

S-1

Rate your perception of the effectiveness of your district or school in using the CIP process to improve student achievement. Then rate your district or school on each of the steps in the process.

Ineffective	More Ineffective than Effective	More Effective than Ineffective	Effective	Very Effective
Overall CIP Process				
1	2	3	4	5
Build (and Maintain) Readiness				
1	2	3	4	5
Collect and Analyze Data				
1	2	3	4	5
Set Goals Based on Data				
1	2	3	4	5
Investigate Research-based Practices				
1	2	3	4	5
Make Action Plan				
1	2	3	4	5
Implement and Monitor				
1	2	3	4	5
Evaluate Effectiveness & Sustain Efforts				
1	2	3	4	5

S-2

The Principles of Data-Driven Decision Making

The Data-Driven Decision Making Seminar has helped educators at all levels understand and apply five concepts that form the basis for the current seminar:

Antecedents of excellence: The universe of adult actions that serve as predictors of improved student achievement. They can be distinguished in three ways: teaching behaviors, instructional strategies, and conditions and structures for learning.

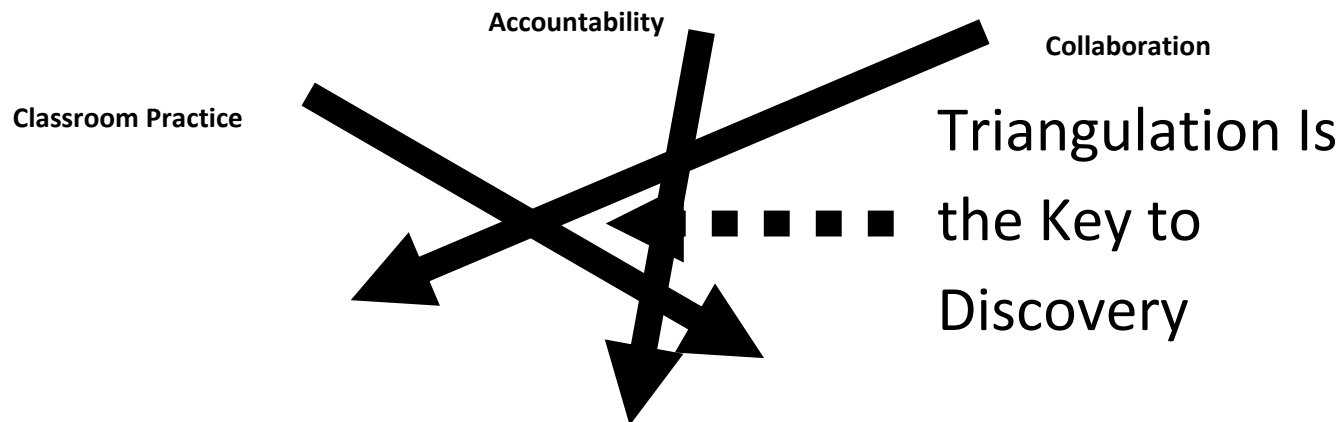
Classroom Practices: those best practice events or conditions that have a high correlation with improved student achievement. The identification, measurement, and management of these factors have equipped teachers to drive instructional processes in a proactive, intentional way that improves student achievement for all students.

Collaboration about and around student work: Conscious recognition of the power of teachers collectively applying their best thinking to address specific challenges for individual students has become a hallmark of this very successful seminar.

Accountability: that specifies responsibilities and promotes empowerment at all levels is a characteristic of Decision-Making for Results (DMR) that has resonated with educators across the country and facilitated a powerful focus on results that reflect high expectations.

Continuous Improvement Cycle for managing and monitoring the work of data-driven decision making. The 7-step process has equipped educators to develop and implement targeted action plans.

These principles form the basis for this advanced seminar, which provides additional practical tools and practices to discover patterns and trends in data to improve our ability to make decisions in the important work of educating our youth. Advanced DMR is designed to incorporate these principles into every aspect of your organization's work, intensifying the focus on student achievement. DMR Principles Applied to Data Analysis (pp. 6-9) provides an example of how these principles are integrated into six methods to promote a culture of data-driven decision-making.



