

# The Teaching Gap



*Best Ideas from the  
World's Teachers for Improving  
Education in the Classroom*

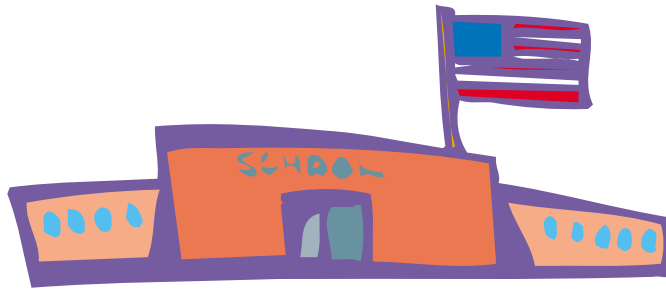
James Stigler and James Hiebert  
The Free Press, 1999



# Improvement Through a Focus on Teaching

School learning will not improve markedly unless we give teachers the opportunity and support they need to advance their craft by increasing the effectiveness of the methods they use.

Stigler and Hiebert, p. ix



## What Is the Gap?

We are not talking about a gap in teachers' competence, but about a gap in teaching methods.

It refers to the kinds of teaching needed to achieve the educational dreams of the American people and the kinds of teaching found in most American schools.

The teaching gap becomes even more significant when one realizes that while other countries are continually improving their teaching approaches, the United States has no system for improving.

Stigler and Hiebert, p. x



## **Making Higher Standards a Reality**

Making higher standards a reality for students will require more than just the status quo inside our nation's classrooms; curriculum, assessments, and—above all—teaching must improve dramatically. In our view, teaching is the next frontier in the continuing struggle to improve schools. Standards set the course, and assessments provide the benchmarks, but it is teaching that must be improved to push us along the path to success.

Stigler and Hiebert, p. 2



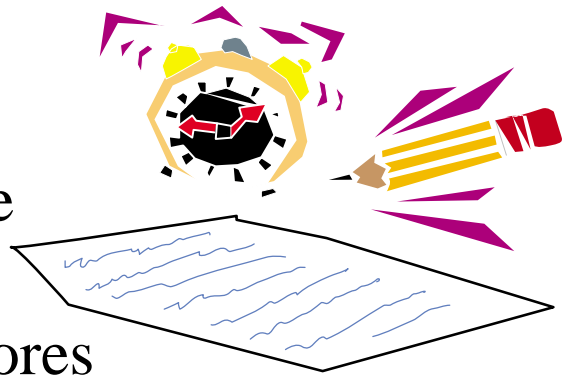
## Teaching Is Responsible for Learning

We do not minimize the importance of these (society factors that influence learning)... but much of what our society expects children to learn, they learn in school, and teaching is most clearly responsible for learning.

Stigler and Hiebert, p. 3

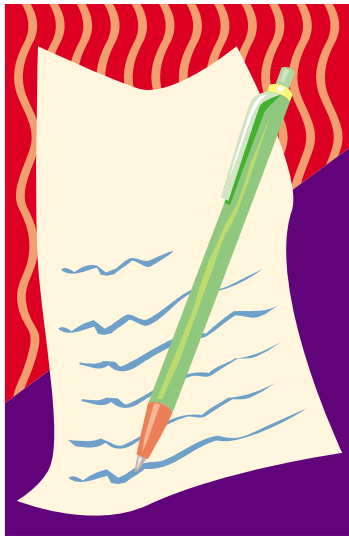
# Our Past Practice

Policy makers adopt a program, then wait to see if student achievement scores will rise. If the scores do not go up—and this is most often what happens, especially in the short run—they begin hearing complaints that the policy is not working. Momentum builds, experts meet, and soon there is a new recommendation, then a change of course, often in the opposite direction.



Significantly, this whole process goes on without ever collecting data on whether or not the original program was ever implemented in classrooms, or if implemented, how effective it was in promoting student learning.

Stigler and Hiebert, p. 8



## A Gap in Methods for Improving Teaching

The problem of how to improve teaching on a wide scale has been seriously underestimated by policymakers, reformers, and the public in this country. The American approach has been to write and publish reform documents and ask teachers to implement the recommendations contained in such documents.

Those who have worked on this problem understand that this approach simply does not work. The teaching profession does not have enough knowledge about what constitutes effective teaching, and teachers do not have the means of successfully sharing such knowledge with one another.

Stigler and Hiebert, p. 12

# A Summary of the Findings Related to Teaching Techniques

(geometry lessons in 8th grade classes)



Analysis using videotapes, 50-80 samples

Germany: Developing advanced learners challenging content, develop procedures in class. Much attention to content knowledge.

