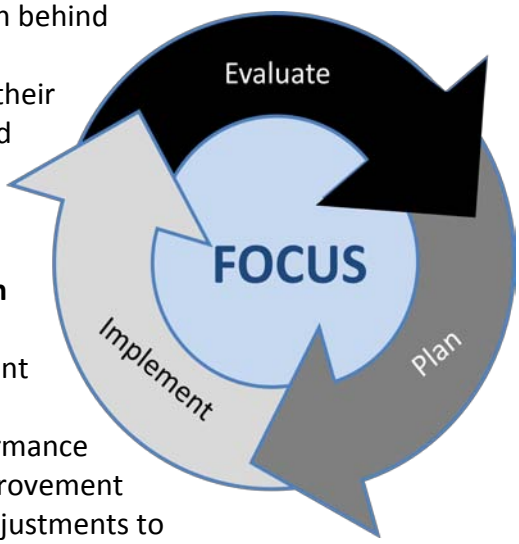
School Improvement Planning Process Map



Data Analysis Background

The Purpose of Improvement Planning

Improvement Planning supports school use of performance data to improve student learning in fulfilling district, state and federal accountability requirements. The common improvement planning template and planning processes it supports represent a shift from planning as an "event" to planning as a critical component of "continuous improvement." By incorporating the planning requirements for federal/state and district accountability purposes, this template aligns improvement efforts within schools and reduces the total number of plans schools are required to complete.



The diagram depicted here illustrates the theory of action behind Clark County's approach to improvement planning. By engaging in a continuous improvement cycle to manage their performance, schools will improve their effectiveness and the outcomes for their students. That cycle includes: **Focus** attention on the right things (performance indicators): **Evaluate** performance by gathering, analyzing, and interpreting data about performance; **Plan** improvement strategies based on performance data and root cause analysis; and **Implement** planned improvement strategies. Then, enter the cycle again multiple times throughout the school year: **Evaluate** (or monitor) performance (based on interim measures) and implementation of improvement strategies (based on implementation evidence). Make adjustments to **plan**ned improvement strategies, and **implement** revised strategies, as needed.

Section I: Vision for Learning

During any planning process, planning teams have in mind some overall purpose or result that the plan is to achieve. This should be captured in Section I: Vision for Learning of the School Improvement Plan.

Planning at the school level should involve multiple stakeholders. Planning teams will look different based on their unique needs. In general, teams should consist of building leadership, teacher representatives and parent and/or community representatives. Section I of the School Improvement Plan template includes a table where the members of the planning team and their roles can be identified.

Gathering and Organizing Relevant Data

In preparation for school improvement planning, teams must gather and organize relevant data, generated from a variety of sources. Data is used to: identify trends and prioritize concerns (performance data), determine root causes (process and perception data), set targets (federal/state and district performance expectations), monitor progress towards performance targets

(performance data) and monitor implementation of major improvement strategies (process and perception data).

Required District Data Reports. A variety of data reports are made available to all Clark County Schools by the District office and by the state. These reports are a critical ingredient to school improvement planning and are described in the following table.

Performance Indicator	Data Reports/Views
Academic Achievement (Status) • CRT • HSPE • AYP	Three Year Trend Report P-Value Report
Academic Growth	School Growth Summary Report
Academic Growth Gaps	School Growth Summary Report
Post-Secondary Readiness	NHSE Reports

Other District Reports:
Schools may also want to consider the following data view/reports:

- District-Wide Survey (Parents, Student and Staff)
- Quality Assurance Framework
- Nevada Comprehensive Curriculum Audit (NCCAT-S) prioritized results (N3 and higher)

Suggested School-Level Data. It is likely that more detailed local data is available at the school level. Additional data should be used to provide context, deepen the analysis, and to explain the performance data. The following table describes data sources that may be available at school level. Site-based student learning data will be used in trend analysis and target-setting. Demographic data, school process data and perception data will be used during root cause analysis and as part of monitoring plan implementation.

Student Learning	Local Demographic Data	School Processes Data	Perception Data
Local outcome and interim assessments Student work samples Classroom assessments (type and frequency)	School locale and size of student population Student characteristics, including poverty, language proficiency, IEP, migrant, race/ethnicity Student mobility rates Staff characteristics (e.g., experience,	Comprehensive evaluations of the school, Curriculum and instructional materials Instruction (time and consistency among grade levels) Academic interventions available to students Schedules and class	Teaching and learning conditions surveys Any perception survey data (e.g., parents, students, teachers, community, school leaders) Self – assessment tools

Student Learning	Local Demographic Data	School Processes Data	Perception Data
	attendance, turnover) List of school and feeder patterns Student attendance Discipline referrals and suspension rates	size Family/community involvement policies/practices Professional development structure Services and/or programs (Title I, special ed, ESL) Extended day or summer programs	

As part of the data-gathering process, school teams should clarify the questions that each data source will help to answer, and when during the year each data source will be available.

Section II: School Summary

Section II of the School Improvement Planning Template provides a brief summary of school performance based on both state/federal and district performance indicators. It is intended to highlight ***why*** the school received its accountability designations, and to summarize where the school meets or does not meet expectations. This section will be pre-populated by the district office. The tables reference data from the School Performance Framework Reports (SPF) and ESEA reports (i.e., AYP). The elements included in this section of the template are described in greater detail below.

Performance indicators define the general dimensions of quality that help to focus school improvement planning on an annual basis. Both state and federal statutes and local policies define performance indicators that should be included in school improvement plans. For each performance indicator, this section lays out measures/metrics (how the indicator will be measured), state/federal and district expectations (a minimum that indicates adequate performance), the school's results (performance on the indicator), and whether the school met the expectation. Together, performance indicators, measures, metrics, and expectations provide a sharp focus for school improvement planning.

a. **Performance Indicators.** CCSD has identified four performance indicators: Academic Achievement, Academic Growth, Academic Growth Gaps, and Postsecondary Readiness. These performance indicator areas incorporate ESEA requirements.

b. **Measures and Metrics**. For each performance indicator, the district has also defined required measures and metrics. Measures are instruments or means to assess performance in an area identified by an indicator. Metrics are numeric scale indicating the level of some

variable of interest. For example, the percent of students scoring meets or exceeds on the state CRT is a metric.

c. **Federal and State Expectations.** Schools are required to meet expectations annually in each performance indicator area. For ESEA these expectations have been established through a negotiated agreement between NDE and the U.S. Department of Education and are based on districts reaching the target of all students reaching proficiency by the year 2014 or making progress in attaining that goal. Clark County School District expectations are based on a different end point: all students are proficient by the time they graduate from the district. Clark County has established *minimum expectations* for each performance indicator as described in the school performance framework. Schools set unique targets based on these minimum expectations and the schools' current performance.

