The 25/75 Classroom

Learning as the *CONSTANT*, not the *VARIABLE*

The PLC 4 Critical Corollary Questions

No more than 25%

Of class time

(about 12 or 22 min.*)

- **Short lessons**
- **The teaching of HOW** (to cause both thinking and doing) rather than the Telling of WHAT
- **A strong Delivery Model:** a connection to prior learning, a teaching point (access and choice), active participation (Check for Understanding), a link, and Send off/work time

Note: Whole Group Teaching/Learning = Learning as ***the Variable*** and Time and Support as ***the Constant.***

1a. What am I teaching today and what do I want my students to know, understand, and accomplish as a result of my teaching today?

1b. How will I teach and check for understanding so I know my students are ready to engage in strong learning that 'causes' both thinking AND doing and ensures *access* and choice.

At least 75%

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(about 33 or 63 min.*)

- ***Teacher, with student(s), through minute by minute assessment (Assessment FOR Learning*/Conferring):***
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  - Strategically differentiating through responsive teaching
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- ***Students***
  - Individual, pairs and group work
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***Based on the average minutes (45 or 85) of Aldine's math and elar class periods**

HOUSTON A+ CHALLENGE

Revised: 6/5/15

HOUSTON A+ CHALLENGE

Leading Learners… Learning Leaders Making good things happen!

July 30, 2015

STRENGTHEN – INNOVATE - CONNECT

Icebreaker

Middle school Leaders:

Get to know your table mates.

-Table has an envelope of questions, on cards.

-Each person will randomly select 1 card from .

-Take 1 minute to read the question and process your thoughts, silently.

-Each person will be afforded 1 minute to read their question and share their response with the entire table.

Welcome From A+

A+ Introductions

What to expect from an A+ PD

Set Stage for our Learning Today

Outcomes for Today:

- Begin to obtain clarity specific to the work of a Professional Learning Community
- Begin to build a vision for Mathematics classrooms
- Consider ways to strengthen and support Mathematics **teachers and specialists**
- Obtain clarity on the attributes of high functioning teams and how to support them

Professional Agreements:

- We will begin and end on time
- We will work hard to refrain from side-bar conversations and be respectful when others are sharing
- We will focus on building individual and collective responsibility through shared learning
- We will work hard to “Just saying NO” to electronic distractions (exception: an emergency)
- Most importantly, we will enjoy ourselves while engaged in learning today

Participant's Guide and Regrouping Protocol (Signal)

Evidence of Learning

"Schools do not need instructional leaders—they need *learning leaders* who focus on the evidence of learning."

[For adults AND children]

Eaker & Keating

A SHIFT IN SCHOOL CULTURE

Directions for Learning Activity:

- Read the article: *A Shift in School Culture* by Eaker & Keating
- As you read, identify statements or passages that resonate with you.

(10 minutes)

Three Levels of Text Protocol

- Divide into groups of 4 and assign a facilitator
- Each group member using up to 3 minutes to engage in the following 3 levels
  - Level 1: Read one of the statements that resonated with YOU (direct your group to where the statement is located)
  - Level 2: Explain WHY this statement resonated with YOU
  - Level 3: State what implications the statement has on YOUR work
- Group members then have one minute to respond to what was said
- Repeat the process until all group members have shared

Whole Group Share Out

- One member from each group will share out something they (or the group) learned as a result of the activity.

OR

- One member to share an example of the implications for the work moving forward

THANK YOUR TEAMMATES

STRENGTHEN – INNOVATE - CONNECT

Culture Shift: The 3 Big Ideas

- Big Idea #1: Ensuring That students Learn
- Big Idea #2: A Culture of Collaboration
- Big Idea #3: A Focus on results

Break: 10 Minutes

It's all about establishing a Vision for Classrooms

- Read Professional Standards for Teaching Mathematics, NCTM

- After you read, capture your thoughts about the following statements:
  - I used to think, but know I know…
  - I used to think, but know I'm wondering…

Stand Up, Hand Up, Pair Up

Protocol for sharing thoughts from the NCTM reading.

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*Based on the average minutes (45 or 85) of Aldine's math and elar class periods

Revised: 6/5/15

HOUSTON A+ CHALLENGE

Aldine's Vision for 5th -8th grade Mathematics Classrooms

ENVIRONMENT (The "Learning Community" Classroom)			
·The Look (90/10): Walls & Physical Space	·The Sound	·Routines & Rituals	·Relationships and the "Feel"

25% TEACHING A LESSON (Whole group)	
What is the teacher doing?	What are the students doing?

75% STUDENT WORKTIME	
What is the teacher doing?	What are the students doing?

In School Teams

- Use the 25/75 document and the Professional Standards for Teaching Mathematics article to chart a vision for the environment of the mathematics classroom, and what teachers and students would be doing during the lesson (25%) and student worktime (75%).
- Chart the commonalities, across campuses, at the table

Lunch: 11:20-12:05

Number Talks Video

Debrief Number Talk

- Share out evidence of the 4 Key Arenas from the NCTM article.
  - Task
  - Discourse
  - Environment
  - Analysis

Model Mathematics Lesson

The Muffin Man Bakery

Debrief Model Lesson

- Evidence of the 4 Key Arenas
- Structures of the Mini-Lesson

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Aldine's Vision for 5th -8th grade Mathematics Classrooms -revisited

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75% STUDENT WORKTIME	
What is the teacher doing?	What are the students doing?