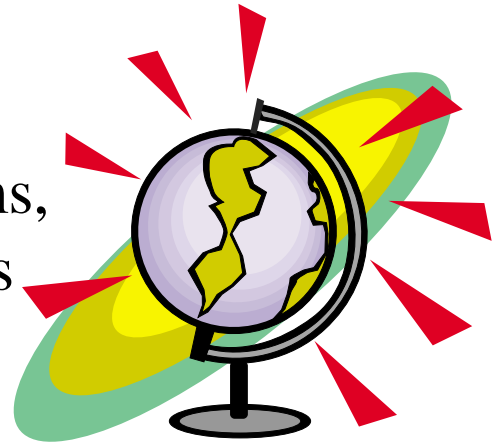
Japan: Structured problem solving, refining of lessons.

United States: Learning terms and practicing procedures. Present definitions of terms and demonstrate procedures. Not interactive, not attending to thinking, not engaging in technique, shallow demonstration of content knowledge.

Stigler and Hiebert, p. 27

# Japan Has the Most Skillful and Purposeful Teaching

When students are asked to solve challenging problems, teachers often build scaffolds to help them. The scaffolds come in many forms.



Sometimes they are the outcomes of previous lessons, reviewed by the teacher. Sometimes they are in the form of information provided by lectures, and sometimes in the form of mental tools provided through memorization. What is constant is that challenging problems are selected, and scaffolds are provided so that students can, at least, begin developing methods for solutions.

Stigler and Hiebert, p. 50

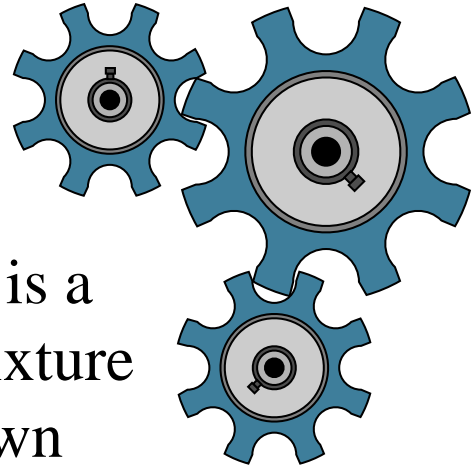


## Content Coherence

Coherence is significant. Imagine a lesson as a story. Well formed stories consist of a sequence of events that fit together to reach the final conclusion. Ill formed stories are scattered sets of events that don't seem to connect... well formed stories are like coherent lessons. They offer the students greater opportunities to make sense of what is going on.

Stigler and Hiebert, p. 61

# Teaching Is a System



And here is a simple truth about teaching... Teaching is a system. It is not a loose mixture of individual features thrown together by the teacher. It works more like a machine, with the parts operating together and reinforcing one another, driving the vehicle forward.

This is a very different way to think about teaching. It means that individual features, by themselves, are not good or bad. Their value depends on how they connect to others and fit into the lesson.

Stigler and Hiebert, p. 75



## How Did We Get Here?

Teaching... is a cultural activity... Teaching, like other cultural activities, is learned through informal participation over long periods of time. It is something one learns to do more by growing up in a culture than by studying it formally.

Stigler and Hiebert, p. 86



## **Many U.S. Teachers...**

seem to believe that learning terms and practicing skills is not very exciting... teachers act as if student interest will be generated only by diversions outside of mathematics.

Stigler and Hiebert, p. 89

## Different Perspectives Related to Student Differences

U.S. teachers view individual differences as an obstacle to effective teaching... As the range of differences increases, the difficulties of teaching increase.



For the Japanese teacher, the differences within a group are beneficial because they allow the teacher to plan a lesson by using the information that they and other teachers have previously recorded about students' likely responses to particular problems and questions.

Stigler and Hiebert, pp. 94-95

# We Modify, But Don't Really Change

It has now been documented in several studies that teachers asked to change features of their teaching often modify the features to fit within their preexisting system instead of changing the system itself. The system assimilates individual changes and swallows them up. Thus, although surface features appear to change, the fundamental nature of the instruction does not. When this happens anticipated improvements in student learning fail to materialize, and everyone wonders why.



Stigler and Hiebert, p. 98



## **Systems of Teaching Are More Than the Teacher**

Systems of teaching are much more than the things the teacher does. They include the physical setting of the classroom; the goals of the teacher; the materials, including textbooks and district or state objectives; the roles played by the students; the way the school day is scheduled; and other factors that influence how teachers teach. Changing any one of these individual features is unlikely to have the intended effect.

Stigler and Hiebert, p. 99



## **Reform Is Often Just Different Activities With the Same Context**

Reform documents that focus teachers' attention on features of good teaching in the absence of supporting contexts might actually divert attention away from the more important goals of student learning. They may inadvertently cause teachers to substitute the means for the ends, to define success in terms of specific features or activities instead of long-term improvements to learning.

Stigler and Hiebert, p. 109

# Japanese Lesson Study Model

*The lesson study is used to focus work on improving teaching.*



- Is based on long-term, continuous improvement model
- Maintains a constant focus on student learning
- Focuses on the direct improvement in teaching in context
- Is collaborative

Teachers who participate in lesson study see themselves as contributing to the development of knowledge about teaching as well as to their own professional development.