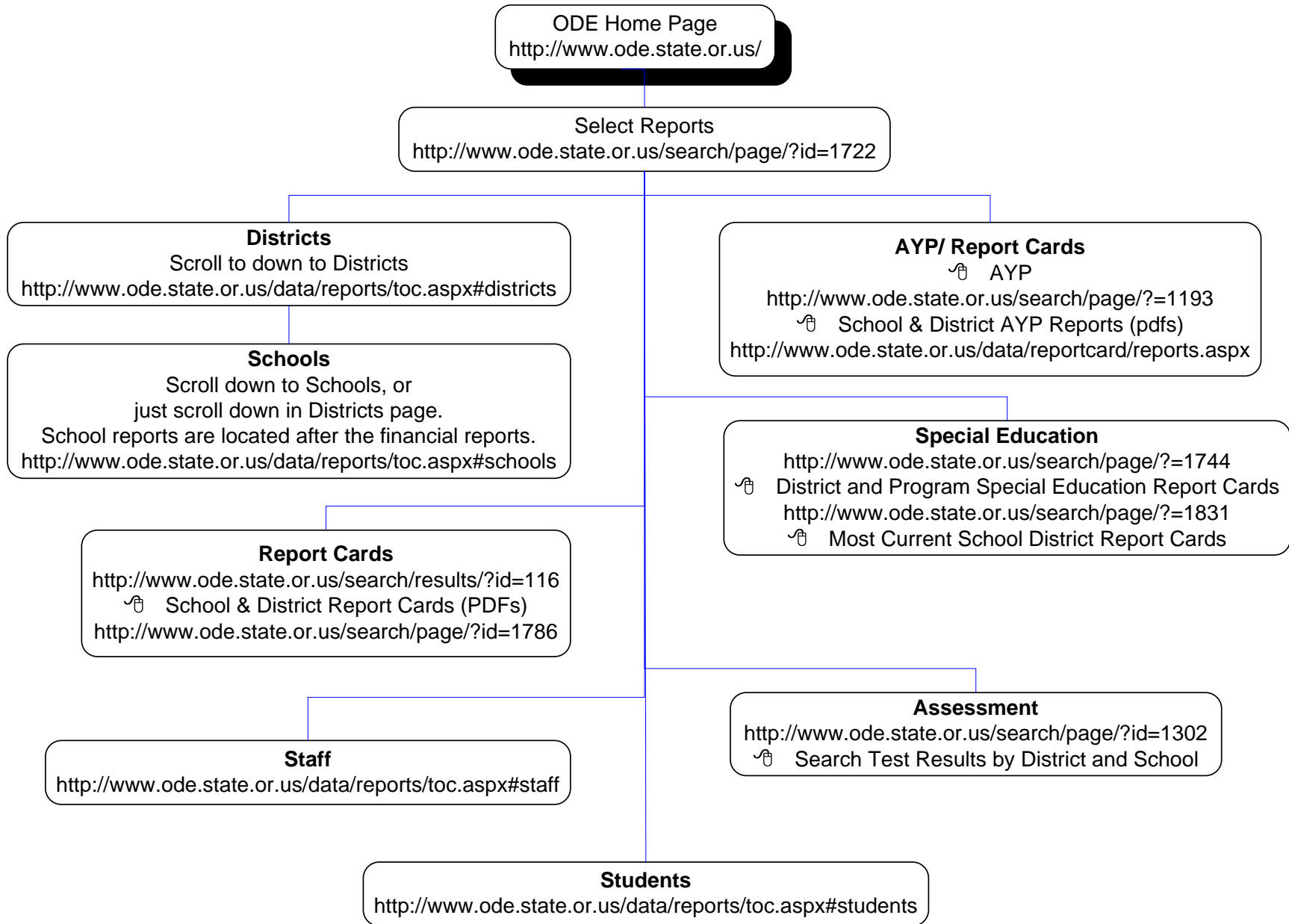
Recognizing Types of Antecedents

Antecedent	Teacher Behavior	Instructional Strategy	Administrative Structures & Conditions for Learning
<ol style="list-style-type: none"> 1. Reciprocal Teaching 2. Homework guidelines 3. DATA Team expectations 4. Redirection techniques 5. Cooperative Learning 6. 5-Step Writing Process 7. KWL 8. Metaphors and Analogies 9. Bell to Bell Teaching 10. Alignment of Curriculum to Standards 11. 5 Easy Steps to a Balanced Math Program 12. Use of Scoring Guides 13. Dual Block Algebra 14. Common Assessments 15. Feedback 16. Classroom Management System 17. Common Planning Periods 18. Parent Communication 19. Advanced Organizers & Questioning Techniques 20. Opening Lesson Activities 			

S-4

	What evidence is collected?	When? (Frequency and timing of collection)	By Whom?	How Used?
What evidence do you collect to determine whether all students are learning?				
What evidence do you collect to determine how adults are impacting student learning?				
What evidence do you collect to determine how school or district structures are impacting student learning?				
What evidence do you collect to determine how instructional practices are, or are not, impacting student learning?				

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For step by step navigation support see the support document titled:

Navigating ODE Public Data Reports Supplemental slides.pptx

Task 1 – Find the Data - “Treasure Hunt”

Purpose

To review assessment data related to content areas, attendance, specific grades, and demographic data from your own school and/or district in order to gain insights about the strengths and weaknesses of your teaching and learning programs.

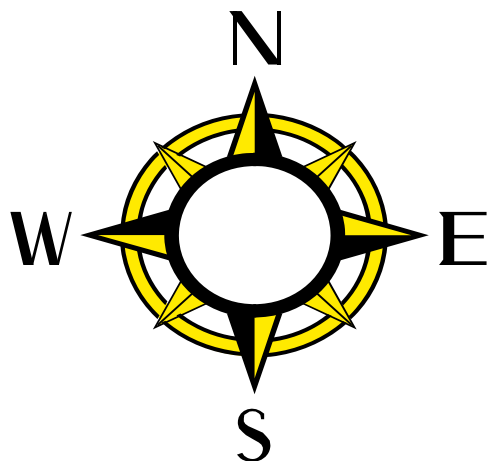
Rationale

“School decision-makers need a deliberate process to guide them through the examination and analysis of data. Without this, they may be apt to substitute strongly held opinions for the fact-based conclusions that would be derived from a review of the actual data.”