Best Practices in Mathematics

LESS of This in Classroom		MORE of This in Classroom
• Use of cue words to determine operation to be used • Practicing routine, one-step problems	**Problem Solving**	• Word problems with a variety of structures and solution paths • Open-ended problems and extended problem-solving projects • Investigating and formulating questions from problem situations
• Copying conventional representations without understanding • Reliance on a few representations • Premature introduction of highly abstract representations • Forms of representations as an end product or goal	**Creating Representations**	• Creating one's own representations that make sense • Creating multiple representations of the same problem or situation • Using representations to make the abstract ideas more concrete • Using representations to build understanding of concepts through reflection • Sharing representations to communicate ideas
• Doing fill-in-the-blank worksheets • Answering questions with yes or no or numerical responses	**Communicating Math Ideas**	• Discussing, Reading, and Writing mathematics
• Relying on authorities (teacher, answer key)	**Reasoning & Proof**	• Justifying answers and solution processes • Reasoning inductively and deductively
• Learning isolated topics • Developing skills out of context	**Making Connections**	• Connecting mathematics to other subjects and to the real world • Connecting topics within mathematics
• Early use of symbolic notation • Memorizing rules and procedures without understanding • Complex and tedious paper-and-pencil computations	**Numbers, Operations, & Computation**	• Developing number and operation sense • Understanding the meaning of key concepts • Using calculators for complex calculations
• Memorizing facts and formulas • Memorizing equivalencies between units of measure	**Geometry & Measurement**	• Using geometry in problem solving • Developing spatial sense • Measuring and exploring the concepts related to units of measure
• Memorizing formulas	**Statistics & Probability**	• Collecting and organizing data • Using statistical methods to describe, analyze, evaluate, and make decisions
• Manipulating symbols • Memorizing procedures	**Algebra**	• Recognizing and describing patterns • Identifying and using functional relationships • Developing and using tables, graphs, and rules to describe situations • Using variables to express relationships
• Using assessments only on a large number of isolated skills • Focusing on a large number of specific and isolated skills • Using only written tests	**Assessment**	• Making assessment an integral part of teaching • Focus on a broad range of mathematical tasks • Using multiple assessment formats, including written, oral, and demonstration

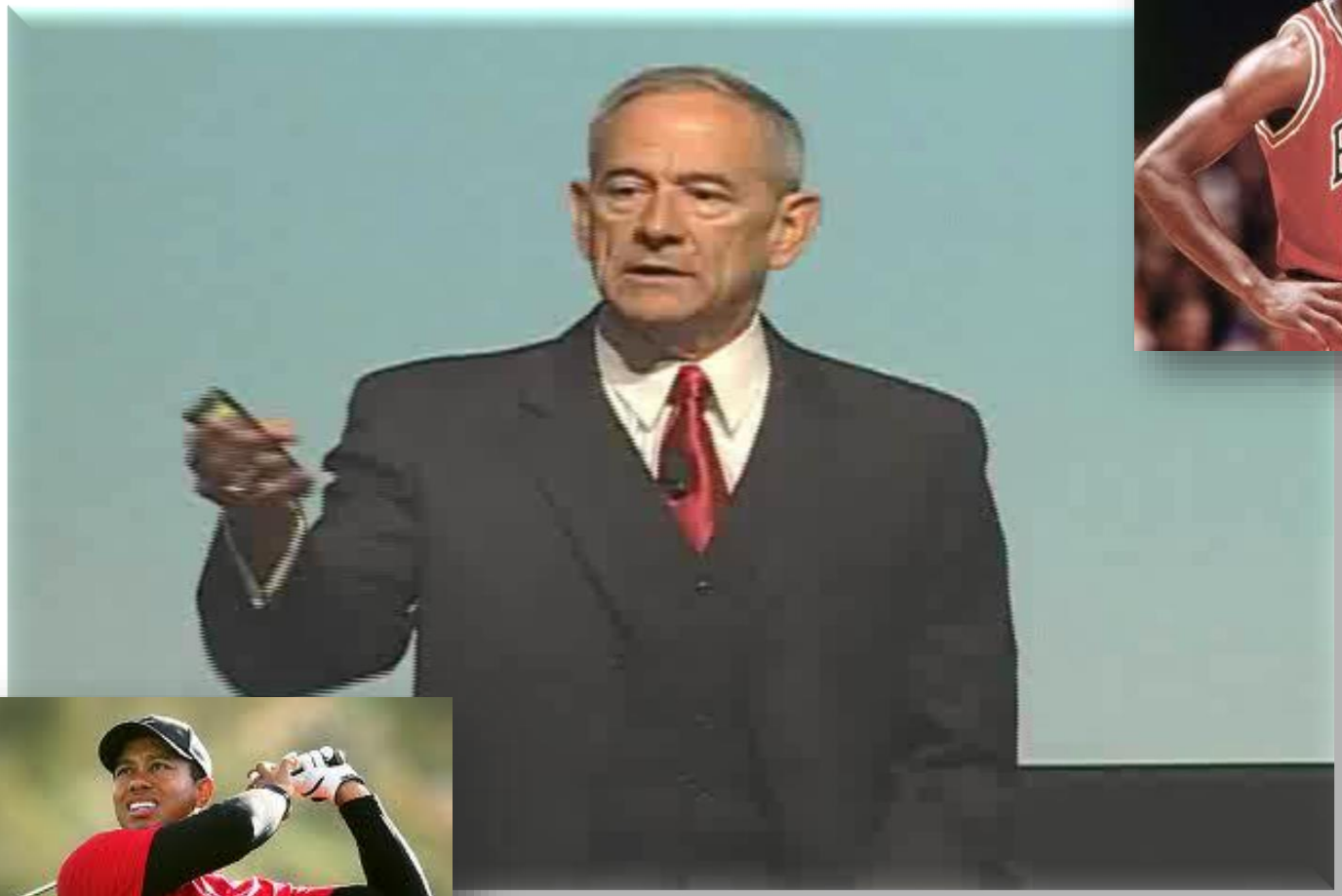
Zemelman, Daniels, and Hyde. 2012 *Best Practice, Fourth Edition*. Portsmouth, NH: Heinemann

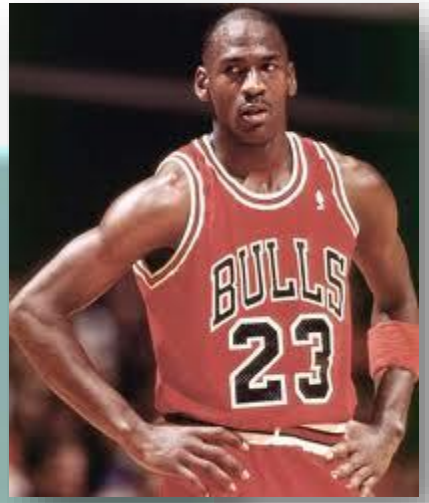
Responsibilities & Next Steps – Strong Mathematics Classrooms

Learning Experiences	Principal Responsibilities How will I as a principal **learn about**, **support**, **monitor** and **celebrate** in each of the areas?	Assistant Principal Responsibilities How will I as assistant principal **learn about**, **support**, **monitor** and **celebrate** in each of the areas?
Visioning for a Strong Mathematics Classroom		
	Next Steps:	Next Steps:

Collaborative Team Time

Individually, think about a cluster of people that work well together on your campus and name the behaviors they exhibit in your Participant's Guide





STRENGTHEN – INNOVATE - CONNECT

Current Reality: Groups or Teams?