Stigler and Hiebert, pp. 120-125



## **Six Principles for Gradual, Measurable Improvement (School and District)**

(These suggestions are not necessarily based on a district having a common curriculum, common materials, and comprehensive teaching/learning system)

- 1) Expect improvement to be continual, gradual, and incremental.
- 2) Maintain a constant focus on student learning goals.
- 3) Focus on teaching, not teachers.
- 4) Make improvements in context of the teaching.
- 5) Make improvements in the work of teachers.
- 6) Build a system that can learn from its own experience.

Stigler and Hiebert, pp. 132-136

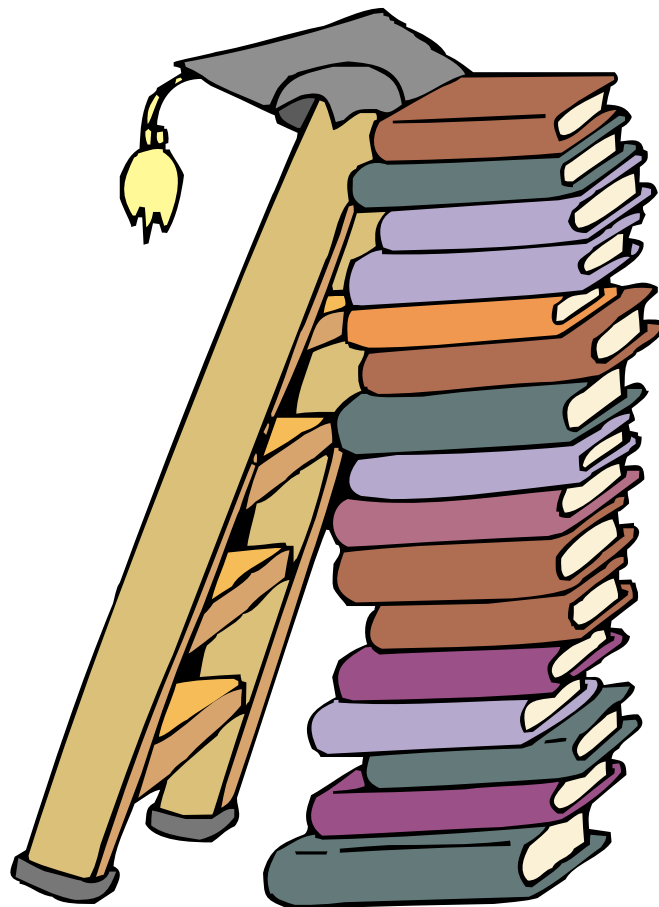


## **Initiatives for Change Setting the Stage (District Work)**

- Build consensus for continuous improvement.
- Set clear learning goals for students and align assessments with these goals.
- Restructure schools as places where teachers can learn.

Stigler and Hiebert, pp. 137-145

# District Actions to Support Improvement in Teaching and Learning



***Presenter:***

Betsy Eaves

Director, LEA Support Services

Reading First California Technical Assistance Center

LEA Session 3 (Round 1) - March 2003



## **Reading First Districts: Review of Session 1**

- We set the stage for a system-wide effort by focusing on a coherent model for improving academic achievement in reading in our districts/schools.
- We proposed using a set of six key elements to frame our work. These elements are key to our success and are meant to be utilized as the basis to build a system for academic improvement in reading in all Reading First districts and schools.
- We reviewed the grant assurances as the foundation for our actions. The assurances have key common elements that connect the work of the district directly to the work of the school.



## Reading First Districts: Review of Session #2

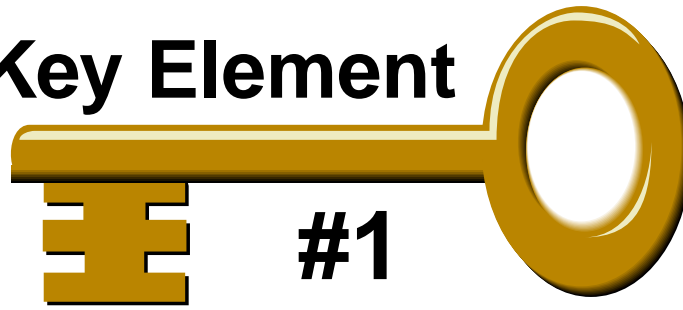
- We focused on a system concern related to current approaches to teaching and learning.
- In addressing this issue, we underscored the reality of teachers' and principals' perceptions related to who is responsible for learning.
- In her book, *The Academic Achievement Challenge*, Jeanne Chall develops a case for the systematic implementation of specific, teacher-centered approaches to instruction that hold the teacher accountable for effective teaching of specific content and skills.
- The conclusion of the book calls on educators to meet the needs of all students, effectively and systematically, by using explicit teaching techniques designed to build a strong foundation of academic learning.



## **District Actions to Support Improvement in Teaching and Learning**

Our work today will be to explore the organizational components, methods, and processes that we need to consider as we work to build an accountability/learning system across classrooms and schools.

