Professional Learning Communities, Strategic Plan Goal 1, and the Common Core State Standards

Dr. Ken Goodwin, Dr. Gerri Marshall, & Susan Huffman
Norms

Cellphones

Sidebar Conversations

Parking Lot

Breaks

Respect Diverse Viewpoints

Restrooms
Agenda

9:00 – 10:30
Break

10:40 – 12:00
Lunch

1:00 – 3:00
Clock Buddies

Make an appointment

12:00 – someone with same color of hair

3:00 – someone from a different grade cluster (elementary, middle school, high school)

6:00 – someone from the same grade cluster but different school

9:00 – someone from your school
Teamwork

http://www.youtube.com/watch?v=U-iyBsaehn8
“Alone we can do so little; together we can do so much.”
- Helen Keller

“Remember, upon the conduct of each depends the fate of all.”
- Alexander the Great

“In union there is strength.”
- Aesop

“Teamwork: simply stated, it is less me and more we.”
- Unknown
Are These Professionals?

1. Airline pilots
2. Surgeons
3. Attorneys
4. Architects and engineers

Are there times they work alone?

Are there times when they work as a team within their profession?
Are These Professionals?

1. Airline pilots
2. Surgeons
3. Attorneys
4. Architects and engineers

Are there times they work alone?

Are there times when they work as a team within their profession?

We must let go of the image of the teacher as king/queen of his/her kingdom (Rick DuFour, 2012)
The Mayo Clinic

“The needs of the patient come first,” and we will meet those needs through “the practice of team medicine” and “unsurpassed collaboration” (Mayo Clinic Mission and Values)

As Berry and Seltman write (2008):

“In the Mayo Clinic, teamwork is not optional – it is mandatory” (p.51)

“Patients don’t get a doctor; they get the expertise of the entire organization” (p. 50)

“Collaboration, cooperation, and coordination are the three dynamics supporting the practice of team medicine at Mayo Clinic” (p.65)
Grand Rounds

**Grand rounds** are an important teaching tool and ritual of medical education and inpatient care, consisting of presenting the medical problems and treatment of a particular patient to an audience consisting of doctors, residents and medical students. The patient was traditionally present for the round and would answer questions; grand rounds have evolved with most sessions now rarely having a patient present and being more like lectures. An actor portrays the patient in some instances.

Grand rounds help doctors and other healthcare professionals keep up to date in important evolving areas which may be outside of their core practice. Most departments at major teaching hospitals will have their own specialized, often weekly, Grand Rounds. Attending Grand Rounds is also an important supplement to medical school and on-the-job resident training. (Grand rounds can also be distinguished from rounds which is the (typically) daily visit by the attending physician and team to all that physician's patients on the ward. Rounding with an attending physician is an important part of medical on-the-job training and education, but its primary focus is immediate care for the patients on the ward. Grand rounds tends to present the bigger picture, including experience with patients over many years, and the newest research and treatments in an area. Grand rounds tend to be open to the entire medical professional community, whereas rounds are specific to individual attending physicians and their teams).
Why Collaborate?

Group IQ

“There is such a thing as group IQ. While a group can be no smarter than the sum total of the knowledge and skills of its members, it can be much ‘dumber’ if its internal workings don’t allow people to share their talents.”

- Sternberg (1988)
Why Collaborate?

• Gains in student achievement
• Higher quality solutions to problems
• Increased confidence among all staff
• More peer support of strengths and accommodation of weaknesses
• Ability to test new ideas
• More support for new teachers
• Expanded pool of ideas, materials, and methods

- Little (1990)
School Improvement

“When you talk about school improvement, you are talking about people improvement.” (Sparks, 1984)

“The worlds best school systems focus their school improvement initiatives on creating conditions to improve the professional practice of educators.” (Barber & Mourshed, 2007)
School Improvement

The worlds highest-performing countries in mathematics or sustained educational improvers – Singapore, South Korea, Chinese Taipei, and Japan – allow significant time for mathematics teachers to collaborate and learn from one another (Stigler & Hiebert, 1999; Barber & Mourshed, 2007)

“The best environment for great teaching and leading is a powerful PLC.” (DuFour & Marzano, 2011)
“School systems around the world that move from great to excellent facilitate school-based learning communities to create peer-led support and accountability to each other.”

School Example

<table>
<thead>
<tr>
<th>English Proficiency</th>
<th>2009-10</th>
<th></th>
<th>2010-11</th>
<th></th>
<th>2011-12</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>English Proficient</td>
<td>93</td>
<td>34.57%</td>
<td>131</td>
<td>42.39%</td>
<td>151</td>
<td>44.16%</td>
</tr>
<tr>
<td>Limited English Proficient</td>
<td>176</td>
<td>65.43%</td>
<td>178</td>
<td>57.61%</td>
<td>191</td>
<td>55.85%</td>
</tr>
</tbody>
</table>

**Student Membership Demographics by English Proficiency**

<table>
<thead>
<tr>
<th>English Proficiency</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
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</thead>
<tbody>
<tr>
<td>English Proficient</td>
<td>131</td>
<td>151</td>
<td>191</td>
</tr>
<tr>
<td>Limited English Proficient</td>
<td>178</td>
<td>191</td>
<td></td>
</tr>
</tbody>
</table>
School Example

<table>
<thead>
<tr>
<th></th>
<th>2009-10</th>
<th></th>
<th>2010-11</th>
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<th>2011-12</th>
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<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Free Or Reduced Fees</td>
<td>216</td>
<td>80.30</td>
<td>245</td>
<td>82.26</td>
<td>264</td>
<td>77.19</td>
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<tr>
<td>No Fee Waiver</td>
<td>53</td>
<td>19.70</td>
<td>61</td>
<td>17.74</td>
<td>78</td>
<td>22.81</td>
</tr>
</tbody>
</table>

Free/Reduced - Priced Meals Graph

Student Membership Demographics by Free/Reduced - Priced Meals
School Example

Percentage of Students in Each Proficiency Level for Grade 4 - Reading (2002 Standards) Graph

- Pass Advanced: 34.3% (2009-10), 34.2% (2010-11), 34.5% (2011-12)
- Pass Proficient: 60.0% (2009-10), 60.0% (2010-11), 60.7% (2011-12)
- Fail Basic: 4.0% (2009-10), 5.3% (2010-11), 10.8% (2011-12)
- Fail Below Basic: 1.3% (2009-10), 1.1% (2010-11), 1.1% (2011-12)
Mission

At Mount Eagle Elementary School, we believe that all kids can learn. We have high standards of learning that all students are expected to achieve. Our mission is accomplished in a safe, inclusive environment in which learning is paramount and cultural diversity is valued. Students, staff, and community support enable students to master challenging academic materials. Our shared educational purpose including common knowledge, common language, and common expectations are the keys to our academic success.