— Dr. Douglas Reeves

Find the Data

- Use whatever graphic organizer works best for you to get an overall picture of your school’s data.
- One suggestion: Make a simple graph or table to gather information by topics listed across the top (i.e., reading scores, math scores, writing scores, free/reduced lunch, LEP students, Title I, Special Ed, attendance, etc.).
- List down the side the categories you want to examine (i.e., by grade level, by individual teacher, by all students in school, by gender, etc.).
- Hunt for the data and record it on your graph.
- Disaggregate data where needed.
- Enter group information when examining longitudinal trends and patterns.



Guiding Questions for Collecting and Analyzing District or School Data

Question	Data or Report Source	Results	New Questions?	What data sources will help you answer the new questions?
How have students in our district/school performed this year in general?				
How do this year's results compare to previous years' overall results?				
What areas of performance were strong at district/school level?				
Did all grade levels and classrooms exhibit similar strong patterns across the district or school?				
If not, which schools, grade levels or classrooms diverged from district or school patterns?				
What areas were weak at the district/school level?				
Were areas of weakness associated with any particular schools, groups of students, grade levels, or classrooms?				

Question	Data or Report Source	Results	New Questions?	What data sources will help you answer the new questions?

Questions to Guide Analysis of Student Achievement on Summative Exams

District Analysis Level

Staff will have role-dependent questions:

Superintendents
Curriculum and Instruction
Assessment
Accountability
ELL Program
Federal Programs
Special Education
School Improvement
Professional Development
Human Resources

District-level questions on achievement:

- How have students in our district performed this year in general?
- How do this year's results compare to previous years' overall results?
- What areas of performance were strong at district level?
- Did all schools indicate similar strong patterns?
- If not, which schools diverged from district performance?
- What areas were weak at the district level?
- Did any schools perform above or below the district in these weak areas?
- Were areas of weakness associated with any particular groups of students?
- Were areas of strength or weakness associated with any program or intervention?
- How did students perform on strands/domains of each subject? Given a multi-year view of strand/domain performance, what trends are evident in curriculum alignment across the district and vertically from grades 3 to 8 and 10?
- Are there any patterns in individual school performance relative to strand/domain strengths and weaknesses?
- How did your district perform on the items in each strand relative to state performance? Any patterns to address in terms of alignment?
- Which groups of students are experiencing the most difficulty on particular strands/domains or groups of items?
- Are there any patterns evident regarding the identified groups of students that might suggest appropriate group intervention?

District-level questions for other factors impacting education context:

- What attendance patterns exist at the district level? Do any schools diverge from these patterns? If so, what support can be provided to assist these schools in improving attendance patterns?
- How have discipline policies been implemented across the district?
- Do discipline patterns differ at any of the schools in the district?
- Did attendance, graduation or drop-out rates change relative to prior years?
- Were any of these factors related to discipline?
- How were finances allocated in the district regarding federal funds, instructional funds, facilities, equipment and technology?
- How were finances allocated to schools?
- How did schools allocate their financial resources to support instruction?
- What professional development was conducted in the district? Which teachers participating in the professional development?
- How did schools in the district use their professional development funds?
- Do all schools have highly qualified teachers in their teaching assignments? If not, where are teachers with emergency or out of field licensure teaching? What do the assessments tell us about the student performance for these teachers?
- Are schools complying with program requirements for federal programs?
- Are schools complying with program requirements for special education?

School Analysis Level

School Staff will have role-dependent questions:

Principals
Teachers
School Improvement Leaders
Curriculum Leaders
Counselors
ELL Program
Federal Programs staff
Special Education Teachers
Professional Development Committee Members

School-level questions:

- How have students in our school performed this year in general?
- How do this year's results compare to previous years' overall results?
- What areas of performance were strong?
- Did all grades indicate similar strong patterns?
- If not, which grades diverged from the school's performance?
- What areas were weak at the school level? At each grade level? Did any weaknesses appear consistently in all tested grades? Did any weaknesses stand alone at a particular grade?
- Did any grade level perform above or below the district for the same grade level in these weak areas?
- Were areas of weakness associated with any particular groups of students?
- Were areas of strength or weakness associated with any program or intervention?
- How did students perform on strands/domains of each subject? Given a multi-year view of strand/domain performance, what trends are evident in curriculum alignment across the grade level and vertically for the grades tested at your school?
- Are there any patterns in individual school or grade level performance relative to strand/domain strengths and weaknesses?
- How did your school's grade levels perform on the items in each strand relative to district, conference, state performance? Any patterns to address in terms of alignment?
- Which groups of students are experiencing the most difficulty on particular strands/domains or groups of items?
- Are there any patterns evident regarding the identified groups of students that might suggest appropriate group or program interventions?

School-level questions for other factors impacting education context:

- What attendance patterns exist at the school level? Do any grades or groups diverge from these patterns? If so, what support can be provided to assist these groups in improving attendance patterns?
- Have attendance, graduation or drop out rates changed this year compared to previous years? Does a trend exist?
- Were any of these factors related to discipline?
- How have discipline policies been implemented in the school?
- Do discipline patterns differ by grade level, group or teacher?
- How were finances allocated in the school regarding federal funds, instructional funds, facilities, equipment and technology?
- How were financial resources allocated to support teachers and instruction?
- What professional development did teachers in the school attend in recent years? What funds were used and for whom?
- How did professional development attended by teachers align with school and teacher improvement needs?
- Does the school have highly qualified teachers in all teaching assignments? If not, where are teachers with waivers or out of field licensure teaching? What do the assessments tell us about the student performance for these teachers?
- How are federal and state programs integrated into the overall school program? How is compliance with program requirements monitored?
- How are special education programs integrated into the overall school program? How is compliance with program requirements monitored?