# Key Element



All classrooms deliver a coherent academic program. This includes specific content and an instructional system that is well supported with high quality materials and training.

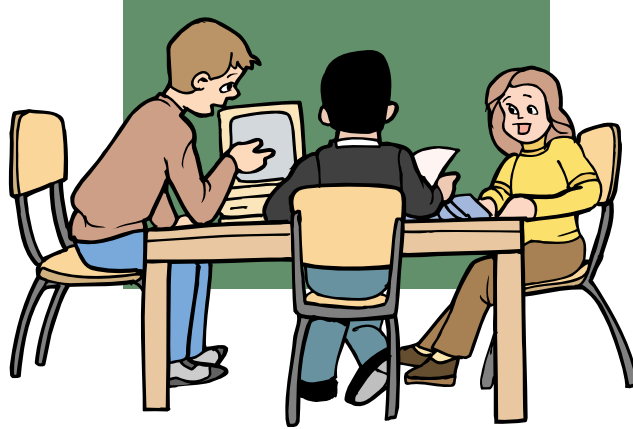
## **Focus on Improved Instruction**

Everyone is positively expected to fully implement the agreed program and to deepen instruction in this area using the coordinated tools provided by the program.

All related content in this area is taught in a high quality way to students. There are clear standards for implementation and instruction in the agreed program.

## IMPLEMENTATION

<p>Key Element 1: Full Implementation Rubric</p>	<p style="text-align: center;">DRAFT - First Edition</p> <p>All classrooms deliver a coherent, well organized, standards based, academic program in reading and language arts. This coordinated program includes specific content, and a complete instructional system that is well supported with high quality materials, training, and specific instructional strategies to address student needs across all populations of students.</p>
<p>Level 3</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> All rooms are organized for instruction in the program, specifically to focus the students on the content and learning strategies embedded in the program.</li> <li><input type="checkbox"/> All teachers and school personnel are knowledgeable about all program components and understand the instructional design of how the program meets the standards.</li> <li><input type="checkbox"/> All classroom teachers have been trained to an advanced level of delivery.</li> <li><input type="checkbox"/> The school is skillfully using the program each day in all classes.</li> <li><input type="checkbox"/> All teachers have focused their efforts on building their classroom environment to focus on key elements of the program.</li> <li><input type="checkbox"/> The amount of time spent teaching the program is standard across classes, and additional time is allocated for specific in-depth teaching.</li> <li><input type="checkbox"/> The pacing of lessons is similar from class to class and demonstrates skilled teaching of each different instructional design.</li> <li><input type="checkbox"/> Special education and other programs utilize the standards based program and coordinate instruction to create a cohesive instructional model.</li> <li><input type="checkbox"/> All of the suggested instructional strategies designed to meet special needs of students are implemented.</li> </ul>
<p>Level 2</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Most rooms are organized for instruction in the program.</li> <li><input type="checkbox"/> All teachers and school personnel are familiar with the program components and know the basic structure of how the program meets the standards.</li> <li><input type="checkbox"/> All classroom teachers have been trained.</li> <li><input type="checkbox"/> The school is using the program each day in all classes.</li> <li><input type="checkbox"/> All teachers have moved away from using conflicting material.</li> <li><input type="checkbox"/> The amount of time spent teaching the program is standard across classes.</li> <li><input type="checkbox"/> The pacing of lessons is beginning to be similar from class to class independent of teacher skill and preference.</li> <li><input type="checkbox"/> Special education and other programs coordinate instruction with the standards based program.</li> <li><input type="checkbox"/> Most of the suggested instructional strategies designed to meet special needs of students are implemented.</li> </ul>
<p>Level 1</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> The classrooms show some evidence of organization related to the program.</li> <li><input type="checkbox"/> Most teachers and school personnel are familiar with the program components.</li> <li><input type="checkbox"/> Most classroom teachers have been initially trained in the program.</li> <li><input type="checkbox"/> The school is using the program each day in most classes.</li> <li><input type="checkbox"/> Some classes continue to use other material.</li> <li><input type="checkbox"/> The amount of time spent teaching the program varies across classes.</li> <li><input type="checkbox"/> The pacing of lessons is different from class to class depending on teacher skill and preference.</li> <li><input type="checkbox"/> Special education and other programs do not necessarily coordinate instruction with the standards based program.</li> <li><input type="checkbox"/> Most of the suggested instructional strategies designed to meet special needs of students are not implemented.</li> </ul>



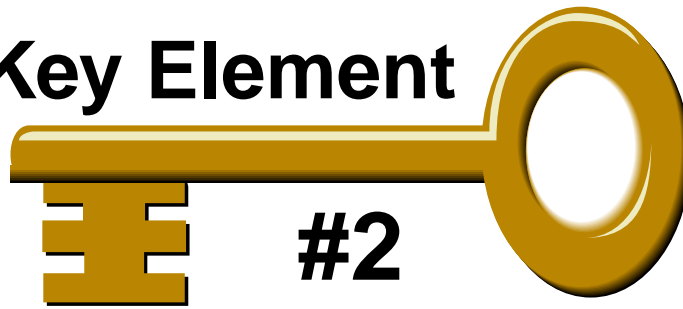
## **ACTIVITY #1**

With your district partner, review key element #1 and use the rubric to begin to create a picture of the status of implementation in your district.