Table 1. Performance Indicators, Measures, Metrics and Expectations

Indicator	Measure(s)	Metric(s)	Minimum Expectation
Academic Achievement (Status)	CRT HSPE AYP	% proficient in reading and math	65% proficient or better.
Academic Growth	Nevada Growth Model	Median Growth Percentile (MGP)	Schools with >1000 students MGP = 47 500 - 999 students MGP = 46 less than 500 students MGP =45
Academic Growth Gaps	Nevada Growth Model	Median Growth Percentile (MGP) Median Adequate Growth Percentile	MGP > Median Adequate Growth Percentile

Note: The minimum expectation indicated in this chart would earn the school a "yellow" rating on the indicator or sub-indicator.

Section III: Inquiry Process

The inquiry process identified in section III of the SIP template corresponds with the "evaluate" portion of the continuous improvement cycle. This section includes four steps: (1) Review current performance (including school performance framework report and annual performance targets set in the previous year); (2) Describe performance trends; (3) Prioritize concerns (performance challenges); and (4) Determine the root causes of those priority concerns.

A worksheet titled *Year to Year Analysis* is provided to support review of progress made towards annual performance targets set for the prior year. A worksheet titled Current Data Analysis and Root Cause Analysis is provided to support school/district teams as they identify trends, prioritize concerns, and determine root causes.

Step One: Review Current Performance

First, planning teams should consider the performance targets set for the prior academic year. If the target was met, the team should consider: Is this worth celebration? Was the target(s) rigorous enough? If the target was not met, the team should consider whether or not the same focus will be a priority concern for the current and next year (see below).

Next, the planning team should review current performance as described in the school performance framework report and summarized in Section II of the school improvement plan template. The school performance frameworks provide information about school performance based on four key performance indicators: academic achievement, academic growth, academic growth gaps, and postsecondary and workforce readiness (high schools only). Teams should answer the following questions:

- In which indicator areas did the school not at least meet district expectations?
- In which sub-indicators did the school not at least meet district expectations?
- In which indicators and sub-indicators did the school not meet local expectations?
- What is the magnitude of the school's performance challenges?
- Does performance (achievement and growth) differ across content areas? Is there one content area in which performance is weaker?

Answering these questions will help focus team efforts as they move into the second step, identifying performance trends.

Step Two: Identify Trends

Identifying performance trends involves collaboratively analyzing and interpreting the data to describe the performance of the school. Data analysis should consider each of the performance indicator areas: student achievement (status), student academic growth, gaps in growth by disaggregated student groups, and, postsecondary/workforce readiness (high schools only). Planning teams need to dig into additional performance data for each of the performance indicator areas. Local planning teams should use at least three years of performance data, and consider data beyond that which is included in the school performance framework reports when identifying trends. Local performance data should also be included, especially in grade levels and subject areas not included in state testing. Trends should include positive and negative performance patterns.

Trend Statements. Trend statements include the following elements: the measure and metric about which the trend is being described, the content area(s), which students are included in the trend (grade-levels, disaggregated groups), the direction of the trend, the amount of change in the metric, and the time period over which the trend was observed. The direction of trends could include the following . . .

Example Trend Statements

- *The percent of 4th grade students who scored meets or exceeds on math CRT declined from 70% to to 48% between 2009 and 2011.*
- *The median growth percentile of English Language learners in reading increased from 28 to 35 to 45 between 2009 and 2011.*

Pattern	Description
	Stable
	Increasing
	Decreasing
	Increasing then decreasing
	Decreasing then increasing
	Stable then increasing
	Stable then decreasing
	Increasing then stable
	Decreasing then stable

How to identify trends. The identification of trends involves analyzing at least three years of data for each performance indicator area including grade levels and deeper disaggregation of student groups than what is included in the school/district performance framework report. A basic approach could include:

1. Identify performance indicator and sub-indicator areas where minimum expectations were not met (considering school framework reports) as an initial focus for reviewing performance data;
2. Reference appropriate data views (reports) that include at least three years of performance data;
3. Make predictions about performance over time.
4. Interact with the data.
5. Look for things that pop out, with a focus on patterns over time (at least 3 years);
6. Capture a list of fact statements or observations about the data (these can be positive or negative);
7. Write these observations as "trend" statements, including all of the relevant components (as identified above).
8. Determine if the trend is important (should be captured) and/or if it requires further analysis (disaggregating the data further).

Trends should be recorded in the Current Data Analysis and Root Cause Worksheet. The table is expandable to record a number of trends. Trends should be recorded in all areas where the school did not at least meet state/federal or district expectations.

Step Three: Prioritize Concerns (Performance Challenges)

Prioritizing concerns, or performance challenges, may be the most critical step in the entire planning process because they provide the strategic focus for improvement efforts, setting the

tone for each of the subsequent planning steps. It involves the planning team identifying which of their trends represent strengths on which to build, and which represent challenges that need improvement. Priority concerns identify the strategic areas of focus in the next steps of the planning process.

While schools may identify as many priority concerns as they deem appropriate, it is recommended that the ***two to four most important concerns*** are identified. **Priority concerns** should focus planning efforts in the performance indicator/sub-indicator areas in which the school failed to meet state/federal or district expectations. At this point teams should also consider areas where the targets set for the prior year were not met. Note, a single priority concern may cut across multiple indicator areas (e.g. both the growth and achievement of 4th grade English language learners in math may point to this as a priority concern). Priority concerns are prioritized negative trends and should be specific statements about performance. Priority concerns are about the students. They are <u>not</u> what caused the performance, action steps that need to be taken, concerns about budget, staffing, curriculum or instruction. Priority concerns do not describe adult behavior.

How to determine the appropriate level for a priority concern. Negative trends may be identified at different levels of aggregation within and across each content area (e.g., overall, grade-level, standard/content strand level, disaggregated group level). For example, priorities may be identified:

- At the overall school performance in one content area (e.g., math) or across multiple content areas (e.g., reading and writing).
- At an individual grade level within and/or across multiple content areas.
- At the standard or sub-content area (e.g., the percentage of fifth grade students proficient or above on number sense has declined from 50% to 43% to 30% over the last three years while student achievement in other math standard areas has remained stable).
- For a disaggregated group of students over-all (e.g., English language learners across all grade levels have had stable and low growth in writing with median growth percentiles of 30, 32, 31, over the past three years) or at an individual grade level.