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Assessment Data Review Questions - “Treasure Hunt”

Student Achievement Information to Consider

What trends, strengths, and/or areas of concern do you find in your test data?

Example: For three years in a row, grade 3 scores for reading comprehension have been decreasing while grade 5 reading comprehension scores for the same years have steadily increased.

What content area(s) show significantly lower or higher results than other content areas?

Example: Grade 4 writing scores have increased at least 7% for three consecutive years while grade 6 writing scores have consistently dropped for three years at a rate of about 5% each year as measured by the state criterion-referenced writing assessment.

What percentage of students is meeting state and/or national standards? Has this changed from the previous year? Is the percentage higher or lower?

Example: In the spring of 2003, 37% of the district’s grade 7 students performed at a proficient and higher level as measured by the standards-based Terra Nova assessment in the area of Science. Spring 2002 assessment data indicates that 29% of grade 7 students performed at a proficient and higher level.

Do student achievement level gaps exist between groups according to gender, ethnicity, and/or socio-economic status?

Example: Grade 9 Hispanic ELL students consistently perform at least 25% points lower than their Caucasian student peers and 37% points lower than their Asian peers on the end-of-course Algebra I assessment.

What specific strategies appear to be a direct cause for increased student achievement?

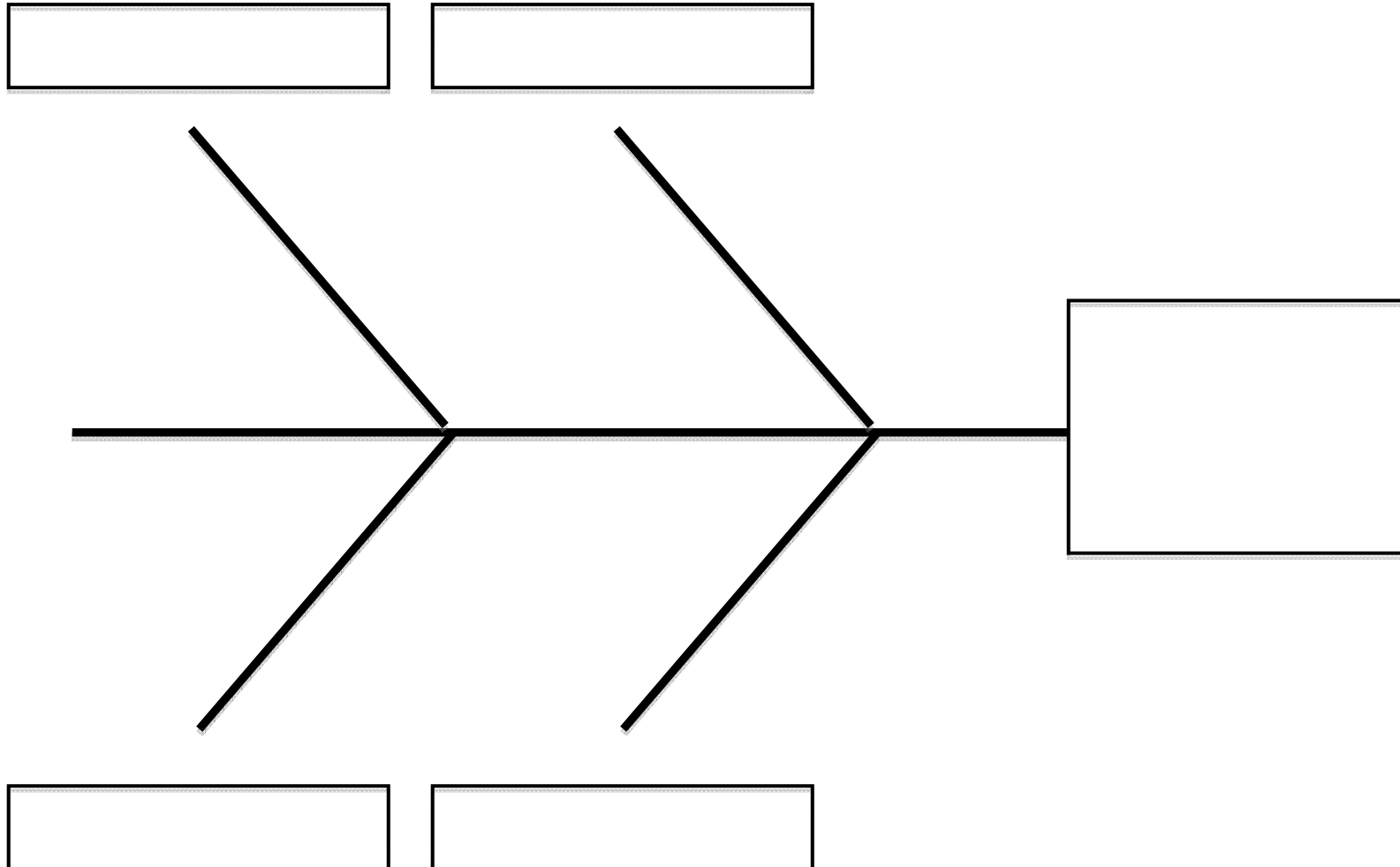
Example: Math scores have improved due to the increased emphasis our school has placed on relevant/real world math applications/situations when solving problems that require short-constructed responses.