Think about your cluster of people, are they a Group or a Team?

Clarity Around Key Team Elements

- Interdependence
- Goal Orientation
- Mutual Accountability

HOUSTON A+ CHALLENGE

Building a Collaborative Environment

Creating a collaborative environment has been described as "the single most important factor" for successful school improvement initiatives and "the first order of business" for those seeking to enhance the effectiveness of their school (Eastwood & Louis, 1992, p 215).

Content Specific

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
Each teacher independently decides what to teach	Collaboratively agreed upon curriculum focuses on what students are expected to learn
Each teacher determining the pacing of the curriculum	Establishing the priority of respective learning standards as a team
Decisions about improvement strategies are made by "averaging opinions" or individual preferences	Decisions are research-based with collaborative teams of teachers seeking our "best practices"
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
Review data	Study data and set measurable team goals and work together to achieve them
Individual teachers attempting to discover ways to improve results	Teachers helping each other improve

Interdisciplinary

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
An assumption that these are "my kids, those are your kids"	An assumption that these are "our kids"
There is little awareness of what or how others are teaching.	Teachers recognize the common curriculum and exchange ideas regarding instructional materials, teaching strategies, or methods of assessment.
Each teacher sets goals and works independently to achieve them.	Characterized by common goals and their interdependent efforts to achieve those goals.

Leadership

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
Celebrations and recognition are rather infrequent and often focus on things other than the central mission of the school.	Celebration is frequent, tied directly to the school's values, and recognizes the accomplishments of individuals as well as groups.
Improvement efforts frequently shift as new fads or trends come along.	The school is committed to "staying the course" in the attainment of the school vision. New initiatives are only implemented if it is determined that the change will help the school achieve its vision of the future.
Leaders look for a quick fix and adopt anything that might show quick improvements regardless of whether it is aligned with the school's vision or values.	Leaders role is to promote, protect and defend the school's vision and values and to confront behavior that is inconsistent with the school's vision and values.
Administrators solicit and value teacher input as improvement initiatives are developed and considered, but administrators are regarded as having primary responsibility for school improvement.	Staff is fully involved in the decision-making processes of the school. School improvement is viewed as a collective responsibility.
Administrators give directives and provide limited or no information, training and parameters to make decisions.	Administrators pose questions, delegate authority, create collaborative decision-making processes, and provide staff with the information, training and parameters they need to make good decisions.

Parent

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
There are no consistent communication systems between home and school.	Systems are in place for consistent, two-way communication between home and school (i.e., notes, phone calls, visits)
There are events at school to secure parental support for the school's efforts.	Conduct grade-level parent workshops to clarify intended outcomes and provide strategies that enable parents to reinforce the intended learning at home.
It is stated that there is an open communication policy.	The school-parent partnership moves beyond open communication.
Parents are only welcome in the school when they are invited.	Parents are welcome in the school and there is an active volunteer program.
Teachers inform parents of educational decisions that affect their children.	Parents are full partners in the educational decisions that affect their children.
Community resources are randomly chosen and not connected to student learning.	Community resources are used to strengthen the school and student learning.
Information is sent home about future class requirements.	Involve parents in setting student goals each year and in planning for postsecondary education and careers.
Parents are given opportunities to volunteer.	Develop feedback forms that enable volunteers to reflect on their experience, and analyze the results in an effort to make the experience more satisfying.

Collaborative Team Time Possibilities

- **Collective Inquiry**

  Working together to build shared knowledge into Best Practices

  - Book Study
  - Reading Best Practices
  - Form inquiry groups upon topic or question
  - Spy on ourselves as readers, writers and mathematicians
  - Do the work of readers, writers and mathematicians (in real life and in school conditions)
  - Keep a readers/writers notebook
  - Keep a math journal with models and strategies
  - Take the benchmarks and STAAR test for appropriate grade levels
  - Do work assigned to students
  - Job embedded professional development
  - Analyzing assessment questions
  - Study the standards

- **Action Orientation**

  Learning By Doing

  - Model lessons
  - Peer observations with narrowed focus
  - Role playing
  - Observe other campuses within and outside of district

- **Commitment to Continuous Improvement**

  A constant desire to improve

  - Best practices
  - Be consistent with practices
  - Create formative assessments
  - Unit planning
  - Lesson planning

- **Results Orientation**

  Assess effectiveness based on results, NOT intentions

  - SMART goals
  - Student work protocol
  - Share and discuss conference notes
  - Examine assessment data using protocols
  - ▫ Student reports
  - ▫ Teacher reports
  - ▫ Class reports
  - ▫ Grade level reports
  - ▫ Campus reports

Collective Commitments

- Group yourselves into teams that make sense.
- Each participant gets 3 index cards
- Write one commitment on each index card that you feel your team would benefit from
- Share cards and prioritize the order
- Make Commitments public

Responsibilities & Next Steps – Group→Team/Collaborative Time

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Groups to Teams Collaborative Team Time		
	Next Steps:	Next Steps:

Next Steps/Closing/Reflections

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HOUSTON A+ CHALLENGE

In School Teams

- Use the 25/75 document and best writing practices article to chart what the Teacher would be doing and what the Students would be doing
- At tables, chart the commonalities

Debrief

P/AP Planning Template

Bringing it all together:

- Visioning for strong Reading and Writing classrooms
- Connections between the two Disciplines
- P/AP as Learning Leaders: roles/next steps to shift teacher practice, as well monitor and support the work

P/AP Planning Template

- Groups to teams
- Collaborative team time

-What are the principals' roles and responsibilities to this work as a Learning leader?

-What about the assistant principal?

-What about the R/W specialist?