Mount Eagle Guiding Questions

Here at Mount Eagle each teacher asks the following five guiding questions as they collaboratively plan all instruction:

1. What is it we want all students to learn?
2. How will we know when they know it?
3. What will we do when they don't learn?
4. What will we do when they already know it?
5. How do we engage in relevant pedagogy and professional development to ensure that we are collectively answering these questions?
FCPS District-Wide (Rdg)

Percent of Grade 2 Students Scoring At or Above Grade Level on the Developmental Reading Assessment 2nd edition (DRA2)

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</thead>
<tbody>
<tr>
<td>All Students</td>
<td>75</td>
<td>74</td>
<td>74</td>
<td>77</td>
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</tr>
<tr>
<td>Black</td>
<td>64</td>
<td>60</td>
<td>63</td>
<td>68</td>
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<tr>
<td>Hispanic</td>
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<tr>
<td>White</td>
<td>85</td>
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<tr>
<td>Asian</td>
<td>79</td>
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<tr>
<td>Students with Disabilities</td>
<td>44</td>
<td>38</td>
<td>40</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Economically Disadvantaged</td>
<td>51</td>
<td>48</td>
<td>51</td>
<td>54</td>
<td>57</td>
</tr>
<tr>
<td>Limited English Proficient</td>
<td>55</td>
<td>54</td>
<td>53</td>
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<td>63</td>
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</table>
FCPS District-Wide (Rdg)

Percent of Grade 8 Students Scoring Pass Proficient & Pass Advanced On the SOL Reading Test

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<tbody>
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<tr>
<td>White</td>
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<tr>
<td>Limited English Proficient</td>
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<td>88</td>
<td>89</td>
<td>87</td>
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FCPS District-Wide (Rdg)
FCPS District-Wide (Math)

Percent of Grade 3 Students Scoring Pass Proficient & Pass Advanced

<table>
<thead>
<tr>
<th>Year</th>
<th>All Students</th>
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<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
<th>Students with Disabilities</th>
<th>Economically Disadvantaged</th>
<th>Limited English Proficient</th>
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<tr>
<td>2007-2008</td>
<td>89</td>
<td>73</td>
<td>75</td>
<td>95</td>
<td>93</td>
<td>73</td>
<td>73</td>
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<tr>
<td>2008-2009</td>
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<td>78</td>
<td>80</td>
<td>95</td>
<td>93</td>
<td>80</td>
<td>78</td>
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<tr>
<td>2009-2010</td>
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<td>82</td>
<td>83</td>
<td>96</td>
<td>96</td>
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<tr>
<td>2010-2011</td>
<td>91</td>
<td>78</td>
<td>82</td>
<td>95</td>
<td>95</td>
<td>77</td>
<td>77</td>
<td>84</td>
</tr>
<tr>
<td>2011-2012</td>
<td>92</td>
<td>78</td>
<td>84</td>
<td>96</td>
<td>96</td>
<td>76</td>
<td>79</td>
<td>85</td>
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</table>
Percent of Students Taking the Grade 6 Mathematics SOL Test Pass Proficient or Pass Advanced (includes students in grades 4 through 6)

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<td>Asian</td>
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<td>92</td>
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<tr>
<td>Students with Disabilities</td>
<td>56</td>
<td>76</td>
<td>75</td>
<td>75</td>
<td>61</td>
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<tr>
<td>Economically Disadvantaged</td>
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<td>73</td>
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<tr>
<td>Limited English Proficient</td>
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<td>73</td>
<td>75</td>
<td>77</td>
<td>73</td>
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FCPS District-Wide (Math)

Percent of Grade 12 Students Passing Course above Algebra 2 by End of Grade 12

<table>
<thead>
<tr>
<th>Year</th>
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<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
<th>Students with Disabilities</th>
<th>Economically Disadvantaged</th>
<th>Limited English Proficient</th>
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</thead>
<tbody>
<tr>
<td>2007-2008</td>
<td>70</td>
<td>42</td>
<td>39</td>
<td>77</td>
<td>80</td>
<td>26</td>
<td>38</td>
<td>41</td>
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<tr>
<td>2008-2009</td>
<td>69</td>
<td>42</td>
<td>40</td>
<td>76</td>
<td>80</td>
<td>26</td>
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<td>2009-2010</td>
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<tr>
<td>2010-2011</td>
<td>71</td>
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<td>82</td>
<td>25</td>
<td>44</td>
<td>39</td>
</tr>
<tr>
<td>2011-2012</td>
<td>72</td>
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<td>47</td>
<td>81</td>
<td>83</td>
<td>27</td>
<td>48</td>
<td>36</td>
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</tbody>
</table>
How Do Principals Really Improve Schools?

Each person read the article and consider the following questions.

1. What has been the faulty logic for improving schools?

2. Are there any parallels in the article to DPAS II regarding observations? If so, explain.

3. What is the Case for the PLC Process?

4. What is the most vital support a principals can give collaborative teams? How else could principals support collaborative teams?

5. What is the difference between an “instructional leader” and a “learning leader”? 
How Do Principals Really Improve Schools?

Each person read the article and consider the following questions.

1. What has been the faulty logic for improving schools? (12:00 Clock Buddy)

2. Are there any parallels in the article to DPAS II regarding observations? If so, explain. (3:00 Clock Buddy)

3. What is the Case for the PLC Process? (6:00 Clock Buddy)

4. What is the most vital support a principals can give collaborative teams? How else could principals support collaborative teams? (9:00 Clock Buddy)

5. What is the difference between an “instructional leader” and a “learning leader”? (With your team)
Turn & Talk

What were a couple of key elements they discussed in the video?
PLC Overview

Common Core
“The best way you can support and motivate teachers is to create the conditions where they can be effective day after day, together.”

Professional Learning Communities

“The PLC process is specifically intended to create the conditions that help educators become more skillful in teaching because great teaching and high levels of learning go hand in hand.” (DuFours & Marzano, 2011)
Professional Learning Communities

The most frequently mentioned essential elements of 21st century professional development include professional learning communities (PLCs) and collaborative work among educators. PLCs provide teachers with opportunities for collaboration, which is a facet of professional development that has been highlighted by many different approaches to teacher learning.

In fact, research demonstrates that the development of a strong professional community among educators is a key ingredient in improving schools, as PLCs empower the faculty and administration to work collectively to provide quality instruction and improve student learning. Examined research and case studies suggest that well-developed PLCs have positive impacts on both teaching practice and student achievement.

Effective PLCs share six core principles: shared values and goals; collective responsibility; authentic assessment; self-directed reflection; stable settings; and strong leadership support. The focus of a PLC should be developing teachers’ ‘Knowledge of Practice’ around the issue of student learning.