What comparisons can you make among content areas? If there is weakness in reading and writing, and does this impact other content areas?

Example: When examining individual student achievement data, those students who consistently have a low level of competency in reading and writing, as verified by data, perform poorly on mathematics, social studies, and science assessments. This pattern is repeated when analyzing state and district assessment data.

S-11

Ishikawa Fishbone: Cause & Effect Diagram



S-12
Critical Incident

Critical Incident Prompt	Evidence available or data needed to verify
What incident in 2007-08 was most difficult to deal with or was repeatedly unwelcome?	
What incident was too costly or a waste of time & effort?	
What incident disrupted work-flow or caused embarrassment?	
What incident required re-work or inhibited achievement?	

Critical incident 'jump starts' real data analysis by relying first on professional judgment and perceptions. Critical issues, once identified, are then verified with evidence or data is identified to collect, monitor, and analyze in the future.

S-13 Set, Review, or Revise Goals

Goals Must Be S-M-A-R-T (Specific, Measurable, Achievable, Relevant, Timely)

- Specific targeted subject area, grade level, and student population
- Measurement instrument to be used and the element examined must be measurable
- Achievable percentage gains or increases in terms of expected change
- Relevant subject areas – Is the goal tending to an urgent need?
- Time when the assessment will take place as well as timely in terms of identified need
- Current reality or baseline data point if available

Setting, Reviewing, and Revising Goals

Identify your most important objectives for student achievement based on the challenges your school team identified through analyzing the data and the determination of your prioritized needs analysis.

Review the goals currently included in your School Improvement Plan. Based on your needs analysis, should your goals remain the same, or do they need revising? If you choose to revise these goals today based on the needs analysis, what will you change?

CIP Goal Format

By (time period) we will improve the performance of (target grade/group) students at/in (school/district) to (performance level) in (subject) as evidenced by (date & name of measure).

Additionally, we will narrow the gap between (subgroup) and (subgroup) by (target amount).

Goal 1:

Goal 2:

Goal 3:

Which of these goal statements contain necessary and relevant information and fit the criteria established for effective goals?

- Integrate technology into the classroom.
- The number of students who meet or exceed standard on end of year/course assessments will increase by 5%.
- Currently 73% of district 6th grade students are proficient and higher, based on the District Writing Assessment (DWA), and by the spring of 2004, 85% of current 6th grade students will score at or above the proficient level on non-fiction writing, as measured by the DWA administered in May.
- Develop strategies that will promote character.
- The school will implement an assessment instrument to measure student growth on the Research Paper Project.
- Promote problem-solving/critical thinking skills across the curriculum.
- 75% of the 9th grade students will score proficient and higher on the end-of-course assessment for Algebra I administered at the close of second semester. The previous end-of-course Algebra I assessment data indicated that 68% were proficient and higher.
- All students will have maximum opportunity to participate and succeed.

Problem Solving: Force Field Analysis

What Is It? Force field analysis is a problem-solving tool used to help change occur. Force field analysis is the exercise of identifying the driving and restraining forces that surround a proposed change. Working through this process of identifying forces encourages creative thinking by forcing a team to think together about the aspects of the desired change. The exercise also encourages the team to agree on the priority forces. This agreement provides a starting point for action.

Force field analysis is used by teams when trying out their improvement theories (hypotheses). It is often used just after the team has generated improvement theories using the funneling of data concept in which the nominal group technique has been applied. It is a powerful tool and can be used to help any desired change occur.

When Is It Used? Any time a change is expected to be difficult. Many times systems changes are difficult and complex to carry out.

How Is It Made? Perform the following six (6) steps:

1. **Define the desired change or action:** Agree on a simple statement to describe the change to be made. An action would have been previously defined during the Inquiry Process of your improvement planning (winnowing the data, perhaps using a nominal group technique).
2. **Brainstorm the driving forces:** Driving forces are those, which currently exist and tend to support, or drive, the desired change. It is important that these forces are brainstormed first because they are likely to be the most important source of ideas for an implementation plan.
3. **Brainstorm the restraining forces:** Restraining forces are forces, which currently exist and are most likely to inhibit implementation of the improvement action. Looking at the driving forces can sometimes help identify restraining forces, which are sometimes opposites of driving forces.
4. **Prioritize the driving forces:** Discuss the driving forces and determine their relative importance. Forces can be prioritized by using several different methods: forced ranking, an open discussion, or a vote.
5. **Prioritize the restraining forces:** Use the same process as in Step 4 to prioritize the relative importance of the restraining forces.
6. **List the actions to be taken:** Use the same sentence stem format (increase the percent of adults that...) you used during the triangulation exercise.

Force Field Analysis

Desired Change:

Driving Forces (+)

Restraining Forces (-)

ACTIONS:

- 1.
- 2.
- 3.