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Evidence of MORE

Teacher Observables

- Introduces the lesson in a way that accounts for different learning styles (e.g., uses the board to record important information, writes the question children will be exploring, etc.).
- Provides a clear visual display of the mathematical idea/s being discussed
- Demonstrates use of manipulatives in their own learning
- Presents mathematics in context
- Gives encouragement and expresses confidence in kids explicitly ("This is hard, but I know you can do it!")
- Uses the board to connect mathematical ideas
- Holds each child to the same, high, standards (expectations)
- Conferring with kids
- Facilitating conversations as a class or in cooperative groups

A student is explaining his process to the principal who has joined the classroom as a learner for the day. ***Atascosita Middle School***

HOUSTON A+ CHALLENGE

Student Observables

- Do the majority of the talking
- Are expected to explain their thinking
- Show they are listening to one another
- Are willing to openly admit confusion or not knowing
- Challenge each other's thinking non-judgmentally
- Take initiative to explain another student's thinking, including how they might have made an error
- Are able to pose questions when they do not understand (keep track of their own thinking and
- where it is breaking down in the sense-making process)
- Are able to speak to each other without using the teacher as a conduit
- Demonstrates use of manipulatives in their own learning

"A math classroom should provide practical experience in mathematical skills that are a bridge to the real world of jobs and adult responsibilities. This means going beyond memorization into a world of reasoning and problem solving."

Math Solutions

Teacher and student observables are adapted from John Saphier; 22 events that kids smart, with input from Metamorphosis Teaching and Learning Communities

Visit us at www.houstonaplus.org
2700 SW Freeway, 77098
713-658-1881

Professional Learning Communities: Big Idea #1 and Culture Shift

Big Idea I: A Focus on Learning *(relatively high levels of learning for ALL)*

(Mission): We embrace high levels of learning for all students as both the reason our organization exists and the fundamental responsibility of those who work within it.

(Vision): We acknowledge that students learn at different rates and with different levels of support.

Therefore, we are willing to examine **all** practices in light of their impact on learning. Every adult member of our learning community is committed to getting every child that sits before us, smarter and stronger, by doing whatever it takes to be sure that failure is not an option for any child. This focus on high-levels of learning translates into the four critical questions that drive the daily work of our **school/district.** *(Values and a few goals)*

1a. What is it I/we want them to learn? Specifically, what do I/we want them to know, understand and be able to do as a result of my teaching through thoughtfully planned units of study throughout the year?

1b. How do I/we teach so that ALL students show progress (growth) and learn at relatively high levels?

2. How will I/we know when each student has achieved the learning? (How am I/are we monitoring each student's learning on a **daily** basis?).

3. How will I/we respond when a student is not learning? Is my/our response **TIMELY**? Is it **DIRECTIVE** rather than invitational? Is it **SYSTEMATIC?**

4. How will I/we deepen the learning for the students who have mastered essential knowledge and skills?

Big Idea #1	**A Shift in Fundamental Purpose**									
From a focus on teaching…..										**to a focus on learning**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
From emphasis on what was taught…..										to a fixation on what students learned
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
From coverage of content….										To demonstration of proficiency
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
From **fixed** time and support for learning….										To time and support for learning as the variable
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
From learning as the **variable** ….										To learning as the **constant**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	

Professional Learning Communities: Big Idea #2 and Culture Shift

Big Idea II: A Collaborative School Culture with a focus on strong learning (smarter and stronger) for ALL Students and Adults. *(Vision and Goals)*

Collaboration Defined: The systematic process in which teachers work together (co-labor) interdependently in order to impact their classroom practices in ways that will lead to better results for their students, for their teams, and for their school. **Note:** Collaboration does not lead to improved results unless people are focused on the *right issues.* Collaboration is a means to an end, not the end itself.

Core Elements:

1. **Collective Inquiry into Best Practice and Current Reality:** Working together to build shared knowledge (rather than pooling opinions) on the best way to achieve goals and meet the needs of clients is what professionals in any field are expected to do, whether it is curing a patient, winning the lawsuit, or helping all students learn.
2. **Action Orientation (Learning By Doing):** Until members of the organization "do" differently, there is no reason to anticipate different results. The reason we work together in teams and engage in collective inquiry is to serve as catalysts for action.
3. **A Commitment to Continuous Improvement:** A persistent disquiet (discomfort) with the status quo and a constant search for a better way to achieve goals and accomplish the purpose of the organization. This is not about learning a new strategy, but instead to create conditions for perpetual learning---an environment in which innovation and experimentation are viewed not as tasks to be done or projects to be completed, but as ways of conducting day-to-day business, *forever.*

Teams Defined:

A team is a group of people working interdependently to achieve a common goal for which we are mutually accountable.

Seven Keys to Effective Teams and Seven Keys to Collaboration in PLC

1. *Embed collaboration with a FOCUS ON LEARNING in routine practices of the school.*
2. *Schedule time for collaboration into the school day and school calendar.*
3. *Focus teams on critical questions.*
4. *Make products of collaboration explicit.*
5. *Establish team collective commitments and norms to guide collaboration.*
6. *Pursue specific and measureable team performance goals.*
7. *Provide teams with frequent access to relevant information.*

Big Idea #2 A Shift in the Work of Teachers	
From isolation….	**to collaboration**
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10	
From each teacher assigning priority to different learning standards….	to collaborative teams establishing the priority of respective learning standards
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10	
From individual teachers attempting to discover ways to improve results….	to collaborative teams of teachers helping each other improve
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10	
From decisions made on the basis of individual preferences….	to decisions made collectively by building shared knowledge of best practice
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10	
From "collaboration lite" on matters unrelated to student achievement….	to collaboration explicitly focused on issues and questions that most impact student achievement
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10	

Professional Learning Communities: Big Idea #3 and Culture Shift

Big Idea III: A Results Orientation through a laser-like focus on (and commitment to) powerful ***quantitative and qualitative*** **results.** We assess our effectiveness on results rather than intentions. *(Vision and PUBLIC Goals)*

- Unless initiatives are subjected to ongoing assessment on the basis of tangible results…..their **impact on student learning**, they represent random attempts in the dark rather than purposeful improvement. As Peter Senge and colleagues conclude, "The rationale for any strategy for building a learning organization revolves around the premise that such organizations will produce dramatically improved results."