(Hanover Research, 2012)
Why Professional Learning Communities?

PLC process is one of the avenues that allows schools to develop the capacity of each teacher and helps ensure every Red Clay student is taught by a highly effective educator.
Focus on Learning

Focus on Collaboration

Focus on Results

PLC Focus
Learning as Our Fundamental Purpose
We, in the Red Clay Consolidated School District, acknowledge that the fundamental purpose of our schools is to help all students achieve high levels of learning, and therefore, we are willing to examine our practices in light of their impact on learning. We will develop and employ highly effective Professional Learning Communities to ensure the highest quality of instruction is afforded to every student. In addition, students will receive timely, research-based instructional strategies. Instruction will be monitored and adjusted, as needed, using a regular cycle of data analysis by each PLC team.

Building a Collaborative Culture Through High Performing Teams
We are committed to working together to achieve our collective purpose of learning for all students. We will cultivate a collaborative culture through the development of high performing teams.

Focus on Results
We assess our effectiveness on the basis of results rather than intentions. Individuals, teams, and schools seek relevant data and information and use that information to promote continuous improvement.

Adapted from Fairfax County Public Schools
Four Essential (Corollary) Questions for PLCs (+ 1):

1. **What is it we want student to know?** What knowledge, skills, and dispositions must all student acquire as a result of this grade level, this course, and this unit we are about to teach? What systems have we put in place to ensure we are providing every student with access to a guaranteed and viable curriculum regardless of the teacher to whom that student might be assigned?

2. **How will we know if our students are learning?** How can we check for understanding on an ongoing basis in our individual classrooms? How will we gather evidence of each student’s proficiency as a team? What criteria will we establish to assess the quality of student work? How can we be certain we can apply the criteria consistently?

3. **How will we respond when students do not learn?** What steps can we put in place to provide students who struggle with additional time and support for learning in a way that is timely, directive, and systematic rather than invitational and random? How can we provide students with multiple opportunities to demonstrate learning?

4. **How will we enrich and extend the learning for students who are proficient?** How can we differentiate instruction among us so that the needs of all students are being met without relying on rigid tracking?

5. **How will we engage in relevant pedagogy and professional development to ensure that we are collectively answering these questions?** Job-embedded PD, research-based strategies, develop shared knowledge before making decisions, make decisions based on research and evidence not opinion.
Additional Questions to Consider with CCSS:

Based on our assessment data, what central ideas from the CCSS are students struggling to learn well? What will evidence of student learning look like for this standard? What student work will we collect and what performance task will we use to measure progress?

How will we teach this well so that all students learn? What instructional shifts will this require? What do we have to learn or study before we are prepared to teach? What obstacles do we expect in student thinking? How will we advance students forward on the learning pathway?

What does the evidence from performance tasks suggest about student strengths and continuing needs? How did our instructional plan contribute to this and what teaching needs to be revised to address continuing needs?
Focus on Collaboration

1. Educators are organized into meaningful collaborative teams in which members work interdependently to achieve common goals for which they are mutually accountable.

2. Regular time for collaboration is embedded into the routine practices of the school.

3. Educators are clear on the purpose and priorities of their collaboration. They stay focused on the right work.

4. School and district leaders demonstrate “reciprocal accountability” (Elmore, 2003, p.93). They provide teachers and principals with the resources, training, and ongoing support to help them succeed in implementing the PLC process.


TEAM TALK:

Read the above characteristics, determine strengths and weaknesses in your school using the characteristics.
Focus on Results

Create a results orientation to know if students are learning and to respond appropriately to their needs.

1. Every member works collaboratively with others to achieve SMART goals.

2. Every member works collaboratively with others to gather and analyze evidence of student learning on a regular basis to inform and improve his or her professional practice as well as the collective practice of the collaborative team.

3. Evidence of student learning is used on a regular basis to identify the specific needs of individual students. The school creates processes to use assessment results to respond to students by name and by need.

4. Educators throughout the school assess the effectiveness of every policy, program, procedure, and practice on the basis of its impact on student learning.


TEAM TALK:
Read the above characteristics, determine strengths and weaknesses in your school using the characteristics.
The PLC Structure

A cohesive school organized into Interdependent Collaborative Teams united by PLC foundation

<table>
<thead>
<tr>
<th>Grade Level Team</th>
<th>Content Area</th>
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<tbody>
<tr>
<td>Grade Level Team</td>
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<td>Grade Level Team</td>
<td>Content Area</td>
</tr>
</tbody>
</table>

**Shared Purpose:** Ensuring high-levels of learning for all students

**Shared Mission:** Creating the structures and culture to ensure all kids learn

**Collective Commitments:** Clarifying how each individual will contribute to achieving the vision

**Shared Goals:** Identifying indicators to monitor the progress

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One Important Step in the PLC Process
A Cardinal Rule: Professional learning communities always attempt to answer critical questions by first BUILDING SHARED KNOWLEDGE – engaging in collective inquiry – LEARNING together.

If people make decisions based on collective study of the same pool of information, they increase the likelihood that they will arrive at the same conclusion.

(DuFour & DuFour, 2012, personal communication)
Consensus

You have arrived at consensus when all points of view have been heard, and the will of the group is evident – even to those who oppose it. It is not majority rules nor is it compromise. It is based on the will of the group.
Consensus

In Attempting to Build Consensus

Did we build shared knowledge regarding best practice?
Did we honestly assess our current reality?
Did we ensure all points of view were heard?
Was the will of the group evident even to those who opposed it?

IF THE ANSWER TO EACH OF THESE QUESTIONS IS “YES”, GO FOR IT!

Common Mistakes in Building Consensus

We try to go it alone, rather than building a guiding coalition
We use a forum that is ill-suited to the dialogue that is typically necessary for consensus
We use a process that allows cynics and skeptics to dominate
We pool opinions rather than build shared knowledge
We feel we need consensus on each, specific detail of implementation
We set an unrealistic standard for consensus and invest too much energy in resisters
Consensus

Fist to Five

5 – I’ll champion
4 – Strongly Agree
3 – Agree
2 – Reservations
1 – Oppose
Fist – Veto

If someone’s vote is below a 3, give them an opportunity to speak and share their thoughts (not mandatory). Vote again. If you don’t have consensus, continue to build shared knowledge. Note: Not all team members have to be 3 or above to have consensus; however, the team members below 3 will need to follow the direction of the team.
Seven Keys to Effective Teams

1. Embed collaboration in routine practices of the school with a **FOCUS ON LEARNING**.

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 norms to guide collaboration.

Discuss 6 & 7 later in presentation.
Significance of Team Norms

When all is said and done, the norms of a group help determine whether it functions as a high-performing team or becomes simply a loose collection of people working together.


Explicit team norms help to increase the emotional intelligence of the group by cultivating trust, a sense of group identity, and belief in group efficacy.