Work to develop three key actions that could be taken in the next six weeks to move forward on the rubric.

How would you use this tool to assist schools in examining implementation and taking improvement actions?

## Key Element



Everyone at each school uses a frequent assessment system directly connected to the content of the academic program. This system is actively used to improve instruction.

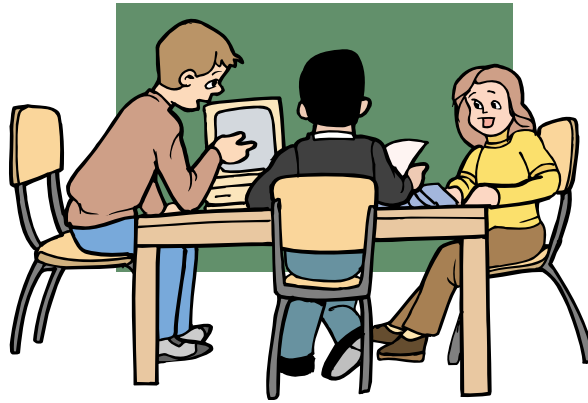
### **Focus on Improved Instruction**

Use of data is seen as a positive activity. Data collection is coordinated in an efficient and timely manner.

Assessments connect directly to instruction. All teachers/leaders understand how to interpret the data to improve instruction. Assessments are used by everyone to inform instruction and as a basis for action to improve instruction.

## ASSESSMENT

<p>Key Element 2: Use of frequent assessment system</p>	<p>DRAFT</p> <p>Everyone at each school uses a frequent assessment system directly connected to the content of the academic program. The data is collected in an efficient and timely manner. Teachers and grade levels understand how to analyze, interpret, and use the data to improve instruction. Teachers, to improve instruction and meet the needs of all students, actively and purposefully use this assessment system.</p>
<p>Level 3</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> All teachers administer assessments at the end of each unit as suggested by the pacing guideline.</li> <li><input type="checkbox"/> There is evidence that all teachers use agreed upon norms for administering and scoring assessments.</li> <li><input type="checkbox"/> Data collection is always coordinated in an efficient and timely manner in preparation for use at grade level meetings.</li> <li><input type="checkbox"/> All teachers see the use of data as a purposeful activity for the improvement of instruction.</li> <li><input type="checkbox"/> All teachers and grade level teams demonstrate an understanding of how to analyze, interpret, and use the data to improve instruction.</li> <li><input type="checkbox"/> The school demonstrates a consistent view of the importance of the assessment system.</li> </ul>
<p>Level 2</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Some teachers administer assessments as suggested by the pacing guideline.</li> <li><input type="checkbox"/> There is evidence that some teachers use agreed upon norms for administering and scoring assessments.</li> <li><input type="checkbox"/> Data collection is usually coordinated in an efficient and timely manner in preparation for use at grade level meetings.</li> <li><input type="checkbox"/> Some teachers see the use of data as a purposeful activity for the improvement of instruction.</li> <li><input type="checkbox"/> Some teachers and grade level teams demonstrate an understanding of how to analyze, interpret, and use the data to improve instruction.</li> <li><input type="checkbox"/> The school is beginning to share a common view of the importance of the assessment system.</li> </ul>
<p>Level 1</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Teachers administer assessments at various times.</li> <li><input type="checkbox"/> There is no evidence that teachers use agreed upon norms for administering and scoring assessments.</li> <li><input type="checkbox"/> Data collection is not accomplished in a timely manner to be used at grade level meetings.</li> <li><input type="checkbox"/> Few teachers see the use of data as a purposeful activity for the improvement of instruction.</li> <li><input type="checkbox"/> Few teachers and grade level teams understand how to analyze, interpret, and use the data to improve instruction.</li> </ul>



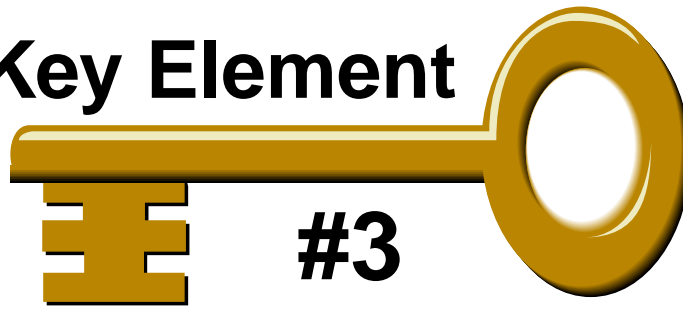
## ACTIVITY #2

With your district partner, review key element #2 and use the rubric to begin to create a picture of the status of the use of curriculum-embedded assessments in your district.