Action Research

After analyzing data for patterns, teachers develop hunches about relationships between instructional strategies, antecedent conditions such as materials or programs, and student achievement. Sadly, many if not most of these hunches become either 'folklore' or legend or are lost altogether to the profession simply because we so often fail to do anything about them. Witness the story of Flora Flagg who single-handedly gave the profession a simple and effective tool to engage students in thinking and reasoning every day, every classroom. Ms. Flagg is the Milwaukee Principal who introduced the notion of gathering writing samples from each teacher and scoring them herself weekly. The school became a 90/90/90 school, and had this pioneer, with assistance from the Leadership and Learning Center, failed to engage in a form of Action Research, only 100s would have benefited rather than millions.

Action Research has six self-explanatory (6) steps: 1. Observe 2. Hypothesize 3. Predict 4. Test Hypothesis 5. Gather Data 6. Explain (draw inferences, conclusions, applications), and five (5) suggestions:

1. Use when patterns from the data emerge that suggest that something new is happening that needs to be verified, clarified, or discovered.
2. Study relationships between one independent and one dependent variable. You are already very familiar with them: independent variables are the presumed 'causes,' and dependent variables are the presumed 'effects.' Every time you use the Ishikawa Fishbone as an analysis tool, you identify possible Action Research studies.
3. Use pre/post measures on the dependent variable (dependent on the cause variable), correlations between the dependent variable and an isolated independent variable, and comparisons with classrooms who are not introducing the cause variable in any systematic way offer three (3) additional ways to get started.
4. Apply simple collection tools, especially 2 x 2 matrix and scattergram, reveal three basic constructs behind statistical analysis: measure of central tendency (examination of means, modes, medians), measure of relationship, and analysis of differences (including Analysis of Variance).
5. Focus on improved student achievement with your Action Research study, a form of the proven instructional strategy category, Setting Objectives and Providing Feedback (Marzano, et al, 2001).

S-17

S-17 Identify Strategies to Meet Goals

Steps for Identifying Strategies

For each goal, brainstorm the strategies that could be implemented to increase the likelihood of achieving that prioritized goal.

Each strategy should be specific and measurable/accountable.

Strategies are action-oriented. They are what the teacher, school team/department will do.

Strategies might consider and include classroom assessment practice, classroom instruction, prioritizing the curriculum, resources, staff development opportunities, instructional flexibility, parental support, and program changes.

List strategies in order of priority.

Identify the previous or current strategies that have been most successful in reaching student achievement goals.

When developing strategies to support prioritized goals, consider identifying those practices and activities that should be discontinued in order to increase the focus necessary to implement the most effective strategies.

Examples of Specific Strategies

Increase the amount of targeted professional development that focuses on designing performance assessments.

Increase the percentage of teachers who use classroom assessment information to provide frequent feedback to their students regarding academic progress.

Administer monthly writing performance assessments scored by teacher teams and/or building principals.

Increase the number of strategies modeled during staff development opportunities that are incorporated into classroom practice.

Increase the number of academic achievement charts that are posted in each building that include the collection of classroom data on a monthly basis.

Design and administer district quarterly assessments to assess proficiency on specific reading skills.

Create and deliver seminars that provide structured instructional activities for parents to use at home with their children.

Create opportunities for teachers to collegially score student work and then share successful classroom strategies.

Increase the number of interdisciplinary writing assessments.

Increase the percentage of art, music, science, social studies, and physical education classes that include a focus on writing and/or problem solving.

S-17 Identifying Strategies Worksheet

When Identifying Successful Strategies . . .

What are the specific strategies that will help achieve the prioritized goal?

Brainstorm a list of potential strategies.

Identify the top two or three strategies that will prove most effective for achieving the goal.

Goal Statement 1 (from Task 4):
Strategy:
Strategy:
Strategy:

Goal Statement 2 (from Task 4):
Strategy:
Strategy:
Strategy:

Goal Statement 3 (from Task 4):
Strategy:
Strategy:
Strategy:

Clarification Analysis

Method

Recommended Tool(s)

Clarification:

Relations Diagram

Wagon Wheel Chart

Problem-Solving

Venn Diagram

Forced Field Analysis

To institutionalize reflection, a formal process should be instituted that requires reflection on the system for data that your are relying on and operating within. The Clarification Analysis Method adheres to the K.I.S.S. principle and lends itself to sustained practice and implementation. The astute observer will note that the graphic organizer for Clarification Analysis is the same basic form used with several forms of Cornell Notes. Review the example on this page before doing your own reflection on the tools and strategies presented in this Advanced DMR Seminar. Collaborate with a colleague at your table using the Clarification Analysis method and be prepared to report to the larger group.

Area requiring Clarification: Use of Control Chart and Need to Reduce Variability	
Essence of Issue: (Q.) How do I translate the need for consistency to my faculty, which prides itself on creativity and autonomy?	
Known or Agreed Upon: Variability in instructional strategies opens rather than closes the learning gap....	Areas of Confusion/Contradictions: 1) What about site-based management? I need flexibility and autonomy to maximize effectiveness of my staff. 2) We differentiate instruction because of differences in teacher knowledge, skills, training, and experience, but we insist on common assessments, common instructional calendars, and common professional development. Why?
Resolution: 1) Build on the Known and Agreed upon; Design a persuasive communication plan regarding variability in instructional practices and impact on students and a persuasive argument that consistency and creativity are not mutually exclusive; 2) Recommend a rubric that articulates the craft of teaching for self-monitoring or voluntary monitoring (like Charlotte Danielson’s); 3) Recommend a 2 nd self-assessment that measures stages of concern (like CBAM) for mentor teachers and induction process; 4) work with Central Office to design and implement a differentiated professional development model in our district.	