(Druskat & Wolf, 2001)

Inattention to establishing specific team norms is one of the major reasons teams fail.

(Blanchard, 2007)
The Importance of Norms

One thing is clear: Having clear norms gives teams a huge advantage. A key to effective teams is involving all members in establishing norms and then holding everyone accountable to what they have agreed upon.

(Lencioni, *Overcoming the Five Dysfunctions of a Team*, 2005)
Guiding Questions for Team Norms

Are we clear on the commitments we have made to each other regarding how we will work together as a team?

Have we stated our commitments as explicit behaviors?

Have we discussed how to address the issue if we feel someone is not honoring our norms?
Criteria for Team Norms

The norms have clarified our expectations of one another.

All members of the team participated in creating the norms. All voices are heard.

The norms are stated as commitments to act in certain ways.

All members have committed to honoring the norms.
Tips for Team Norms

Each team establishes its own norms.

Norms are stated as commitments to act or behave in certain ways.

Norms are reviewed at the beginning and end of each meeting, until they are internalized.

One norm requires a team to assess its effectiveness every six months. This assessment should include a review of adherence to norms and the need to identify new norms.

Less is more. A few key norms are better than a laundry list.

Establish a process for addressing violations or norms.

TEAM TALK:
How do your teams currently address norm violations?
Group Norms (example)

In order to make our team meetings positive and productive experiences for all members, we make the following collective commitments to each other:

Begin and end our meetings on time and stay fully engaged during each meeting.

Maintain a positive attitude at team meetings – no complaining unless we offer a better alternative.

Listen respectfully to each other.

Contribute equally to the workload.

Make decisions on the basis of consensus.

Encourage one another to honor our commitments and candidly discuss our concerns when we feel a member is not living up to those commitments.

Fully support each other’s efforts to improve student learning.
Group Roles

Discussion Leader. The discussion leader works to keep the group on track. He or she is charged with ensuring full participation from all team members, and helps to moderate individuals who may try to dominate the group discussion. Typical comments from the discussion leader may include the following:

"Let's focus on the problem."
"Should we move on the next question?"
"John, what do you think about this issue?"

Recorder/Record Keeper. The recorder keeps track of unresolved issues, records group strategies, maintains archives of all work sheets and electronic files, and convenes the group outside of class as necessary. You'll frequently hear the recorder say things like this:

"Did we get all of the learning issues down?"
"Is this the diagram we want to use?"
"I have a copy of our files. I also posted them to our File Exchange section in Blackboard. That way, everyone in the group will have access to the files we created today."
Group Roles

**Reporter.** The reporter assembles the draft of the group's solution for the project, solicits feedback from all group members, incorporates agreed-upon changes, and submits the project. The reporter is often heard uttering these phrases:

"Is everyone in agreement with this document?"

"Everyone needs to review this draft and get back to me with comments before Wednesday."

**Accuracy Coach.** The accuracy coach probes for group understanding and makes sure that all team members are familiar with all aspects of the project. He or she locates valid, legitimate resources, and brings them to class if necessary. The accuracy coach may also review the entire project for accuracy and completeness, although all team members typically have some responsibility for that activity. You'll probably hear the accuracy coach say things like this:

"Where did you find that information?"

"Are we all clear about the underlying logic behind this formula?"

"Does the text have information we might be able to use as we prepare our response to this problem?"

"Is this calculation correct?"

"Did we investigate all of the learning issues on our list?"
Group Roles

**Timekeeper.** The *timekeeper* makes sure the group stays on schedule – for the current group meeting and for the project as a whole. You'll hear the timekeeper say things like this:

"We only have ten minutes left in this class period. Are we ready to write our meeting summary for today?"

"The project is due in four days. We should have our final draft ready by noon tomorrow. That way, everyone can review it and we'll have time to incorporate changes before we turn it in."

**Skeptic.** The *skeptic* challenges group consensus, and poses alternative solutions or different ways to think about the problem. The skeptic may make these kinds of comments:

"I'm not sure we're on the right track."
"Should we consider other ideas?"
"Are we sure this is the only way to look at this issue?"
"What if the underlying conditions change? Will our solution still work, or should we look at ways to make our solution more flexible?"
**Group Roles**

**Reflector/Summarizer**. Reflection is a very important part of the PBL process. When you take the time to reflect on what you've done, you tend to come up with ways to improve how your group operates from class to class and from project to project. When group operations improve, the quality of the final project submissions tends to improve as well. The reflector/summarizer spearheads the reflection process. He or she summarizes the progress of the group at various stages of the project. This helps ensure that all team members are on the "same page," and provides a vehicle through which team members can make recommendations for improvements. The reflector/summarizer also works with the accuracy coach to check for group understanding. The reflector/summarizer tends to make comments like this:

"Here's where I think we are right now. Joe, what do you think?"

"Maria, you mentioned that we need to come up with a better review process for our final draft than the process we followed on the last project. We should discuss this as a team before we get too far along in this next project."

"Wow – I can't believe this class period is almost over! Let's talk about what we accomplished today."

"We're at the mid-point of our project. Here's what we've finished so far. Sue, does this agree with your records of our progress to date?"

---

What do we want students to know?

How will we know when they learned it?

How will we respond when the students have not learned it?

How will we respond when students have already learned it?

Essential/Corollary Questions
First Essential (Corollary) Question for PLCs:

1. What is it we want students to know? What knowledge, skills, and dispositions must all student acquire as a result of this grade level, this course, and this unit we are about to teach? What systems have we put in place to ensure we are providing every student with access to a guaranteed and viable curriculum regardless of the teacher to whom that student might be assigned?

   a. Identify essential standards in CCSS which teams will work collaboratively to implement

   b. Identify the nature and breadth of essential standards

   c. Articulate levels of knowledge and learning progressions for essential standards

   d. Develop learning objectives based on essential standards
Criteria for Identifying Essential Common Outcomes

To separate the essential from the peripheral, apply these three criteria to each standard:

1. **Endurance** – Are students expected to retain the skills or knowledge long after the test is completed?

2. **Leverage** – Is the skill or knowledge applicable to many academic disciplines?

3. **Readiness for the next level of learning**: Is this skill or knowledge preparing the student for success in the next grade or course?

UbD: Establishing Priorities

Knowledge that is worth being familiar with

Knowledge and skills that are important to know and do

Understandings that are enduring

Worth being familiar with

Important to know and do

“Enduring” understanding
Advantages of Team Discussion of Essential Learning

Greater *clarity* regarding the *interpretation* of standards

Greater *consistency* regarding the *importance* of different standards

Greater *consistency* in the amount of *time devoted* to different standards (common pacing)

Common outcomes and common pacing are *essential prerequisites* for a team to create *common assessments* and team interventions.