Work to develop three key actions that could be taken in the next six weeks to move forward on the rubric.

How would you use this tool to assist schools in examining the purpose and use of the assessment system and taking improvement actions?

## Key Element



All persons work in collegial, collaborative school and grade-level teams that focus on developing successful, program-specific strategies to improve achievement for all students.

### **Focus on Improved Instruction**

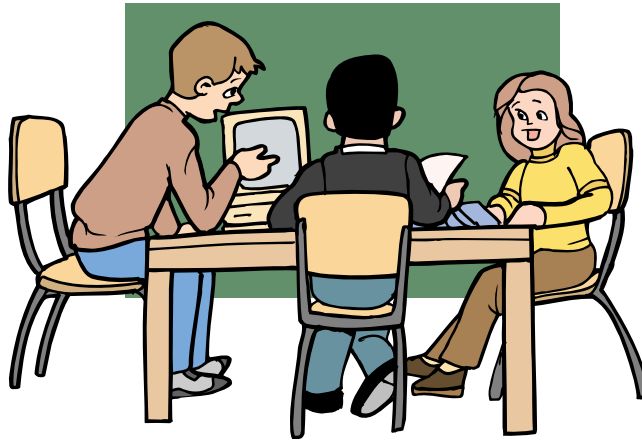
All work by the team is coherent to the agreed program. Collaboration assists all teachers to improve instruction. Instruction is actively coordinated.

There is frequent and positive communication and specific goal setting.

Active use of data leads to collaborative improvement, planning, and co-accountability.

## COLLEGIAL TEAM MEETINGS

<p>Key Element 3: Collegial and collaborative grade level teams</p>	<p>DRAFT All teachers/leaders engage in collegial, collaborative school and grade level teams that focus on developing successful, program specific strategies to improve achievement for all students.</p>
<p>Level 3</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Work by grade level teams is always coherent to the agreed program.</li> <li><input type="checkbox"/> Established norms are always followed to ensure focused and productive grade level meetings.</li> <li><input type="checkbox"/> Grade level collaboration is well focused and assists teachers to improve instruction.</li> <li><input type="checkbox"/> Grade level meetings are scheduled on a regular and frequent basis.</li> <li><input type="checkbox"/> Grade level meetings are attended by all teachers.</li> <li><input type="checkbox"/> Preparation and pacing for instruction is coordinated by all team members.</li> <li><input type="checkbox"/> Assessment data is shared and analyzed by all teachers.</li> <li><input type="checkbox"/> Data analysis is always used to plan and improve all components of instruction.</li> <li><input type="checkbox"/> There is evidence that team meetings always result in goal setting for improved instruction.</li> <li><input type="checkbox"/> Information from the team meeting is always shared with leadership.</li> </ul>
<p>Level 2</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Work by grade level teams is somewhat connected to the academic program.</li> <li><input type="checkbox"/> Norms are variably followed to keep grade level meetings focused on academic learning.</li> <li><input type="checkbox"/> Grade level collaboration is variably focused on the academic program and assists some teachers to improve instruction.</li> <li><input type="checkbox"/> Grade level meetings are infrequent but do occur at scheduled intervals.</li> <li><input type="checkbox"/> Grade level meetings are attended by most teachers.</li> <li><input type="checkbox"/> Preparation and pacing for instruction is coordinated by some of the team members.</li> <li><input type="checkbox"/> Assessment data is shared and analyzed by some teachers.</li> <li><input type="checkbox"/> Data analysis is sometimes used to plan and improve some components of instruction.</li> <li><input type="checkbox"/> There is evidence that team meetings sometimes result in goal setting for improved instruction.</li> <li><input type="checkbox"/> Information from the team meetings is sometimes shared with the leadership.</li> </ul>
<p>Level 1</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Work by grade level teams is not necessarily connected to the academic program.</li> <li><input type="checkbox"/> Norms are not used to focus grade level meetings.</li> <li><input type="checkbox"/> Grade level collaboration is poorly focused and does little to assist teachers to improve instruction.</li> <li><input type="checkbox"/> Grade level meetings are scheduled on a sporadic basis.</li> <li><input type="checkbox"/> Grade level meetings are attended by few teachers.</li> <li><input type="checkbox"/> Preparation and pacing for instruction is coordinated by a few team members but not all.</li> <li><input type="checkbox"/> Assessment data is shared and analyzed by a few teachers.</li> <li><input type="checkbox"/> Data analysis is infrequently used to plan and improve components of instruction.</li> <li><input type="checkbox"/> Meetings seldom result in goal setting for improved instruction.</li> </ul>



## **ACTIVITY #3**

With your district partner, review key element #3 and use the rubric to determine the status of collegial/collaborative, grade-level teams in your district.