- This focus on results leads each team to develop and pursue measurable improvement goals (S.M.A.R.T.) that are aligned to school and district goals for learning. It also drives teams to create frequent common formative assessments to gather ongoing evidence of student learning. Teams review results to identify where students are experiencing difficulty so that additional time and support can be given. In addition, **TEAMS** examine results to discover strengths and weaknesses in their individual teaching in order to learn from one another to ultimately get smarter and stronger in their craft knowledge so that more kids WILL learn at relatively high levels.

Big Idea #3	**A Shift in Focus**
From a focus on intentions….	**to a focus on results**
1 | 2 | 3 | 4 | 5 | 6	7 | 8 | 9 | 10
From ONLY quantitative data	to BOTH quantitative and qualitative data
1 | 2 | 3 | 4 | 5 | 6	7 | 8 | 9 | 10
From a focus on inputs ….	to a focus on outcomes
1 | 2 | 3 | 4 | 5 | 6	7 | 8 | 9 | 10
From goals related to completion of projects and activities….	to SMART goals demanding evidence of student learning
1 | 2 | 3 | 4 | 5 | 6	7 | 8 | 9 | 10
From teachers gathering data from their individually constructed tests in order to assign grades….	to collaborative teams acquiring information from common assessments in order to (1) inform their individual and collective practice and (2) respond to students who need additional time and support
1 | 2 | 3 | 4 | 5 | 6	7 | 8 | 9 | 10

Collaborative Team Time Possibilities

Collective Inquiry

Working together to build shared knowledge into Best Practice

- Book Study
- Reading Best Practices
- Form inquiry groups upon topic or question
- Spy on ourselves as readers, writers and mathematicians
- Do the work of readers, writers and mathematicians (in real life and in school conditions)
- Keep a readers/writers notebook
- Keep a math journal with models and strategies
- Take the benchmarks and STAAR test for appropriate grade levels
- Do work assigned to students
- Job embedded professional development
- Analyzing assessment questions
- Study the standards

Action Orientation

Learning by doing

- Model lessons
- Peer observations with narrowed focus
- Role playing
- Observe other campuses within and outside of district

Commitment to Continuous Improvement

A constant desire to improve

- Best practices
- Be consistent with these practices
- Create formative assessments
- Unit planning
- Lesson planning

Results Orientation

We assess our effectiveness based on results not intentions

- SMART goals
- Student work protocol
- Share and discuss conference notes
- Examine assessment data using protocols
  - Student reports
  - Teacher reports
  - Class reports
  - Grade level reports
  - Campus reports

HOUSTON A+ CHALLENGE

Building a Collaborative Environment

Creating a collaborative environment has been described as "the single most important factor" for successful school improvement initiatives and 'the first order of business" for those seeking to enhance the effectiveness of their school (Eastwood & Louis, 1992, p 215).

Content Specific

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
Each teacher independently decides what to teach	Collaboratively agreed upon curriculum focuses on what students are expected to learn
Each teacher determining the pacing of the curriculum	Establishing the priority of respective learning standards as a team
Decisions about improvement strategies are made by "averaging opinions" or individual preferences	Decisions are research-based with collaborative teams of teachers seeking our "best practices"
Review data	Study data and set measurable team goals and work together to achieve them
Individual teachers attempting to discover ways to improve results	Teachers helping each other improve

Interdisciplinary

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
An assumption that these are "my kids, those are your kids"	An assumption that these are "our kids"
There is little awareness of what or how others are teaching.	Teachers recognize the common curriculum and exchange ideas regarding instructional materials, teaching strategies, or methods of assessment.
Each teacher sets goals and works independently to achieve them.	Characterized by common goals and their interdependent efforts to achieve those goals.

Leadership

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
Celebrations and recognition are rather infrequent and often focus on things other than the central mission of the school.	Celebration is frequent, tied directly to the school's values, and recognizes the accomplishments of individuals as well as groups.
Improvement efforts frequently shift as new fads or trends come along.	The school is committed to "staying the course" in the attainment of the school vision. New initiatives are only implemented if it is determined that the change will help the school achieve its vision of the future.
Leaders look for a quick fix and adopt anything that might show quick improvements regardless of whether it is aligned with the school's vision or values.	Leaders role is to promote, protect and defend the school's vision and values and to confront behavior that is inconsistent with the school's vision and values.
Administrators solicit and value teacher input as improvement initiatives are developed and considered, but administrators are regarded as having primary responsibility for school improvement.	Staff is fully involved in the decision-making processes of the school. School improvement is viewed as a collective responsibility.
Administrators give directives and provide limited or no information, training and parameters to make decisions.	Administrators pose questions, delegate authority, create collaborative decision-making processes, and provide staff with the information, training and parameters they need to make good decisions.

Parent

From Group	To Team
Behave nicely towards one another	Develop protocols and collective commitments to guide when working together
There are no consistent communication systems between home and school.	Systems are in place for consistent, two-way communication between home and school (i.e., notes, phone calls, visits)
There are events at school to secure parental support for the school's efforts.	Conduct grade-level parent workshops to clarify intended outcomes and provide strategies that enable parents to reinforce the intended learning at home.
It is stated that there is an open communication policy.	The school-parent partnership moves beyond open communication.
Parents are only welcome in the school when they are invited.	Parents are welcome in the school and there is an active volunteer program.
Teachers inform parents of educational decisions that affect their children.	Parents are full partners in the educational decisions that affect their children.
Community resources are randomly chosen and not connected to student learning.	Community resources are used to strengthen the school and student learning.
Information is sent home about future class requirements.	Involve parents in setting student goals each year and in planning for postsecondary education and careers.
Parents are given opportunities to volunteer.	Develop feedback forms that enable volunteers to reflect on their experience, and analyze the results in an effort to make the experience more satisfying.