The improvement team should continue to disaggregate data (both by content and by student group) until little or no variation in performance is found. For example, a school-based team identifies a challenge related to performance in math for the 5th grade – the median growth percentile for 5th graders in mathematics has declined from 40 to 35 to 28 over the last three years. Next, they decide to examine 5th grade math performance at the standard- content strand level. However, they see no variation by standard (i.e., percent of students scoring proficient and above in each of the standard areas is consistent, ranging from 30% to 35%). Next, the team looks at the 5th grade math data by disaggregated groups (i.e., growth of English language learners, minority students, students qualifying for free/reduced lunch) and observes that all groups are similar to the overall 5th grade growth. In this example, the team prioritizes the overall decline in 5th grade math; the performance challenge is not aimed at the content strand level performance or at a particular disaggregated group.

Priority Concerns Examples and Non-Examples

Examples	Non-Examples
• The percent of fifth grade students scoring proficient or better in mathematics has declined from 45% three years ago, to 38% two years ago, to 33% in the most recent school year. • For the past three years, English language learners (making up 60% of the student population) have had median growth percentiles below 30 in both math and reading.	• Implement interventions for English Language Learners in mathematics. • Budgetary support for para-professionals to support students with special needs in regular classrooms. • No differentiation in mathematics instruction when student learning needs are varied.

How to prioritize performance challenges. One approach to prioritizing concerns (performance challenges) includes the following steps.

- Step 1: Identify performance indicator areas where priority concerns should be identified (where performance did not at least meet minimum state/federal or district expectations). Planning teams may also identify other areas where they would like to prioritize performance improvement.
- Step 2: Within these focus areas, consider all negative trends.
- Step 3: Focus the list (consider if items should be combined because they are similar and ensure you are not mixing means and ends) and begin to identify trends that pop out or rise to the top as being most urgent to act on.
- Step 4: Do a reality check (a preliminary and non-binding check with the team) to see which trends might rise to the level of a priority concern, with each person indicating current preferences (one option is to use dot voting).
- Step 5: Achieve consensus on the top three or four priorities by applying the real criteria (see text box this page) and then engaging additional conversation as needed (e.g. through cycles of proposals made by a group member, discussion/modification of the proposal).

REAL Criteria

Readiness

• Is this problem keeping us from moving to desired next steps? Would solving this problem build on existing momentum in our school?
• Are necessary resources available?
• Do we have staff buy-in?

Endurance

• Do we believe that success will lead to significant and systemic change?
• Are we confident that this problem is not personality- or individual-driven?

Accountability

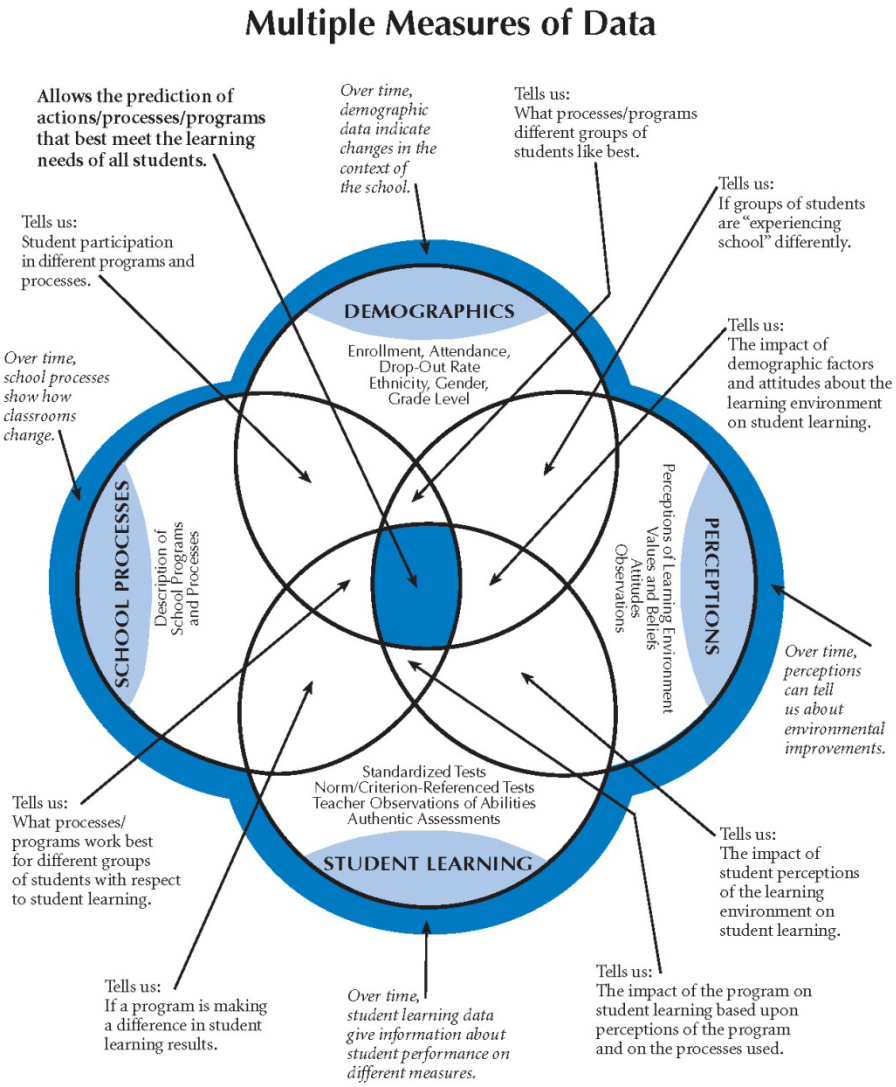
• Would solving this problem support our vision? Mission?
• Can we clearly describe how we believe this problem is negatively impacting performance?

Leverage

• If the problem is solved, what is the anticipated impact on the system?
• Is the priority supported by data?
• Might solving this problem create a positive "ripple effect" in the school?

Priority concerns should then be documented in the Current Data Analysis and Root Cause Analysis worksheet. Positive trends can then be prioritized and recorded in the Key Strengths table.