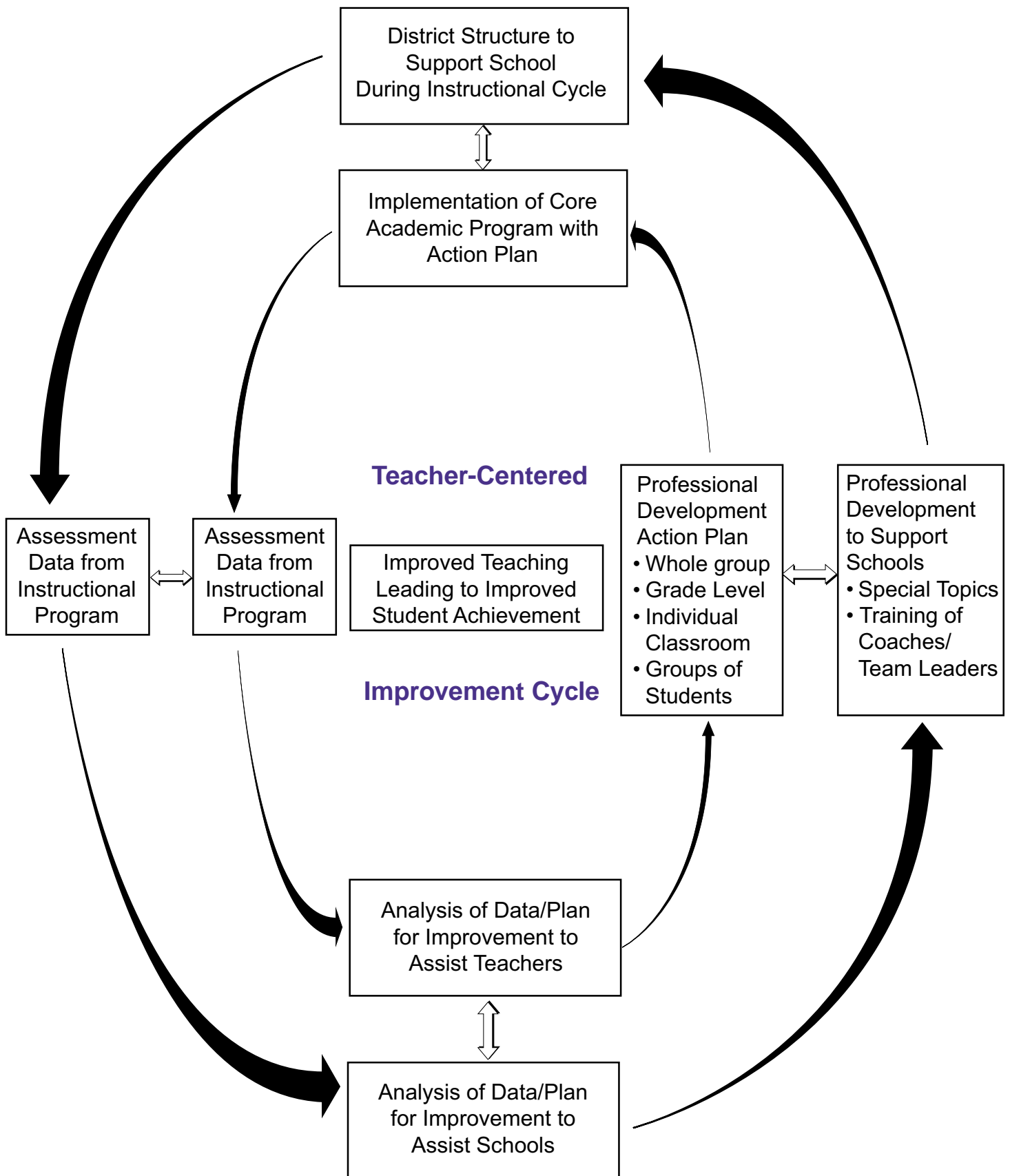
Work to develop three key actions that could be taken in the next six weeks to move forward on the rubric.

How would you use this tool to assist schools in examining the purpose and use of grade-level, collegial teams in improving instruction.

# Key Elements Needed in a District-Wide/School Specific Effort to Improve and Sustain Academic Achievement for All Student Groups