HOUSTON A+ CHALLENGE

Building Strong Mathematics Classrooms – Responsibilities & Next Steps

Learning Experiences	Principal Responsibilities How will I as a principal **learn about**, **support**, **monitor** and **celebrate** in each of the areas?	Assistant Principal Responsibilities How will I as assistant principal **learn about**, **support**, **monitor** and **celebrate** in each of the areas?
Visioning for a Strong Mathematics Classroom		
	Next Steps:	Next Steps:

HOUSTON A+ CHALLENGE

Building Strong Mathematics Classrooms – Responsibilities & Next Steps

Learning Experiences	Principal Responsibilities How will I as a principal **learn about**, **support**, **monitor** and **celebrate** in each of the areas?	Assistant Principal Responsibilities How will I as assistant principal **learn about**, **support**, **monitor** and **celebrate** in each of the areas?
Groups to Teams Collaborative Team Time		
	Next Steps:	Next Steps:

Professional Standards for Teaching Mathematics
National Council for Teachers of Mathematics, NCTM 1991

A Vision for School Mathematics

Imagine a classroom, a school, or a school district where all students have access to high-quality, engaging mathematics instruction. There are ambitious expectations for all, with accommodation for those who need it. Knowledgeable teachers have adequate resources to support their work and are continually growing as professionals. The curriculum is mathematically rich, offering students opportunities to learn important mathematical concepts and procedures with understanding. Technology is an essential component of the environment. Students confidently engage in complex mathematical tasks chosen carefully by teachers. They draw on knowledge from a wide variety of mathematical topics, sometimes approaching the same problem from different mathematical perspectives or representing the mathematics in different ways until they find methods that enable them to make progress. Teachers' help students make, refine, and explore conjectures on the basis of evidence and use a variety of reasoning and proof techniques to confirm or disprove those conjectures. Students are flexible and resourceful problem solvers. Alone or in groups and with access to technology, they work productively and reflectively, with the skilled guidance of their teachers. Orally and in writing, students communicate their ideas and results effectively. They value mathematics and engage actively in learning it.

The Standards

Six standards encompass the vision's core dimensions. These standards are grouped under four headings: Tasks, Discourse, Environment, and Analysis. All major arenas of teachers' work that are logically central to shaping what goes on in mathematics classes.

Tasks are the projects, questions, problems, constructions, applications, and exercises in which students engage. They provide the intellectual contexts for students' mathematical development.

Standard 1: Worthwhile Mathematical Tasks

The teacher of mathematics should pose tasks that are based on-

- sound and significant mathematics;
- knowledge of students' understandings, interests, and experiences;
- knowledge of the range of ways that diverse students learn mathematics;

and

- engage students' intellect;
- develop students' mathematical understandings and skills;
- stimulate students to make connections and develop a coherent framework for mathematical ideas;
- call for problem formulation, problem solving, and mathematical reasoning;
- promote communication about mathematics;
- represent mathematics as an ongoing human activity;
- display sensitivity to, and draw on, students' diverse background experiences and dispositions;
- promote the development of all students' dispositions to do mathematics.

Discourse refers to the ways of representing, thinking, talking, and agreeing and disagreeing that teachers and students use to engage in those tasks. The discourse embeds fundamental values about knowledge and authority. Its nature is reflected in what makes an answer right and what counts as legitimate mathematical activity, argue and thinking. Teachers, through the ways in which they orchestrate discourse, convey messages about whose knowledge and ways of thinking and knowing are valued, who is considered able to contribute and who has status in the group.

Standard 2 - Teacher's Role in Discourse

The teacher of mathematics should orchestrate discourse by-

- posing questions and tasks that elicit, engage, and challenge each student's thinking;
- listening carefully to students' ideas;
- asking students to clarify and justify their ideas orally and in writing;
- deciding what to pursue in depth from among the ideas that students bring up during a discussion;
- deciding when and how to attach mathematical notation and language to students' ideas;
- deciding when to provide information, when to clarify an issue, when to model, when to lead, and when to let a student struggle with a difficulty;
- monitoring students' participation in discussions and deciding when and how to encourage each student to participate

Standard 3: Students' Role in Discourse

The teacher of mathematics should promote classroom discourse in which students-

- listen to, respond to, and question the teacher and one another;
- use a variety of tools to reason, make connections, solve problems, and communicate;
- initiate problems and questions;
- make conjectures and present solutions;
- explore examples and counterexamples to investigate a conjecture;
- try to convince themselves and one another of the validity of particular representations, solutions, conjectures, and answers;
- rely on mathematical evidence and argument to determine validity.

Standard 4: Tools for Enhancing Discourse

The teacher of mathematics, in order to enhance discourse, should encourage and accept the use of-

- computers, calculators, and other technology,
- concrete materials used as models;
- pictures, diagrams, tables, and graphs;
- invented and conventional terms and symbols;
- metaphors, analogies, and stories;
- written hypotheses, explanations, and arguments;
- oral presentations and dramatizations

Environment represents the setting for learning. It is the unique interplay of intellectual, social, and physical characteristics that shapes the ways of knowing and working that are encouraged and expected the classroom. It is the context in which the tasks and discourse are embedded; it also refers to the use of materials and space.

Standard 5: Learning Environment

The teacher of mathematics should create a learning environment that fosters the development of each student's mathematical power by-

- providing and structuring the time necessary to explore sound mathematics and grapple with significant ideas and problems;
- using the physical space and materials in ways that facilitate students' learning of mathematics;
- providing a context that encourages the development of mathematical skill and proficiency;
- respecting and valuing students' ideas, ways of thinking, and mathematical dispositions;

- and by consistently expecting and encouraging students to-
- work independently or collaboratively to make sense of mathematics;
- take intellectual risks by raising questions and formulating conjectures;
- display a sense of mathematical competence by validating and supporting ideas with mathematical argument.

Analysis is the systematic reflection in which teachers engage. It entails the ongoing monitoring of classroom life-how well the tasks, discourse, and environment foster the development of every student's mathematical literacy and power. Through this process, teachers examine relationships between what they and their students are doing and what students are learning.

Standard 6: Analysis of Teaching and Learning

The teacher of mathematics should engage in ongoing analysis of teaching and learning by-

- observing, listening to, and gathering other information about students to assess what they are learning;
- examining effects of the task, discourse, and learning environment on students' mathematical knowledge, skills, and dispositions;
- in order to-
- ensure that every student is learning sound and significant mathematics and is developing a positive disposition toward mathematics;
- challenge and extend students' ideas;
- adapt or change activities while teaching
- make plans, both short- and long-range;
- describe and comment on each student's learning to parents and administrators, as well as to the students themselves.