Greater *ownership* of and *commitment* to standards
Essential Outcomes
Essential Outcomes
Guaranteed and Viable Curriculum

“A guaranteed and viable curriculum is strongly related to student achievement at the school level”

Guaranteed and Viable Curriculum

- Intended Curriculum
- Implemented Curriculum
- Attained Curriculum

- Discrepancy between the intended curriculum and the implemented curriculum is where Opportunity to Learn (OTL) makes a prominent factor in student achievement.

Guaranteed and Viable Curriculum

“The only way the curriculum in a school can truly be guaranteed is if the teachers themselves, those who are called upon to deliver the curriculum, have worked collaboratively to do the following:

• Study the intended curriculum
• Agree on priorities within the curriculum
• Clarify how the curriculum translates into student knowledge and skills
• Establish general pacing guidelines for delivering the curriculum
• Commit to one another that they will, in fact, teach the agreed-upon curriculum

“One of the main differences between effective and ineffective teachers is that effective teachers know ‘the learning intentions and success criteria of their lessons’ (Hattie, 2009), and thus are in a position to continuously monitor the progress of their students toward those intended outcomes”

Focus on Learning
Fifth Grade Curriculum Map

Unit Five: “Investigating Fractions”
14 days: November – December

Common Core State Standards
CC.5.NF.2 – Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result 2/5 + 1/2 = 3/7 by observing that 3/7 < 1/2.

Delaware Prioritized Standards
• DE.K.12.5 Standard 5 - Problem Solving: Students will develop their Problem Solving ability by engaging in developmentally appropriate problem-solving opportunities in which there is a need to use various approaches to investigate and understand mathematical concepts; to formulate their own problems; to find solutions to problems from everyday situations; to develop and apply strategies to solve a wide variety of problems; and to integrate mathematical reasoning, communication and connections.
• DE.5.1.18 Operations: Add and subtract benchmark fractions and fractions with common denominators using physical models.
• DE.6.1.10 Operations: Add and subtract fractions with unlike denominators and use physical models to justify your answer.

Additional Delaware Prioritized Curriculum (GLEs)
• Apply more than one operation to solve word problem. E
• Develop understanding of fractions as parts of unit whole, as part of a collection, as locations on number lines, and as division of whole numbers. E
• Generate and connect equivalent forms of benchmark fractions, decimals and percent. E
• Measure and compare objects using standard measures to the nearest 1/8, 1/10, or 1/16 unit. E
• Model problem situations with objects and use representations such as graphs, tables or equations to draw conclusions. E
• Measure and compare objects using standard measures to the nearest 1/10. E
• Find the number of square units it takes to cover a geometric figure (area). E

Mathematical Practices:
1. Make sense of problems and persevere in solving them.
2. Model with mathematics.

Enduring Understandings:
1. Fractions represent parts of a whole.
2. Ratios use division to represent relationships between two quantities.

Essential Questions
1. How can fractional parts of a whole be represented or modeled?
2. How are comparisons used in proportional reasoning?

Students will know and be able to:
1. Represent fractions using pattern blocks and rectangles.
2. Find equivalent fractions.
3. Compare and order fractions.
4. Collect, organize, graph, and analyze data.
5. Draw and interpret best-fit lines.
6. Use ratios to solve problems.
7. Measure length in yards and feet.
8. Add and subtract fractions using manipulatives, pictures, or symbols.
9. Develop fluency with multiplication and division facts.

Desired Result(s) Assessed:
1. DPPs; L, R, T, U, V
2. Lesson 1, Homework Questions 5-6, SG
3. Lesson 3, Homework Questions 1 – 3, SG
4. Lesson 5, Homework Questions 7 – 8, SG
5. Lesson 6, Explore Questions 17-21, SG
6. “Home Practice” Part 7, DAB
7. “Fraction Follow-Up” blackline master, URG

Highlight = Change in grade level

Page 15 of 29
# Learning Progression (KUD) Organizer

These Mathematics Learning Progressions Organizers are not replacement for teachers’ individual unit KUDs. Rather, they are an unpacking and clarification of the concepts inherent in the Common Core State Standards. These are a resource from which teachers should select appropriate Knowledge, Understandings, and Do to develop their own unit KUDs to guide planning for instruction.

Course: Grade 6 Math  
Topic: Algebraic Reasoning – Quantitative Relationships

Which standards are in this learning progression?

| 6.EE.9 |

Connections to other Domains and/or Clusters:

| 6.RP.3a-b, 6.EE.3 - 8 |

By the end of this learning progression, students will be able to...

<table>
<thead>
<tr>
<th>UNDERSTAND:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative relationships between dependent and independent variables can be represented in multiple ways including algebraic (equation), graphical, verbal (scenario), and tabular.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KNOW:</th>
<th>DO:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantities that change in relationship to one another can be represented using variables.</td>
<td>Represent and analyze quantitative relationships between dependent and independent variables.</td>
</tr>
<tr>
<td>There is a relationship between independent and dependent variables.</td>
<td>9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time. CC.6.EE.9</td>
</tr>
<tr>
<td>Different representations of the relationship provide varied opportunities to analyze changes in quantities (e.g., as in linear relationships).</td>
<td>Use graphs to analyze the nature of changes in quantities in linear relationships.</td>
</tr>
<tr>
<td>Various representations of quantitative relationships including: scenario (context), table, graph, and equation.</td>
<td>This connects to:</td>
</tr>
</tbody>
</table>

- 6.RP.3a-b in which students utilize rates to solve problems.  
- 6.EE.5-8 in which students are writing and solving equations and inequalities for contextual and mathematical situations.

Mathematically proficient students acquire precision in the use of mathematical language by engaging in discussion with others and by giving voice to their own reasoning. By the time they reach high school they have learned to examine claims, formulate definitions, and make explicit use of those definitions. The terms students should learn to use with increasing precision in this unit are: Equation, variable, quantity, independent variable, dependent variable, table, graph, equation, axes, x-axis, y-axis, scale, coordinate pairs, relationship

Standards for Mathematical Practice:  
1. Make sense of problems & persevere in solving them.  
2. Reason abstractly & quantitatively.  
3. Construct viable arguments and critique the reasoning of others.  
4. Model with mathematics  
5. Use appropriate tools strategically.  
6. Attend to precision.  
7. Look for and make use of structure.  
8. Look for and express regularity in repeated reasoning.
Number and Quantity: The Number System (NS)

Know that there are numbers that are not rational, and approximate them by rational numbers.

8.NS.1 – Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

Resources: Students can use graphic organizers to show the relationship between the subsets of the real number system.

Example:

**Real Numbers**

All real numbers are either rational or irrational.