Clarification Analysis Template

Area requiring Clarification:

Essence of Issue: (Q.)

Known or Agreed Upon:

Areas of Confusion/Contradictions:

Resolution:

S-19 Wagon Wheel Chart

Graphical representations to compare performance of several entities (classrooms, students, schools) across multiple variables (up to eight). The primary applications are to 1) Determine which issue is most critical, and 2) Compare performance across multiple dimensions.

Steps in Using Wagon Wheel Charts:

1. Assign key variables to each of eight spokes on chart.
2. Collect data across key variables
3. Establish scale for each spoke with highest performance on outer rim of circle. Spokes have their own scales.
4. Plot data on spokes, color-coding to distinguish entities (classrooms, schools, departments, grade levels).
5. Connect lines for each entity (spider web).
6. Identify variables that show the largest gaps between your entity and benchmarks represented on outer rim.

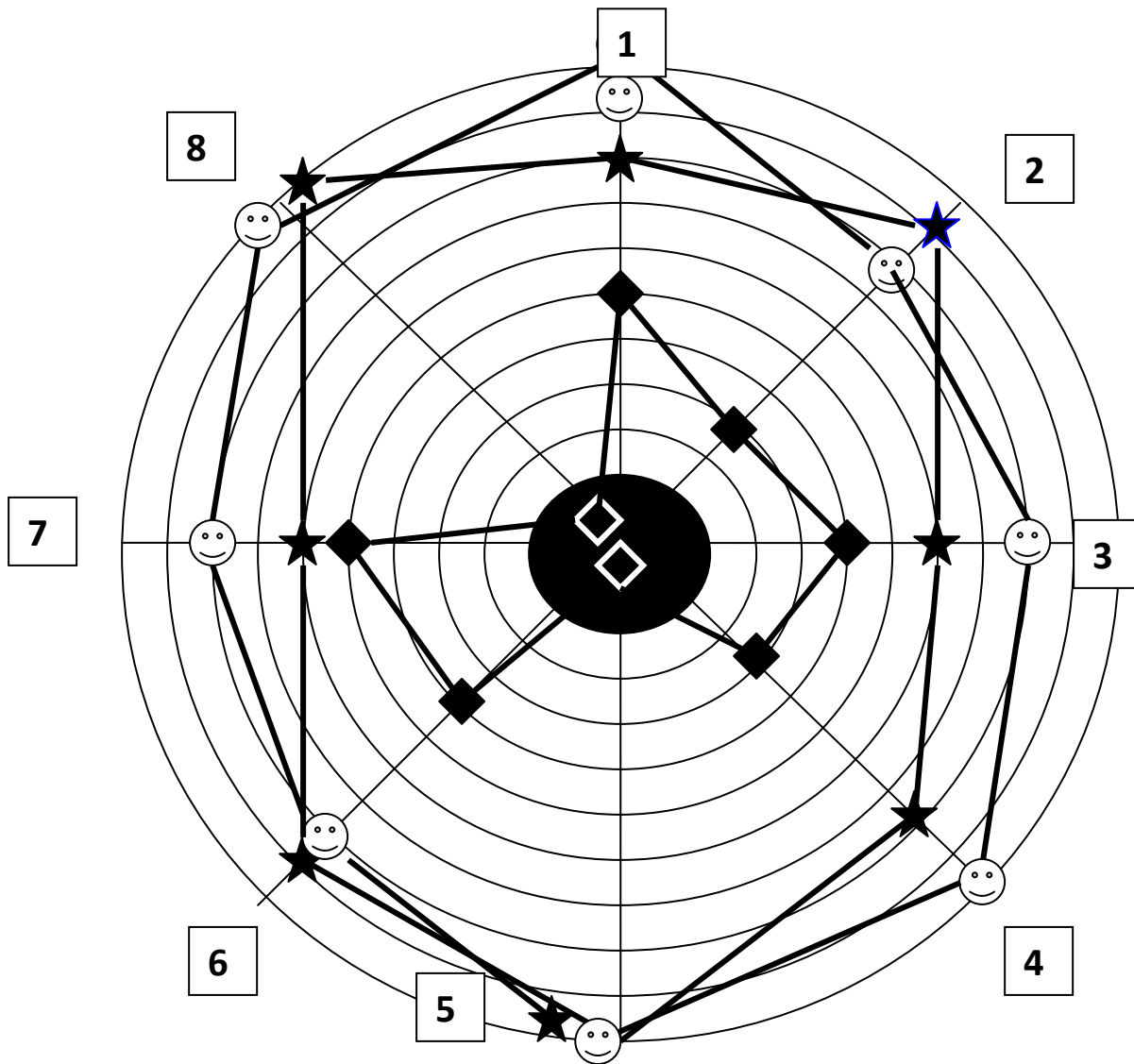
Example Variables for Wagon Wheel Chart Spokes:

Central Office (District)

- Multidimensional Assessment of Leadership. Graphically represent concise data that illustrate leaders' strengths and weaknesses. Equally useful as a self-assessment.
- Elimination of Duplication of Effort. Tracking processes across departments or schools.
- Budget Projections. Budgeted to Actual expenditures reveal degree of precision and accuracy.
- Use of Technology. Degree of variability within entities (e.g., all central office) in terms of fluency with key technologies (spreadsheets, data base). Movement toward a paperless office, other dimensions of efficiency.
- Awareness of District Goals, personal and department missions, and performance indicators for departments.