Multiple Measures Diagram



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Note. From *Using Data to Improve Student Learning in Elementary Schools*, by Victoria L. Bernhardt, 2003, Larchmont, NY: Eye on Education. Copyright © 2003 Eye on Education, Inc. Reprinted with permission.

Data Questions for School Improvement Planning

What type of data would you need to gather to be able to answer these critical planning questions?

- ***Demographics*** – Enrollment, Attendance, Drop-Out Rate, Ethnicity, Gender, Grade Level
- ***Perceptions*** – Perceptions of Learning Environment, Values and Beliefs, Attitudes, Observations
- ***Student Learning*** – Standardized Tests, Norm/Criterion-Referenced Tests, Teacher Observations of Abilities, Authentic Assessments
- ***School Processes*** – Discipline Plan, District Curriculum, Student Services, G/T Plan, Observation and Monitoring of Classroom Practices

Use of Data in the SIP	**Types of Data (Data Intersection)**	**Local Data Sources**
What have been our **trends** in performance over time (achievement, growth, growth gaps, postsecondary/ workforce readiness?		
What are our most significant weaknesses in performance? (**priority concerns)**		
Why is our school's performance what it is? (**root causes**)		
How is performance changing over time (during the school year)? (**interim measures**)		
Have we implemented planned improvement strategies? With what fidelity? (**implementation benchmarks**)		

Inventory of Performance Data Sources

ASSESSMENT	CONTENT AREA and FOCUS	WHEN AVAILABLE	WHICH STUDENTS	GRADE LEVEL(S)	METRICS	DATA VIEWS/ REPORTS	QUESTIONS

Legend

CONTENT AREA and FOCUS	Math, Reading, Writing, Social Studies, Science, other academic, English Language Acquisition Within the content area,the specific content focus (e.g. number sense)
ASSESSMENT	Name of instrument used to collect performance data
WHEN AVAILABLE	When (what date) will the results be available
WHICH STUDENTS	Description of the students for which the performance data is being collected (e.g. all, students in IEP, ELL, etc.)
GRADE LEVEL(S)	Which grade levels the performance is collected in
METRICS	The statistics that will be reported (e.g. scale score, % correct, growth score, etc.)
DATA VIEWS/ REPORTS	What data views or reports are available (can be generated) with the results of this assessment
QUESTIONS	What questions this data will help team members to answer (e.g. How fluently do students read level 3 texts?)

Example Inventory of Performance Data Sources

ASSESSMENT	CONTENT AREA and FOCUS	WHEN AVAILABLE	WHICH STUDENTS	GRADE LEVEL(S)	METRICS	DATA VIEWS/ REPORTS	QUESTIONS
Aimsweb	Math ELA	Benchmark 3x/year	All	K-12	Scale Score: four performance categories		
At Risk	Graduation	2x/year (end of semester)	All	6-12	Credits and attendance		
CCSD Assessments (A,B,C: parallel forms)	ELA Math	3x/year	All	1-8	Scale Score: four performance categories		
Kindergarten Assessments	ELA Writing Math	4x/year	All	K	Scale Score: four proficiency levels		
Science Interim Assessments	Science	2x/year	All	6-8	Scale Score: four proficiency levels		
End of Semester Common Exams	Math	2x/year	All	6-12	Scale Score: four proficiency levels		
CRT	Math Reading Writing	1x/year	All	3-8	Scale Score: four proficiency		

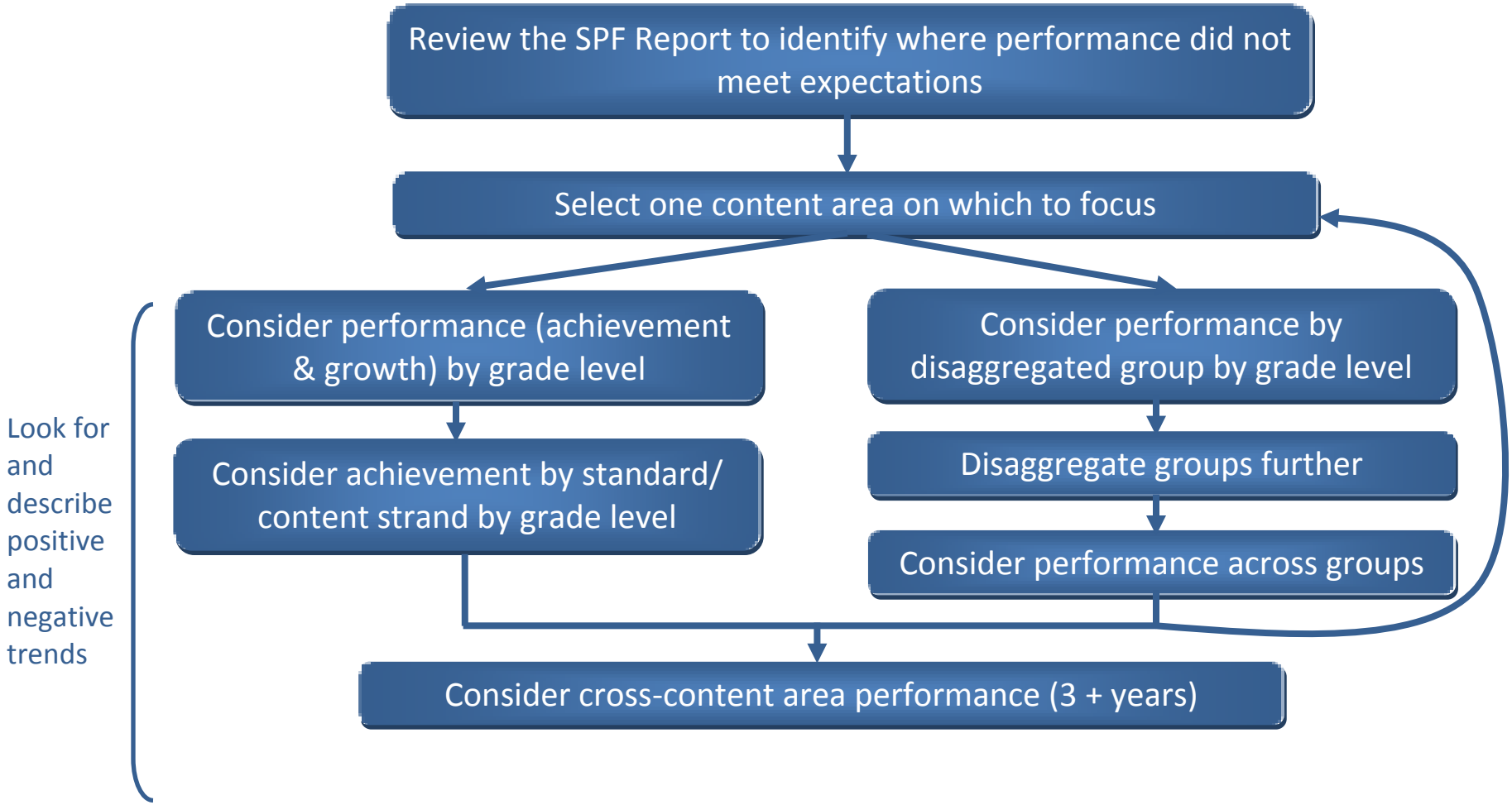
ASSESSMENT	CONTENT AREA and FOCUS	WHEN AVAILABLE	WHICH STUDENTS	GRADE LEVEL(S)	METRICS	DATA VIEWS/ REPORTS	QUESTIONS
	Science				levels		
HSPE	Math Reading Writing Science	4x/year	All	9-12	Pass/Fail Scale Score		
Practice Proficiency	Math Reading Writing Science	2x/year	All	9-11	Scale Score: four performance categories		
STAR	Reading Math	Benchmark 3x/year	All	K-8	Scale Score; Grade placement; % ranks; grade level equivalent; screening category: four proficiency levels		