<table>
<thead>
<tr>
<th>Rational</th>
<th>Irrational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integers</td>
<td></td>
</tr>
<tr>
<td>Whole</td>
<td></td>
</tr>
<tr>
<td>Natural</td>
<td></td>
</tr>
</tbody>
</table>

- Any number that can be expressed as a fraction is a rational number. A rational number is of the form \( \frac{a}{b} \), where \( a \) and \( b \) are both integers and \( b \) is not 0. Students recognize that the decimal equivalent of a fraction will either terminate or repeat.

Change 0.\( \overline{3} \) to a fraction.

- Let \( x = 0.444444... \).
- Multiply both sides so that the repeating digits will be in front of the decimal. In this example, one digit repeats so both sides are multiplied by 10, giving 10\( x = 4.444444... \). Subtract the original equation from the new equation.
  \[
  10x = 4.444444...
  \]
  \[
  x = 0.444444...
  \]
  \[
  x = \frac{4}{9}
  \]

Students can investigate repeating patterns that occur with denominators 9, 99, or 11.

\( \frac{4}{9} \) is equivalent to 0.\( \overline{4} \), \( \frac{5}{9} \) is equivalent to 0.\( \overline{5} \), etc.
**6.NS.1** – Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for \(\frac{2}{3} \div \frac{3}{4}\) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that \(\frac{2}{3} \div \frac{3}{4} = \frac{8}{9}\) because \(\frac{3}{4}\) of \(\frac{8}{9}\) is \(\frac{2}{3}\). (In general, \(\frac{a}{b} \div \frac{c}{d} = \frac{ad}{bc}\).) How much chocolate will each person get if 3 people share \(\frac{1}{2}\) lb of chocolate equally? How many \(\frac{3}{4}\)-cup servings are in \(\frac{2}{3}\) of a cup of yogurt? How wide is a rectangular strip of land with length \(\frac{3}{4}\) mi and area \(\frac{1}{2}\) square mi?

### DCAS-Like

<table>
<thead>
<tr>
<th>9A</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>(\frac{2}{7} + \frac{3}{4}) =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. (\frac{2}{7})</td>
<td>B. (\frac{17}{7})</td>
<td>C. (\frac{6}{11})</td>
</tr>
</tbody>
</table>

### Next-Generation

Alice, Raul, and Maria are baking cookies together. They need \(\frac{3}{4}\) cup of flour and \(\frac{1}{3}\) cup of butter to make a dozen cookies. They each brought the ingredients they had at home.

Alice brought 2 cups of flour and \(\frac{1}{4}\) cup of butter, Raul brought 1 cup of flour and \(\frac{1}{2}\) cup of butter, and Maria brought \(1\frac{1}{4}\) cups of flour and \(\frac{3}{4}\) cup of butter. If the students have plenty of the other ingredients they need (sugar, salt, baking soda, etc.), how many whole batches of a dozen cookies each can they make?
## Cognitive Rigor Matrix


<table>
<thead>
<tr>
<th>Revised Bloom’s Taxonomy</th>
<th>Webb’s DOK Level 1 Recall &amp; Reproduction</th>
<th>Webb’s DOK Level 2 Skills &amp; Concepts</th>
<th>Webb’s DOK Level 3 Strategic Thinking/Reasoning</th>
<th>Webb’s DOK Level 4 Extended Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Remember</strong></td>
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</tr>
<tr>
<td>Retrieve knowledge from long-term memory, recognize, recall, locate, identify</td>
<td>Recall, recognize, or locate basic facts, details, events, or ideas explicit in texts</td>
<td>Specify, explain, show relationships, explain why, cause-effect</td>
<td>Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference)</td>
<td>Explain how concepts or ideas specifically relate to other content domains or concepts</td>
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<tr>
<td><strong>Understand</strong></td>
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</tr>
<tr>
<td>Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion; predict, compare/contrast, match like ideas, explain, construct models</td>
<td>Identify or describe literary elements (characters, setting, sequence, etc.)</td>
<td>Identify main ideas or accurate generalizations of texts</td>
<td>Make inferences about explicit or implicit themes</td>
<td>Derive generalizations of the results obtained or strategies used and apply them to new problems</td>
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<tr>
<td><strong>Apply</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Carry out or use a procedure in a given situation; carry out (a familiar task), or use (apply to an unfamiliar task)</td>
<td>Use language structure (prefixes/suffixes) or word relationships (synonyms/antonyms) to determine meaning of words</td>
<td>Use context to identify the meaning of words/phrases</td>
<td>Apply a concept in a new context</td>
<td>Illustrate how multiple themes (historical, geographic, social) may be interrelated</td>
</tr>
<tr>
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<tr>
<td><strong>Analyze</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Break into constituent parts, determine how parts relate, differentiate between relevant/irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias or point of view)</td>
<td>Identify whether specific information is contained in graphic representations (e.g., map, chart, table, graph, T-chart, diagram) or text features (e.g., headings, subheadings, captions)</td>
<td>Categorize/compare literary elements, terms, facts, details, events</td>
<td>Analyze information within data sets or texts</td>
<td>Analyze multiple sources of evidence, or multiple works by the same author, or across genres, time periods, themes</td>
</tr>
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<tr>
<td><strong>Evaluate</strong></td>
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<td></td>
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</tr>
<tr>
<td>Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique</td>
<td>Categorize whether specific information is contained in graphic representations (e.g., map, chart, table, graph, T-chart, diagram) or text features (e.g., headings, subheadings, captions)</td>
<td>Decide which text structure is appropriate to audience and purpose</td>
<td>Cite evidence and develop a logical argument for conjectures</td>
<td>Evaluate relevancy, accuracy, &amp; completeness of information from multiple sources</td>
</tr>
<tr>
<td><strong>Create</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce</td>
<td>Brainstorm ideas, concepts, problems, or perspectives related to a topic or concept</td>
<td>Generate conjectures or hypotheses based on observations or prior knowledge and experience</td>
<td>Synthesize information from multiple sources or texts</td>
<td>Articulate a new voice, alterate theme, new knowledge or perspective</td>
</tr>
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For full article, go to [www.ncet.org](http://www.ncet.org)
Depth of Knowledge

Level One Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.
Perform basic mathematical calculations.
Label locations on a map.
Represent in words or diagrams a scientific concept or relationship.
Describe the features of a place or people.

Level Two Activities
Identify and summarize the major events in a narrative.
Use context cues to identify the meaning of unfamiliar words.
Solve routine multiple-step problems.
Describe the cause/effect of a particular event.
Identify patterns in events or behavior.
Formulate a routine problem given data and conditions.
Organize, represent and interpret data.

Level Three Activities
Support ideas with details and examples.
Use voice appropriate to the purpose and audience.
Identify research questions and design investigations for a scientific problem.
Develop a scientific model for a complex situation.
Determine the author’s purpose and describe how it affects the interpretation of a reading selection.
Apply a concept in other contexts.