Site Level (Schools)

- Reduction of classroom interruptions (e.g., Intercom Announcements/day)
- Classroom Checklist for Standards Implementation. Wagon Wheel helps monitor % items in place by teacher.
- Leverage applied in performance assessments (# and type of standards incorporated).
- Student Performance Results, including behavior, attendance, achievement.
- Grade/ Subject level Safety Net (power) Standards demonstrated at key times (Oct, March, May).
- Percent of total assessments delivered as performance assessments.



Wagon Wheel Example

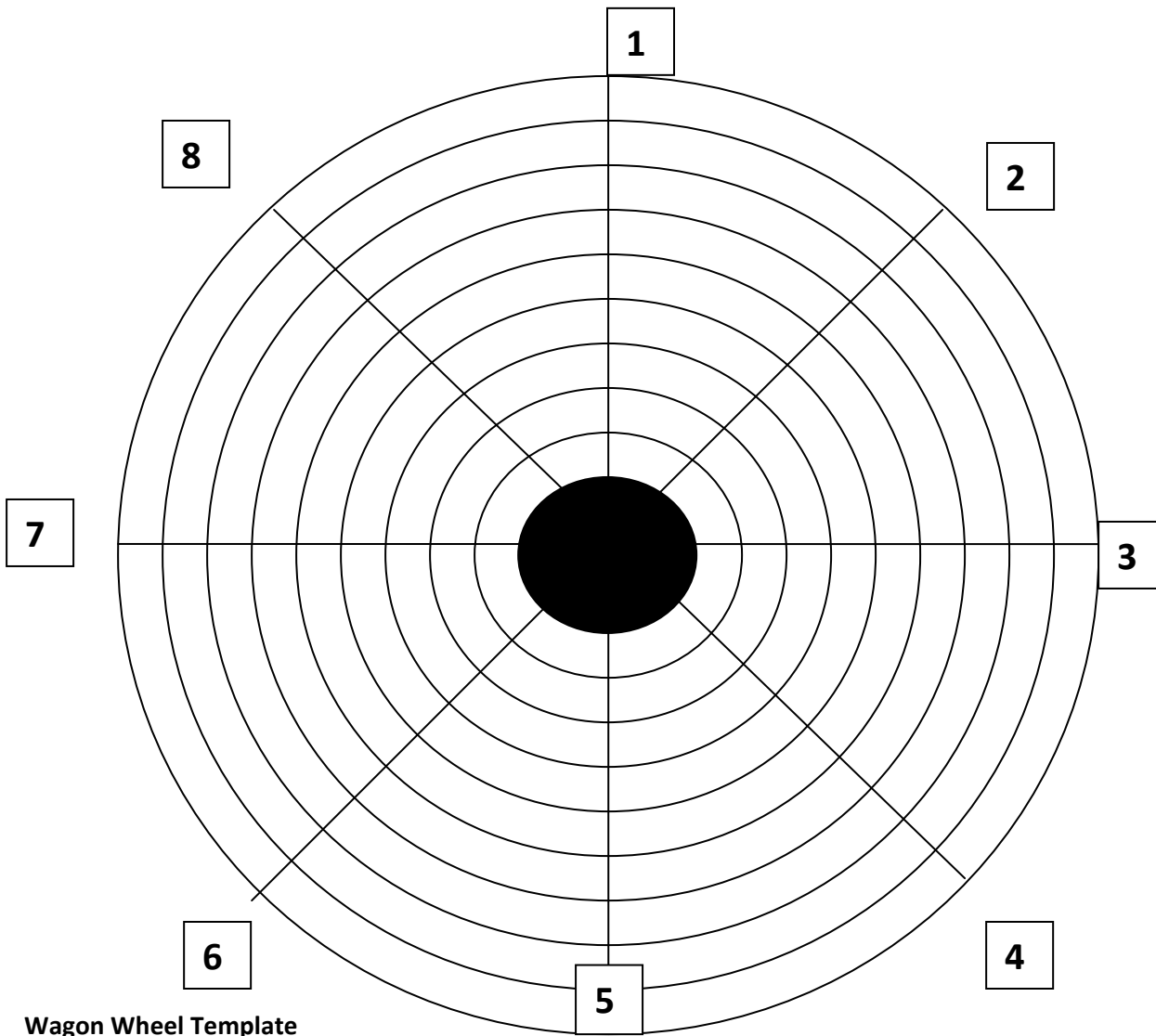
Key Variables

1. % Standards checklist in place
2. % Proficient in Facts/Opinion
3. % Proficient in Algebraic Functions
4. # Performance Assessments in place
5. # Teachers with Standards-based Instructional Calendar
6. % Proficient in writing assessment
7. 100% minus the Gap F/R Lunch v. School Achievement-Language Arts
8. Class average exceeds State average in Math.

Teacher A = ☺★

Teacher B =

Teacher C = ◆



Wagon Wheel Template

Key Variables

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Possibilities for Analysis

- Schools
- Teachers
- Subgroups
- Domains
- Grades