Guiding Assumptions for Data-Driven Collaborative Inquiry

Data have no meaning.	Data are simply information. Individuals and groups create meaning by organizing, analyzing and interpreting data. Interpretation is subjective; data are objective. Frames of reference, the way we see the world, influence the meaning we derive from the data we collect and select.
Knowledge is both a personal and a social construction.	Human beings are meaning-making organisms. Knowledge is socially constructed and individually integrated. We sift experience through personal and social filters, forming beliefs and ways of knowing. Individuals interact with information and with others to shape new understandings from our world and about our world.
There is a reciprocal influence between the culture of the workplace and the thinking and behavior of its members.	Like societies, organizations have cultures that determine modes of behavior. Cultural artifacts, symbols and rituals reflect and transmit acceptable and unacceptable patterns and practices for individuals and groups. The introduction of new behaviors opens opportunities for testing cultural boundaries and shifting organizational norms.
Understanding should precede planning.	When confronted with data, individuals and groups often assign causality and determine solutions without clear problem definitions. They seek the comfort of action rather than navigate the discomfort of ambiguity. Skilled groups cultivate purposeful uncertainty as a pathway to understanding before jumping into planning processes.
Cycles of inquiry, experimentation and reflection accelerate continuous growth and learning.	Learning occurs when we shift from professional certainty to conscious curiosity, from isolated individual to collaborative community member, and from passive technician to active researcher. The pursuit of meaningful questions arises from thoughtful data analysis, careful problem framing, and ongoing monitoring of gaps between goal achievement and current conditions.
Norms of data-driven collaborative inquiry generate continuous improvements in student learning.	That we talk in our schools is vitally important in these changing times. How we talk may be as important. Understanding emerges from thoughtful inquiry and dialogue about important matters. Such inquiry is driven by high-quality data derived from internal and external sources. Because data in and of themselves have no meaning, data alone leads to no action. Meaning and action result from collective processes that develop shared commitment to improved student learning.

Wellman, B., Lipton, L., (2004). *Data-driven dialogue: A facilitator's guide to collaborative inquiry*. Sherman, CT: MiraVia, LLC. p xi

Organizing Performance Data for Continuous Improvement



Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
Review performance (achievement/ growth) by grade level for 3+ years	Academic Achievement on CRT by grade level for at least three years (***reading, writing, mathematics, science***)	Number and percent scoring at each performance level (Emergent, Approaching, Meets, Exceeds) Number and percent scoring meets or better	What is the distribution of student performance by proficiency level? By grade level? How would you describe the trend in performance over at least the past three to five years? By grade level?	Three Year Trend Report Three Year Trend Report
		Percent and number making catch-up growth, keep-up growth and move-up growth	What percentage of students (and how many students), over-all and by grade level and content area, made catch-up growth? Keep-up growth? Move-up? Are any patterns evident by grade level? What is the trend/pattern over the last three years?	School Growth Summary
			Considering only the students who did not make catch-up growth, are any patterns evident in terms of race, gender, disability designation, attendance? Program participation?	Inform custom report
			Considering only the students who did not make keep-up growth, are any patterns evident in terms of race, gender, disability designation,	Inform custom report

Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
			attendance? Program participation?	
			Considering only the students who made move-up growth are any patterns evident in terms of race, gender, disability designation, attendance? Program participation?	Inform custom report
	Academic Growth within the Nevada Growth Model by grade-level for at least three years (**reading, math**)	Median student growth percentile	What was the school's one-year median growth percentile? What has been the trend in median student growth over the past three (to five) years? By grade level?	School Growth Summary
			What is the pattern/trend in median student growth percentile for cohorts of students (e.g. 3rd in year one, 4th in year two, and 5th in year three)? Has it increased, decreased, stayed the same or fluctuated over the past three (to five) years?	School Growth Summary
			What is the median student growth percentile for students by achievement level? and by grade level? Are there differences in growth by achievement level? Are trends evident over the last three years?	School Growth Summary

Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
	Academic Achievement on CRT and Academic growth within the Nevada Growth Model over three years in combination	Percent proficient or better Median student growth percentile	How do trends in achievement compare to trends in growth?	Percent proficient or better by grade level for 3 (to five) years and median student growth percentile for 3 (to 5) years.
Within grade-levels consider achievement by standard/ content strand	Academic Achievement on CRT by grade level, by standard area, and by sub-content area	Number/ percent scoring proficient and above or below proficient by standard and sub-content area.	How did students in each grade level perform on individual standards? Sub-content areas? Are any patterns evident over time?	P-Value Report (2008-2009, 2009-2010, 2010-2011) for Math, ELA, and Science NDE Writing Report (performance by content strand provided directly from NDE to schools)
Consider cross-content strand performance (3 + years)	Academic Achievement on CRT by grade level for at least three years (reading and mathematics)	Number and percent scoring emergent, approaching, meets exceeds Number/percent scoring meets and exceeds	To what degree are common performance challenges evident across content areas?	Three-Year Trend Report

Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
Consider performance by disaggregated group by grade level for 3+ years	Academic Achievement CRT by disaggregated groups by grade level for at least three years.	Number and percent scoring at each performance level. Number and percent scoring proficient or above.	Were there differences in percent of students scoring proficient or better by disaggregated student groups? Were there differences in percent of students scoring below proficient by disaggregated student groups? Are any patterns/trends evident over time? Which students from the disaggregated group scored below proficient? Considering only the student within a specific disaggregated group that scored below proficient, are there any patterns/trends by grade level? Attendance? Gender? Participation in specific instructional programs? Perceptions about school?	Three Year Trend Report (Race, IEP, LEP, FRL) Three Year Trend (grade level) Inform custom report (Attendance, Gender, participation in program) –CCSD
	English Language Attainment for at least three years.	Overall Performance Level (1-5) NEP = 1 or 2 LEP = 3 or 4 FEP = 5	What is the distribution of student performance by ELL designation? By grade level? How would you describe the trend in performance over at least the past three (to five) years by ELL designation?	ELL report (sent to principals in PDF format)

Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
			Which and how many students have increased their performance level across each level for each of the last three years? Are patterns evident for groups of students who have and have not increased their English Language attainment in terms of race, gender, disability designation, or attendance? Program participation?	
	Academic Growth within the Nevada Growth Model for disaggregated groups (students eligible for free/reduced lunch, minority students, students with disabilities, English language learners, student scoring below proficient, students scoring proficient or above) for at least three years.	Median student growth percentile Percent and number making catch-up growth, keep-up growth, and move-up growth	Are there differences in median student growth percentile across the disaggregated student groups? For a focus disaggregated group (e.g. minority students), are any trends/patterns in median growth percentile evident over the last three (to five) years? For a focus disaggregated group (e.g. English language learners), what percentage of students did not make adequate growth? At each grade level? Over time (three to five years)?	School Growth Summary School Growth Summary School Growth Summary Report

Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
			What percentage of students (and how many students), by grade level and content area, made catch-up growth? Keep-up growth? Move-up? Are any patterns evident by grade level? What is the trend/pattern over the last three years?	School Growth Summary
			Considering only the students who did not make catch-up growth, are any patterns evident in terms of program participation, race, gender, disability designation, attendance, student perceptions?	Inform custom report
			Considering only the students who did not make keep-up growth, are any patterns evident in terms of program participation, race, gender, disability designation, attendance, student perceptions?	Inform custom report
			Considering only the students who made move-up growth, are any patterns evident by program participation, race, gender, attendance, student perceptions?	Inform custom report

Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
Disaggregate groups further disaggregated • **Minority (Asian, Black, Hispanic, Native American, White)**	Academic Achievement on CRT by disaggregated disaggregated groups for at least three years.	Number and percent scoring unsatisfactory, partially proficient, proficient, and advanced Number and percent scoring proficient and advanced	Were there differences in percent of students scoring proficient or better by disaggregated disaggregated student groups (e.g. by Asian, black, Hispanic, native American, white)? Are any trends evident over time? Which students from the disaggregated disaggregated group scored below proficient?	Three Year Trend (race)
• **ELL (FEP, NEP, LEP)** • **IEP (Limited Intellectual Capacity, Emotional Disability, Specific Learning Disability, Hearing Disability, Visual Disability, Physical Disability, Speech/ Language**	Academic Growth within the Nevada Growth Model for disaggregated groups for at least three years.	Median student growth percentile Median adequate student growth percentile Percent and number making catch-up growth, keep-up growth, and move-up growth	What was the median growth percentile for the disaggregated disaggregated group? Has this increased, decreased, or stayed the same over the past three (or five) years? Are there differences in median student growth percentile across the disaggregated disaggregated student groups (e.g. by Asian, black, Hispanic, native American, white)? Are any trends evident by grade level over time?	Inform custom report Inform custom report

Data Analysis Step	Measures	Metrics	Questions	Data Views/Reports
Disability, Deaf-Blind, Multiple Disabilities, Infant With a Disability, Autism, Traumatic Brain Injury)				

Excerpt from Data Driven Dialogue

Wellman, B., Lipton, L., (2004). *Data-driven dialogue: A facilitator's guide to collaborative inquiry*. Sherman, CT: MiraVia, LLC. p 46-47.

EXPLORING AND DISCOVERING: ANALYZING THE DATA

This phase is the heart of collaborative inquiry. Group members require mental and emotional discipline to work productively with the data and with each other. Collective understanding that merges the best of multiple perspectives is the goal. This outcome means that both the data literate and the data shy have their own challenges. The data literate often need to refrain from dominating the group and explaining what the data mean. The data shy often need encouragement and the courage to ask what they fear might be obvious questions about what the data mean or how to read the data displays. They also might be reluctant to share their ideas regarding what the data reflect about student performance.

DEPERSONALIZE THE DATA

Depersonalizing the data makes it emotionally easier for groups to explore and discover. Use impersonal pronouns to reference the data. Instead of saying, "What does this graph say about 'our' (teaching, curriculum, program etc.)?" ask "What pops out?" or "What are some of the patterns here?" The intention is to turn the data into a thing that can be discussed with less emotion than if the display is viewed as a mirror of personal performance.

POSSIBILITIES

Two habits of mind, conscious curiosity and purposeful uncertainty, guide this phase. To explore and discover, groups must avoid rushing to premature conclusions. To remain open to possibilities and fresh ways of framing problems, they must stay with the data and push themselves to explore multiple story lines within it. This is a phase of distinguishing, sorting, analyzing, comparing, and contrasting. It is not a phase of explaining. The word "because" undermines this type of thinking. As soon as group members start explaining why the data look as they do, they tend to quit exploring and lock themselves into biased descriptions and premature explanations for both high and low performance.

Visually vibrant displays support group exploration of data (Tufte, 1983). In our experience, large shared data displays are far superior to individual data sheets. Shared displays focus group attention on one point of interest at a time. Group members then have a collaborative learning experience instead of dropping individually into charts and graphs seeking separate points of information.

LIABILITIES

Poorly structured versions of the Exploring and Discovering phase are a primary source of difficulty in data-based processes. Cluttered or overwhelming data displays confuse groups, which must spend much of their time and energy trying to sort out critical details. Data sets are always incomplete. For example, norm referenced math and reading scores only tell part of the

Faced with the choice between changing one's mind and proving that there is no need to do so, almost everybody gets busy on the proof.