In deciding how to present and elaborate the ideas underlying each of the six standards, we confronted two basic dilemmas. First, teaching is an integrated activity. Although we can analyze the practice of teaching into these four arenas of teachers' work- tasks, discourse, environment, and analysis- they are in fact interwoven and interdependent. The quality of the classroom environment, for example, is both a function of and an influence on the classroom discourse. Alternatively, tasks are shaped by the discourse that surrounds them and the environment in which work takes place. Our second dilemma was that professional standards for mathematics teaching should represent values about what contributes to good practice without prescribing it. ***Such standards should offer a vision, not a recipe.***

ASSUMPTIONS

The standards for teaching are based on four assumptions about the practice of mathematics teaching:

1*. The goal of teaching mathematics is to help all students develop mathematical power.* The *Curriculum and Evaluation Standards for School Mathematics* furnishes the basis for a curriculum in which mathematical reasoning, communication, problem solving, and connections are central. Teachers must help every student develop conceptual and procedural understandings of number, operations, geometry, measurement, statistics, probability, functions, and algebra and the connections among ideas. They must engage all students in formulating and solving a wide variety of problems, making conjectures and constructing arguments, validating solutions, and evaluating the reasonableness of mathematical claims. Along with all this, teachers must foster in students the disposition to use and engage in mathematics, an appreciation of its beauty and utility, and a tolerance for getting stuck or sidetracked. Teachers must help students realize that mathematical thinking involves dead ends and detours and encourage them to persevere when confronted with a puzzling problem and to develop the self-confidence and interest to do so.

2*. WHAT students learn is fundamentally connected with HOW they learn* it. Students' opportunities to learn mathematics are a function of the setting and the kinds of tasks and discourse in which they participate. What students learn-about particular concepts and procedures as well as about thinking mathematically-depends on the ways in which they engage in mathematical activity in their classrooms. Their dispositions toward mathematics are also shaped by such experiences. Consequently, the goal of developing students' mathematical power requires careful attention to pedagogy as well as to curriculum.

3*. All students can learn to think mathematically.* The goals described in *the Curriculum and Evaluation Standards for School Mathematics* are goals for all students. Goals such as learning to make conjectures, to argue about mathematics using mathematical evidence, to formulate and solve problems-even perplexing ones-and to make sense of mathematical ideas are not just for some group thought to be "bright" or "mathematically able." Every student can-and should-learn to reason and solve problems, to make connections across a rich web of topics and experiences, and to communicate mathematical ideas. By "every student" we mean specifically-

- students who have been denied access in any way to educational opportunities as well as those who have not;
- students who are African American, Hispanic, American Indian, and other minorities as well as those who are considered to be part the majority;
- students who are female as well as those who are male;
- students who have not been successful as well as those who have been successful in school and in mathematics.

4. Teaching is a complex practice and hence not reducible to recipes or prescriptions. First of all, teaching mathematics draws on knowledge from several domains: knowledge of mathematics, of diverse learners, of how students learn mathematics, of the contexts of classroom, school and society. Such knowledge is general. However, teachers must also consider the particular, for teaching is context-specific. Theoretical knowledge about adolescent development, for instance, can only partly inform a decision about particular students learning a particular mathematical concept in a given context. Second, as teachers weave together knowledge from these different domains to decide how to respond to a student's question, how to represent a particular mathematical idea, how long to pursue the discussion of a problem, or what task to use to engage students in a new topic, they often find themselves having to balance multiple goals and considerations. Making such decisions depends on a variety of factors that cannot be determined in the abstract or governed by rules of thumb.

Because teaching mathematics well is a complex endeavor, it cannot be reduced to a recipe for helping students learn. Instead, good teaching depends on a host of considerations and understandings. Good teaching demands that teachers reason about pedagogy in professionally defensible ways within the particular contexts of their own work. The standards for teaching mathematics are designed to help guide the processes of such reasoning, highlighting issues that are crucial in creating the kind of teaching practice that supports the learning goals of the *Curriculum and Evaluation Standards for School Mathematics.* This section circumscribes themes and values but does not, indeed, and could not-prescribe "right" practice.

A SHIFT IN SCHOOL CULTURE

Collective commitments focus on change that benefits student learning

BY ROBERT EAKER
AND JANEL KEATING

These are the best of times and the worst of times in education, to paraphrase Charles Dickens. Never before has there been such widespread agreement among researchers and practitioners regarding the most promising approach to significantly improve schools. Researchers, writers, and educational organizations have all endorsed the concept of schools func-

tioning as professional learning communities. At the same time, the concept will have little impact on schools unless professional learning community practices become embedded into day-to-day school culture.

If professional learning communities offer our best hope for school improvement, a critical question facing educators is this: How can we develop school cultures that reflect the ideals and practices of professional learning communities? We have found that collaboratively developed shared values and commitments can be a powerful tool for shaping school culture.

STRUCTURE IS NEVER ENOUGH

Michael Fullan (2005) observed that "terms travel easily … but the underlying concepts do not" (p. 67). And while the term "professional learning community" has traveled easily, actually transforming a school to function as a professional learning community requires much more than a superficial understanding of the concept and feeble attempts at reorganizing. Schools and districts that bring the concept to life do more than adopt a new mission statement, launch a strategic plan, or fly a banner to proclaim, "We are a professional learning community!" They do more than organize their staff into teams, change their schedules, develop a new organizational chart, or engage in other attempts to tinker with the organization's structure. They recognize that while structural changes — policies, programs, and procedures — may be necessary, those changes are never enough to transform a school into a professional learning community. They understand that it is impossible for a school or district to develop the capacity to function as a professional learning community without undergoing profound cultural shifts, and they will engage in an intentional process to impact the culture.

We see an organization's culture in the assumptions, beliefs, expectations, and habits that constitute the norm for those working in it. Impacting an organization's cultural aspects is far more difficult than changing the policies, programs, and practices that constitute the structure. As Phil Schlechty writes, "Structural change that is not supported by cultural change will eventually be overwhelmed by the culture, for it is in the culture that the organization finds meaning and stability" (1997, p. 136).

CULTURAL SHIFTS FOR BECOMING A PROFESSIONAL LEARNING COMMUNITY

What does the culture of a school look like when it functions as a professional learning community? How does the culture differ from more traditional schools? While all professional learning communities do not look alike, all reflect three critical cultural shifts.