Level Four Activities
Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/solutions.
Apply mathematical model to illuminate a problem or situation.
Analyze and synthesize information from multiple sources.
Describe and illustrate how common themes are found across texts from different cultures.
Design a mathematical model to inform and solve a practical or abstract situation.

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**Unpack the Standard**

**Prerequisite Knowledge**
Review prior standards

**Understanding**
As a result of this unit of instruction, students will understand

**Knowledge**
For standard ______, students will know

**Skills**
For standard ______, students will be able to do
Standards-Based Year Plan (10th Grade)

**Standards**
- Social Science
  - World History (Blue)
  - Common Core State Standards
    - ELA - (Green)
    - ELA - Literacy in Social Science (Yellow)

**Units**
- Development of Western Thought
- The World at Revolution
- Industrial Revolution
- Era of New Imperialism
- World War I
- World War II
- Cold War

**Resources**
- District-Adopted Textbook

**Assessment**
- Essay
- Research Project
- Historical Novel
- Internet Research
- Historical House

**Timeline**
- September
- October
- November
- December
- January
- February
- March
- April
- June

**Sciences (Partial)**
How to Plan a Rigorous Unit

http://www.youtube.com/watch?v=MTAjM9Gtrlk
Seven Keys to Effective Teams

1. Embed collaboration in routine practices of the school with a **FOCUS ON LEARNING**.
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 norms to guide collaboration.
6. **Pursue specific and measurable team performance goals**.
7. Provide teams with frequent access to relevant information.
SMART Goals

S - Strategic and specific
M - Measurable
A - Attainable
R - Results oriented (student results)
T - Time bound

(Conzemius & O’Neill, 2005)
Are These SMART Team Goals?

Turn and Talk

Strategically aligned with the schoolwide goal of improving student achievement, by the end of this school year we will:

1. Develop and administer at least six common assessments.

2. Implement the Common Core State Standards in 100% of our classrooms.

3. Increase the percentage of students achieving and exceeding the target score (80% or higher) on each strand of our end-of-the-year assessment, from 81% last year to at least 90% this year.
SMART Goals

The Importance of Short-Term Smart Goals

People can become so caught up in big dreams that they don’t manage the current reality. Short-term gains are needed to establish credibility for a change initiative over the long haul. Major change takes time. Zealots will stay the course no matter what. Most of us want to see some convincing evidence that all the effort is paying off. Nonbelievers have even higher standards of proof. We want clear data indicating changes are working.

(Kotter, 1996, pp. 118-119)
SMART Goals

Goals inform individuals as to what type or level of performance is to be attained so that they can direct and evaluate their actions and efforts accordingly. Feedback allows them to set reasonable goals and to track their performance in relation to their goals so that adjustments in effort, direction, and even strategy can be made as needed.

(Locke & Latham, 1990, p.23)
SMART Goal Example

Below is an example of a SMART Goal to provide you with some assistance while you develop your goal for Component 5 ~ Goal Setting.

SMART Goal:
90% of the students in my ELA class will be able to respond to Level IV and above (analysis, synthesis, & evaluation) questions (Bloom’s Taxonomy) with 95% accuracy by the end of the 2010 – 2011 school year.

What is your baseline data and how will you monitor students’ progress:

<table>
<thead>
<tr>
<th>Level of Performance</th>
<th>Milestones/Benchmarks</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>78% of students with 95% accuracy</td>
<td>Unit 1 Theme Test Question 4 QAR questions during small group reading</td>
<td>10/4/10</td>
</tr>
<tr>
<td></td>
<td>Unit 2 Theme Test Question 6 Teacher directed questions during small group reading</td>
<td>11/7/10 (tentatively)</td>
</tr>
</tbody>
</table>

This table would continue with specific benchmark items throughout the school year.

NOTE: Who specifically are the students that are not able to meet the target?
A goal without a plan is just a dream.
SMART Goal Example

What activities will be undertaken to help you reach your goal?

<table>
<thead>
<tr>
<th>Activities: What specific activities will be undertaken to implement the improvement strategy?</th>
<th>Resources: To implement the activity well, what resources are needed?</th>
<th>Schedule: On what schedule will the activity be implemented?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. All students will be instructed in whole group and small group reading with extra support for targeted students through pre-teaching and intervention readers.</td>
<td>SF leveled readers</td>
<td>daily</td>
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<tr>
<td>3. All students will receive instruction in QAR strategies, RARE Response strategies, and Reciprocal Teaching strategies.</td>
<td>SF materials</td>
<td>daily</td>
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<td>4. Students will use a 2-point rubric for assessing comprehension (self-assessment)</td>
<td>2-point rubrics for each student’s desk and poster for classroom</td>
<td>daily</td>
</tr>
</tbody>
</table>
Focus and Alignment

**DISTRICT-WIDE**
- Strategic goals

**SCHOOL-WIDE**
- Key priority goals

**GRADE-LEVEL / CONTENT AREA**
- SMART goals
- Essential Outcomes

**STUDENT-SPECIFIC**
- Individual goals
Second Essential (Corollary) Question for PLCs:

2. How will we know if our students are learning? How can we check for understanding on an ongoing basis in our individual classrooms? How will we gather evidence of each student’s proficiency as a team? What criteria will we establish to assess the quality of student work? How can we be certain we can apply the criteria consistently?

   a. Explore CCSS SBAC released items
   b. Develop proficiency scales for each essential standard
   c. Develop common formative assessments using proficiency scales
   d. Employ concept of unidimensionality (one standard assessed) when designing and scoring common formative assessments. May use multidimensional (two or more standards) assessments; however, would have multiple scores for assessments
5. Fifth Grade Curriculum Map

Unit Five: “Investigating Fractions”

Common Core State Standards
CC 5.MP.1 - Make sense of problems and persevere in solving them.
CC 5.NF.2 - Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and mental computation to estimate and compare sums and differences of fractions.

Delaware Prioritized Standards
- DE K.3.2 Standard 5 - Problem Solving: Students will develop their Problem Solving ability by engaging in developmentally appropriate problem solving opportunities in which there is a need for various approaches to investigate and understand mathematical scenarios, to formulate their own problems, to find solutions to problems from everyday situations, to develop and apply strategies to solve a wide variety of problems, and to integrate.

Additional Delaware Prioritized Curriculum (CCEs)
- Apply more than one operation to solve word problem.
- Develop understanding of fractions as parts of a whole, a part of a collection, in locations, division lines, and as division of whole numbers.
- Generate and compare equivalent forms of benchmark fractions, decimals, and percents, e.g., 1/2 = 0.5 = 50%.
- Measure and compare objects using standard units, such as t, cm, m, L and kg.
- Model problems situation with objects and use representations such as block models or equations to draw conclusions.
- Draw conclusions about the relationships between independent and dependent variables.
- Find the number of operations in tables to locate a point on a coordinate plane (Grade 6).