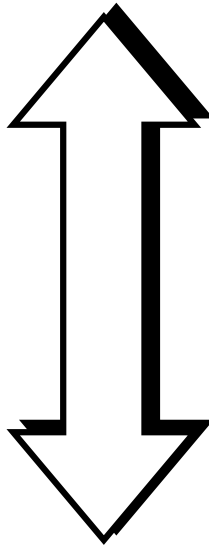
<p><b>Key Elements</b></p>	<p>All classrooms deliver a coherent academic program. This includes specific content and an instructional system that is well supported with high quality materials and training.</p>	<p>Everyone at each school uses a frequent assessment system directly connected to the content of the academic program. This system is actively used to improve instruction.</p>	<p>All schools work in collegial, collaborative school and grade level teams that focus on developing successful, program specific strategies to improve achievement for all students.</p>	<p>All schools engage in content specific, site-based professional development with coaching and technical support. Activities at each school are developed using the data generated by the ongoing program specific assessment system and are focused on improving instruction for all students.</p>	<p>Each site principal actively takes actions focused on developing and strengthening the academic performance of ALL students in K-3 reading.</p>	<p>The district provides content-based, coherent, coordinated support and leadership that technically assists the school to focus work and sustain specific improvements in reading achievement over time.</p>
<p><b>Focus on Improved Instruction</b></p>	<p>Everyone is positively expected to fully implement the agreed program and to deepen instruction in this area using the coordinated tools provided by the program.  All related content in this area is taught in a high quality way to students. There are clear standards for implementation and instruction in the agreed program.</p>	<p>Use of data is seen as a positive activity. Data collection is coordinated in an efficient and timely manner.  Assessments connect directly to instruction. All teachers/leaders understand how to interpret the data to improve instruction. Assessments are used by everyone to inform instruction and as a basis for action to improve instruction.</p>	<p>All work by the team is coherent to the agreed program. Collaboration assists all teachers to improve instruction. Instruction is actively coordinated.  There is frequent and positive communication and specific goal setting.  Active use of data leads to collaborative improvement, planning, and co-accountability.</p>	<p>The following are used to deepen and improve instruction in all classes:</p> <ul style="list-style-type: none"> <li>• Lesson study</li> <li>• Learning walks</li> <li>• Practice-based professional development</li> <li>• Active coaching, mentoring</li> </ul> <p>Co-accountability is supported and deepened as a collegial expectation that is supported by site-based, high-quality professional development.</p>	<p>Leadership team demonstrates specific content knowledge to others.  Leaders take equal responsibility for the success of the students and model co-accountability.  Coordinated meetings by leaders at the school actively use data to plan needed actions and monitor the results throughout each assessment cycle.</p>	<p>All support to schools is coordinated and coherent with the agreed academic curricular focus.  The district works to eliminate confusion and to support the specific actions of the school.  The district is actively engaged in monitoring the work of the school and providing content specific technical support.</p>

# Examining Our Systems for Actions and Support



## District Structure to Support School During Instructional Cycle

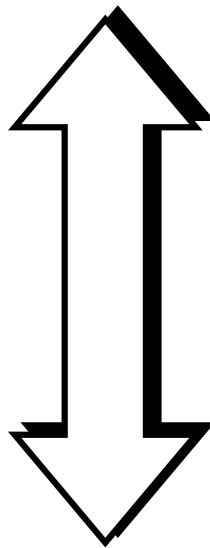
1. How are we assisting schools with full implementation of the reading program?
2. What are the explicit expectations for implementation, and how are we communicating these?
3. What actions are we taking to support a teacher-centered approach and to counter reaction based on a more student-centered perspective?



## Implementation of Core Academic Program with Action Plan

## Assessment Data from Instructional Program

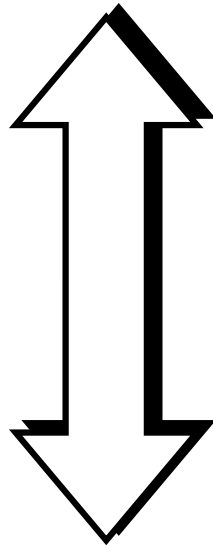
1. How are we assisting schools with full implementation of the assessment system for the reading program?
2. What are the explicit expectations for the administration, data tabulation, and use of the assessment system? How are we communicating these, and is there evidence that this system is informing both the school and our district work?
3. What actions are we taking to organize the incoming data so that it informs our work with schools?



## Assessment Data from Instructional Program

## Analysis of Data/Plan for Improvement to Assist Teachers

1. How are we assisting schools to develop and nurture effective collegial teams that result in teachers working together to improve instruction?
2. What are the explicit expectations for teamwork, planning, and improved instruction? Collegial preparation? How are we communicating these? What services are we offering schools to support this work?
3. What actions are we taking to support a teacher-centered approach in planning and improving instruction? How can we develop structures that counter reactions in schools that are based on a more student-centered perspective?

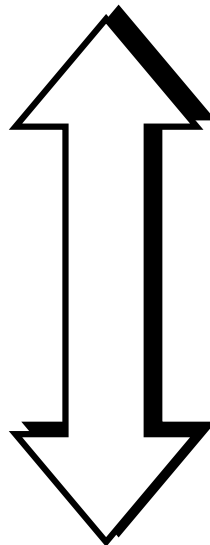


## Analysis of Data/Plan for Improvement to Assist Schools

## Professional Development Action Plan

- Whole Group
- Grade Level
- Individual Classroom
- Groups of Students

1. How are we assisting schools to develop and nurture effective collegial teams that result in teachers working together to improve instruction?
2. What are the explicit expectations and models for teamwork, planning, and professional development to improve instruction? How are we communicating these? What services are we offering schools to support this work?
3. What actions are we supporting at the school site to address diverse student needs within the core program? What models are we developing to assure that groups of students are supported to achieve at grade level by the end of the school year?



## Professional Development to Support Schools

- Special Topics
- Training of Coaches/Team Leaders