– John Kenneth Galbraith

story. Nevertheless, groups often limit their exploration, relying on too little information and developing premature solutions for ill-defined problems. Exploration then disintegrates into explanation.

Intellectual Hang time
Bob Gore, former CEO of WL. Gore & Associates, the manufacturers of such products as Gore-tex® fabrics and Glide Dental Floss®, is renowned among his managers and employees for his ability to ask insightful questions that reframe thinking. He systematically avoids the rush to closure, seeking fresh perspectives for problems and approaches. His colleagues refer to this as "*Intellectual hang time", likening this emotional and cognitive ability to the hang time of gifted basketball players who seem to suspend themselves in air as they search for an opening to the basket. -Michael Pacanowsky*

Developing Trend Statements

Performance Indicator	What content area?	Which metric(s)?	Which students?	Which disaggregated groups?	Direction of trend? Comparison?	Amount?	Over what time period?	Trend Statement
Academic Growth Gaps	Reading	Median Growth Percentile	6th and 7th graders	Students on an IEP	decreasing	55 to 45	2008-09 to 2010-11	The median student growth percentile in reading for 6th and 7th graders on an IEP decreased from 55 to 45 between the 2008-09 and 2010-11 school years.
Academic Growth	Math	Median Growth Percentile	4th graders	All students	increasing	35 to 43	2008-09 to 2010-11	The median student growth percentile in math for 4th graders increased from 35 to 43 between 2008-09 and 2010-11.
Achievement	Reading	Percent catch-up growth	Students in Middle School (grades 6-8)	ELLs	stable then increasing	26%, 28%, 40%	2008-2010	The percentage of middle school students receiving English language services making catch-up growth in reading was stable between 2008-2009 (26% to 28%) and increased from 2009 to 2010 (28%, 40%).

Performance Indicator	What content area?	Which metric(s)?	Which students?	Which disaggregated groups?	Direction of trend? Comparison?	Amount?	Over what time period?	Trend Statement

Performance Indicator	What content area?	Which metric(s)?	Which students?	Which disaggregated groups?	Direction of trend? Comparison?	Amount?	Over what time period?	Trend Statement

Planning for Data Analysis

Review the School Performance Framework Report

Questions to Consider	
1. In which indicator areas did the school not at least meet district expectations?	
2. In which sub-indicators did the school not at least meet district expectations?	
3. In which indicators/sub-indicators did school performance not meet local expectations?	
4. What is the magnitude of our priority concerns overall?	
5. Does performance (achievement and growth) differ across content areas? Is there one content area in which performance is weaker than others?	

Gathering and Organizing Data

Data Views/Reports

(Note: All should be considered over-all and by grade-level.)

Performance Focus	Math	Reading	Writing	Science	Other Content Area	Report/View Name
Academic Growth			NA	NA		
Academic Achievement						
Achievement by standard/content strand						
Disaggregated Group Achievement						
Disaggregated Group Growth						
Other Performance Results						

Completing Trend Analysis

Focus	Who	When	Materials/Tools
Math			
Reading			
Writing			
Science			
Other:			
Other:			
Other:			
Cross-Content Area			

Prioritizing Concerns (Performance Challenges)

Steps	Who	When	Tools/ Materials
Prioritizing Performance Concerns			
Entering trends and priority concerns into the SIP			
Entering key strengths into the SIP			
Applying the SIP Quality Criteria to the school's trends and priority concerns			

Data Analysis Notes

1. In which performance indicators did school performance not at least meet expectations?

2. Who was involved in identifying trends and prioritizing concerns?

3. What data did the planning team review?

4. In what process did the planning team engage to analyze the school's data?

5. What were the results of the analysis (which trends were identified as significant)?

6. How were concerns prioritized?

7. What were identified as priority concerns for the 2012-13 school year?

Planning Terminology

TERM	DEFINITION
Academic Achievement/Status **Or** **Achievement**	A single point in time score on an assessment. Achievement for an individual is expressed as a test score (or "scale score"), or it may be described using an achievement level such as: emerging/developing, approaching standards, meets standards, or exceeds standards. Academic Achievement is one of four performance indicators used to evaluate schools.
Academic Growth	For an individual student, academic growth is the progress shown by the student, in a given subject area, over a given span of time. The Nevada Growth Model expresses annual growth, for an individual, with a student growth percentile in reading, writing, and mathematics. For a school, district, or other relevant student grouping, student growth is summarized using the median of the student growth percentiles for that grouping. Academic growth is one of four performance indicators used to evaluate schools in Clark County. This indicator contains measures of both normative and adequate growth. See also: ***Normative Growth*** and ***Adequate Growth***
Academic Growth Gaps	Academic growth gaps is a Performance Framework indicator that reflects the academic progress of students in the following disaggregated groups: students eligible for Free/Reduced Lunch, minority students, students with disabilities, and English Language Learners.
Action Step	Something that is done to make progress towards goals. Action steps are created for each strategy and identify resources (people, time, and money) that will be brought to bear so that goals and targets can be reached.
Adequate Growth	A growth level (student growth percentile) sufficient for a student to reach a proficient achievement level, in a subject area, within one, two, or three years or by 8th grade; whichever comes first or maintain an achievement level of at least proficient for three years or through 8th grade. See also: ***Median Adequate Growth Percentile***

TERM	DEFINITION
Adequate Yearly Progress (AYP) NCLB	The federal accountability determination of a school or district's trend towards meeting the goal of all students being NCLB Proficient in reading and math by the year 2014, as indicated by the CRT.
Catch-Up Growth	A student is catching up if he/she has demonstrated growth in the most recent year that, if sustained, would enable the student to reach the meets or exceeds level of achievement. In grades 3-8, catch-up growth is the growth needed for a student scoring at the emerging or approaching achievement levels, in the previous year, to reach the meets or exceeds achievement level within 3 years or by 8th grade; whichever comes first. See also: ***Keep-Up Growth,*** and ***Move-Up Growth***
The Nevada Growth Model	The Nevada Growth Model is both: (a) A statistical model to calculate each student's progress on state assessments. (b) A computer-based data visualization tool for displaying student, school, and district results over the internet.
Disaggregated Group	A demographic subset of students. Clark County reports student academic growth, on the performance framework reports, for four historically disadvantaged student disaggregated groups: students eligible for Free/Reduced Lunch, minority students, students with disabilities and for English Language Learners. For federal accountability, data is disaggregated by: each race/ethnicity category, students eligible for Free/Reduced lunch, English Language Learners, and students with disabilities.
Disaggregated Group Median Adequate Growth	The student growth percentile sufficient for the median student in a subgroup to reach or maintain a level of proficient or advanced in a subject area within one, two or three years. If the disaggregated group's median student growth percentile is high enough to reach the adequate level, this means that, as a group, students in this category are making enough growth to catch up and keep up. On the performance framework reports, disaggregated groups include students eligible for Free/Reduced Lunch, minority students, students with disabilities, and English Language Learners.