A shift in fundamental purpose from teaching to learning

Professional learning communities shift their primary purpose, their reason for being, from a focus on teaching to a focus on learning. This shift is seismic — such a change represents more than mere semantics. When schools passionately and sincerely adopt the mission of ensuring high levels of learning for all students, they are driven to pursue fundamentally different questions and work in significantly different ways.

A shift in the work of teachers

Professional learning communities acknowledge there is no hope of helping all students learn unless those within the school work collaboratively in a collective effort to achieve that fundamental purpose. There is no credible evidence that the best way to improve student learning is to have teachers work in isolation. On the other hand, there is ample evidence to support organizing teachers into high-performing, collaborative teams. A teacher's world can change when the school shifts from a culture of isolation to a culture of collaboration.

A shift in focus

Educators in professional learning communities recognize they will not know if their collaborative efforts to help all students learn have been successful without a fixation on results. They are hungry for evidence of student learning, and they use that evidence both to respond to students who need additional time and support as well as to inform and improve their professional practice. Their focus shifts from inputs to outcomes and from intentions to results.

If professional learning communities offer our best hope for school improvement, a critical question facing educators is this: How can we develop school cultures that reflect the ideals and practices of professional learning communities?

THE POWER OF SHARED VALUES AND COMMITMENTS

John Kotter advises that the central challenge of changing culture is "changing people's behavior" (Kotter & Cohen, 2002, p. 2). Engaging staff in a collaborative process to develop shared values, or "collective commitments," is one of the most powerful tools for changing behaviors that can,

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ultimately, transform the culture of a school or district.

As Ken Blanchard (2007) writes: "Values provide guidelines on how you should proceed as you pursue your purpose and picture of the future. They need to be clearly described so that you know exactly what behaviors demonstrate that the value is being lived. Values need to be consistently acted on, or they are only good intentions" (p. 30).

The White River School District in Buckley, Wash., has used the power of collective commitments to help its schools operate as professional learning communities. The district asks all staff members to consider, "What would it look like if we really meant it when we said we embrace learning as our fundamental purpose, or we will build a collaborative culture, or we will use evidence of results to respond to student needs and improve our practice? What commitments are we prepared to make to every student who walks into our schools this fall? What commitments are we prepared to make to one another as we attempt to create a professional learning community?" People are asked to participate in a deliberate effort to identify the specific ways they will act to improve their organizations, and then commit to one another that they will act accordingly.

The presence of articulated collective commitments will not necessarily inspire every staff member to live by those commitments on a daily basis. Discrepancies between what people say and what they do will continue to exist.

For example, while focusing on improving reading achievement, one elementary school in the district, Mountain Meadow, made a commitment that "the children *most in need* will receive the *most help* from the *most skilled staff*." In order to fulfill this commitment, collaborative teams of teachers began reviewing formative assessment results together and making timely instructional changes to meet each student's needs. They developed plans to provide students who were experiencing difficulty additional time and support within the school day, and they began reporting student progress to parents on a weekly basis. These practices represented a seismic cultural shift from the days when students most in need received help from paraprofessionals who had minimal training and little direct guidance from a classroom teacher or when parents only received formal progress reports every nine weeks.

A word of caution: Collective commitments should not be confused with developing a shared vision for a school. Vision describes an attractive future for the organization, but its focus is on the organization and the future — "someday we hope our school will be a place where … ." Collective commitments clarify how each individual can contribute to the work, and they have a much more immediate focus: "This is what I can do today to help create the school we want." We can think of the collective commitments as a series of "if-then" statements. For example:

If we are to be a school that ensures high levels of learning for all students, *then* we must commit to monitor each student's learning on a timely basis using a variety of assessment strategies and create systems to ensure they receive additional time and support as soon as they experience difficulty in their learning.

If we are to create a collaborative culture, *then* we must commit to be positive, contributing members to our collaborative teams and accept collective responsibility for the success of our colleagues and our students.

THE EXPECTATIONS-ACCEPTANCE GAP

In *The Knowing-Doing Gap,* Pfeffer and Sutton (2000) explore what they regard as one of the great mysteries of organizational management — the disconnect between what we know and what we do (p. 4). Schools and districts are certainly susceptible to the knowing-doing gap, but they also often fall victim to another damaging gap — the disconnect between what leaders contend is *expected* and what they are ultimately willing to *accept*. For example, a collaborative culture will benefit student achievement only if educators focus their collaboration on the factors that directly impact student learning. However, schools often settle for collaboration that has no impact on what happens in the classroom — who will pick up the field trip forms, how can we stop students from swearing in the hallways, who will write the parent newsletter this month. Effective leaders will avoid this tendency by clarifying the specific standards that represent high-quality work and insisting that the work meet these standards.

The presence of articulated collective commitments will not necessarily inspire every staff member to live by those commitments on a daily basis. Discrepancies between what people *say* and what they *do* will continue to exist.

Mutual accountability and peer pressure will not always prevail. In

those instances, leaders must be willing to address the problem. The presence of collective commitments, however, allows principals and central office leaders to assume a new role in relationship to staff — the role of promoter and protector of the shared vision the staff has created and the pledges people have made to one another to make that vision a reality. When leaders must address a concern with a staff member, they can refer to the commitments ("here are the promises we have made to one another, I need you to honor them") rather than the organizational chart ("I'm the boss") or the policy manual ("the district policy says you must do this"). In so doing, they operate with the full weight of the group's moral authority behind them, protectors of mutual pledges rather than keepers of the rules (DuFour, DuFour, & Eaker, in press).

SUMMARY

The increased popularity of the term "professional learning community" has not, as yet, resulted in the actual application of the concept in the majority of schools and districts throughout North America. The challenge of changing culture is the challenge of changing behavior, of persuading people to act in new ways. Engaging the faculty in a collaborative process to articulate the school's core values or collective commitments is a powerful — and often overlooked — way to shape school culture. Establishing explicit shared commitments is one of the most effective tools available to those seeking to implement professional learning communities in their schools and districts.

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NCTM Professional Standards for Teaching Mathematics Reflections

I Used to Think, But Now I Know…	I Used to Think, But Now I am Wondering…