TERM	DEFINITION
Growth	For an individual student, growth is the progress shown by the student, in a given subject area, over a given span of time. The Nevada Growth Model describes how much growth a student has made, relative to his/her "academic peers", by providing a student growth percentile in reading, writing, and mathematics. For a school, district, or other relevant student grouping, student growth is summarized using the median of the student growth percentiles for that group. Academic growth is one of four performance indicators used to evaluate schools.
Implementation Benchmark	A measure (with associated metric) used to assess the degree to which action steps have been implemented. See also: ***Measure*** and ***Metric***
Interim Measure	A measure (and associated metric) used to assess, for the level of a given performance indicator, current progress at various times during a school year.
Keep-Up Growth	A student is keeping up if he/she has demonstrated growth in the most recent year that, if sustained, would enable the student to maintain a meets level of achievement. In grades 3-8, keep-up growth is the growth needed for a student scoring at the meets or exceeds achievement levels, in the previous year, to continue scoring at least at the meets achievement level in the current year and the future 3 years or by 8th grade; whichever comes first.
Improvement Strategy	An overall approach that describes a series of related actions intended to result in improvements in performance.
Measure	Instruments or means to assess performance in an area identified by an indicator.
Median Adequate Growth **Or** **Median Adequate Growth Percentile**	The median adequate growth percentile for a school represents the growth that is needed by the "typical" student in the school to reach proficiency within three years or by 8th grade, whichever comes first.
Median Growth (Median Student Growth Percentile or Median Growth Percentile)	Median growth summarizes student growth rates by district, school, grade level, or other group of interest. It is measured using the median student growth percentile, which is calculated by taking the individual student growth percentiles of the students, in the group of interest, and

TERM	DEFINITION
	calculating the median.
Metric	A numeric scale indicating the level of some variable of interest. For example, your credit score is a metric that companies use to decide whether to give you a loan.
Move-up Growth	A student is moving up if he/she has demonstrated growth in the most recent year that, if sustained, would enable the student to attain an exceeds level of achievement. In grades 3-8 move-up growth is the growth needed for a student scoring at the meets achievement level in the previous year to score at the "exceeds" achievement level within the next 3 years or by 8th grade; whichever comes first.
NCLB	No Child Left Behind, federal statute 2001, the re-authorized Elementary and Secondary Education Act (ESEA).
Performance Indicator	A specific component of school or district quality. Clark County has identified four performance indicators that are used to evaluate all schools: student academic growth, student achievement, growth gaps, and postsecondary/workforce readiness.
Postsecondary and Workforce Readiness	The preparedness, of students, for college or a job after completing high school. This is one of the performance indicators used to evaluate the performance of all high schools.
Priority Concern (Performance Challenges)	Specific statements about the school or district's student performance challenges, which have been prioritized. (This does not include statements about budgeting, staffing, curriculum, instruction, etc.) At least one priority should be identified for each performance indicator where the school did not meet expectations.
Root Cause	The deepest underlying cause(s) of a problem or situation that, if resolved, would result in elimination, or substantial reduction, of the symptom. If action is required, the cause should be within one's ability to control, and not a purely external factor such as poverty that is out of one's ability to control.
School Performance Framework	The framework used, by the district, to provide information to stakeholders about each school's performance based on the four key performance indicators: student academic growth, student achievement, achievement and growth gaps, and postsecondary/workforce readiness.

TERM	DEFINITION
Strategy	Methods to reach goals. Which strategies are chosen depends on coherence, affordability, practicality, and efficiency, and should be research-based.
Student Growth Percentile	A way of understanding a student's current CRT scale score based on his/her prior scores and relative to other students with similar prior scores. The student growth percentile provides a measure of academic growth (i.e. relative position change) where students who have similar academic score histories provide a baseline for understanding each student's progress. For example, a growth percentile of 60 in mathematics means the student's growth exceeded that of 60 percent of his/her academic peers.
Target	A specific, quantifiable outcome that defines what would constitute success in a particular area of intended improvement, within a designated period of time.

Quality Criteria

Element Definition	Quality Criteria
Performance Trends *Description of trends in performance, identified based on analysis of at least three years of data. Trends include the measure/metric, content area, which students (grade-levels, disaggregated groups), direction, amount of change in the metric, and time period.*	• Make explicit to which performance indicator/sub-indicator the trend applies, the metric, the direction and amount (i.e., strengths and challenges), and the time period for which the trend was observed. • Include analysis of data at a more detailed level than that presented in the SPF report, for example, patterns over time: o within a grade level (by content area, disaggregated group); o for cohorts of students (3rd grade in one year, 4th grade in the next year, 5th grade in the third year); o within a disaggregated group of students (e.g. English language learners); and/or o within a content strand (e.g. number sense in mathematics). • Include analysis of relevant site-based data. • Include analysis of the performance of **all** students in the school (e.g., preK-2), and include performance **in subjects not tested by the state** to the degree that data are available.
Priority Concerns (performance challenges) *Specific statements about the schools' performance challenges (not about budgeting, staffing, curriculum, instruction, etc.), with priorities identified in performance indicator areas where the school did not meet federal/ state and/or district expectations.*	• Describe the strategic focus for the school, by prioritizing performance challenges based on analysis of performance trends. • Specify needs at a more detailed level than that presented in the SPF report, for example: o within a grade level over time (e.g. significantly declining median growth percentiles from 50 – 24 in 4th grade mathematics over a three year time period); o for cohorts of students (3rd grade in one year, 4th grade in the next year, 5th grade in the third year); o within a disaggregated group of students (students on an IEP); and/or o within a sub-content area (e.g. number sense in mathematics). • Specify priority disaggregated groups (based on AYP). • Include 2-4 total priorities. Prioritization of concerns should **consider** every sub-indicator (e.g. math achievement, ELL student growth in reading) for which the school did not meet expectations. A priority concern does **not** need to be identified for **every** sub-indicator for which the school did not meet expectations.