Mathematical Practices:
- Make sense of problems and persevere in solving them.

6.NS.1 - Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. In general, (a/b) ÷ (c/d) = ad/bc. How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2 3/4 cups of yogurt? How wide is a rectangular strip of land with length 3 3/4 mi and area 1/2 square mi?

9A

DCAS Like

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<th>B</th>
<th>C</th>
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<td>6 2/3</td>
<td>2 2/7</td>
<td>17 6/7</td>
<td>2 6/11</td>
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<td>7 16</td>
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Next-Generation

9B

Alice, Raul, and Maria are baking cookies together. They need 3/4 cup of flour and 1/3 cup of butter to make a dozen cookies. They each brought the ingredients they had at home.

Alice brought 2 cups of flour and 1/4 cup of butter, Raul brought 1 cup of flour and 1/2 cup of butter, and Maria brought 1 1/4 cups of flour and 3/4 cup of butter. If the students have plenty of the other ingredients they need (sugar, salt, baking soda, etc.), how many whole batches of a dozen cookies can each make?
<table>
<thead>
<tr>
<th>Score 4.0</th>
<th>In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.</th>
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<tbody>
<tr>
<td>Score 3.0</td>
<td><strong>The Target Objective</strong> - The student:</td>
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<td></td>
<td>• The student exhibits no major errors or omissions.</td>
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<td>3.5 In addition to score 3.0 performance, in-depth inferences and applications with partial success.</td>
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<td>Score 2.0</td>
<td>There are no major errors or omissions regarding the simpler details and processes as the student:</td>
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<td>• recognizes or recalls specific terminology, such as:</td>
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<td>• performs basic processes, such as:</td>
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<td>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</td>
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<td>2.5 No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.</td>
</tr>
<tr>
<td>Score 1.0</td>
<td>With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.</td>
</tr>
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<td>1.5 Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content.</td>
</tr>
<tr>
<td>Score 0.0</td>
<td>Even with help, no understanding or skill demonstrated.</td>
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</table>
Perhaps the most widely quoted definition of formative assessment comes from Black and Wiliam (1998) who state that formative assessment

…refers to all those activities undertaken by teachers, and by the students in assessing themselves, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged. Such assessment becomes formative when the evidence is actually used to adapt the teaching to meet needs. (p.2)
According to the research literature, some of the key elements of formative assessment include:

- identification by teachers and students of learning goals, intentions or outcomes and criteria for achievement,

- conversations (with feedback) between teachers and students that build on what is known and what is to be learned,

- active involvement of students in their own learning, and

- teachers responding to identified learning needs and strengths by modifying and/or adapting teaching strategies, materials and approaches (Black & Wiliam, 1998; Boston, 2002; Fontana & Fernandes, 1994; Fredrickson & White, 1997; Guskey, 2003; Liang & Creasy, 2004; Shepard, 2000; Stiggins & Conklin, 1992; Stiggins, 1992).
Keys to a Formative Assessment Process

To determine if an assessment process is formative ask:

- Is it used to identify students who experience difficulty in their learning? Or, students who already met the learning target?

- Do students receive additional time and support for learning when they experience difficulty? Or, accelerate more in-depth knowledge in the learning progressions for students already meeting the target?

- Do students get additional opportunity to demonstrate their learning?

- Do teachers use the results to inform and improve their individual practice?

TEAM TALK:
Use the above questions to evaluate how your teams use assessments.
What do you need to do differently to have the use formative assessments more appropriately if they are not?
The Case for Formative Assessments

- When developed through teacher learning communities, formative assessments promise the largest potential gains in student achievement.

- Few initiatives in education have had such a strong body of evidence to support a claim to raise standards.

- They are one of the most powerful, high-leverage strategies for improving student learning.

- Common assessments are consistently used by schools with the greatest student achievement.

- Common assessments enable educators to diagnose student learning needs in time to make instructional modifications.

- Common assessments form the basis of professional dialogue in schools that double student achievement.
We Undermine the PLC Process When We Settle for…

- Substituting textbook assessments or commercial assessments for team-developed common assessments

- Using common assessment results merely to assign grades

- Doing nothing with common assessment results
The Case for Formative Assessments

It is the attention to the purposes of innovations, the willingness to seek negative evidence (i.e., seeking evidence on where students are not doing well) to improve the teaching innovation, the keenness to see the effects on all students, and the openness to new experiences that make the difference. Interventions are not ‘change for change’s sake’ as not all interventions are successful. The major message is for teachers to pay attention to the formative effects of their teaching, as it is these attributes of seeking formative evaluation of the effects (intended and unintended) of their programs that makes for excellence in teaching.

(Hattie, Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Student Achievement, p. 181)
### The Case for Formative Assessments

Out of the top 45 most influential factors on student achievement, 3 factors associated with the home, 4 factors associated with the student, 5 factors associated with the school, 5 factors associated with the teacher (i.e., teacher-student relationships), 8 factors associated with curricula, and 20 factors associated with teaching.


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<tr>
<th>Rank</th>
<th>Influence on S.A.</th>
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<td>1.</td>
<td>Self-report grades</td>
<td>1.44</td>
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<td>2.</td>
<td>Piagetian programs</td>
<td>1.28</td>
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<td>3.</td>
<td>Provide formative eval.</td>
<td>0.90</td>
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<td>10.</td>
<td>Feedback</td>
<td>0.73</td>
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<tr>
<td>11.</td>
<td>Teacher-stud. relations</td>
<td>0.72</td>
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<tr>
<td>31.</td>
<td>Home environment</td>
<td>0.57</td>
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<td>32.</td>
<td>SES</td>
<td>0.57</td>
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<tr>
<td>45.</td>
<td>Parental involvement</td>
<td>0.51</td>
</tr>
<tr>
<td>106.</td>
<td>Class size</td>
<td>0.21</td>
</tr>
<tr>
<td>121.</td>
<td>Ability grouping</td>
<td>0.12</td>
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</tbody>
</table>
Effective Feedback Answers 3 Questions:

Feed Up: Where am I going? (the goals)
Feed Back: How am I going? (doing)
Feed Forward: Where to next?

Each feedback question works at 4 levels:

Task Level: How well task are understood/performed
Process Level: The process needed to understand/perform tasks
Self-regulation Level: Self-monitoring, directing and regulating of actions
Self Level: Personal evaluations and effect (usually positive) on the learner

(Hattie, Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Student Achievement, p. 176)
Common Assessments

http://www.ket.org/education/video/ksenb/ksenb_000136.htm
Turn & Talk

What were a couple of key elements regarding common assessments and providing feedback? How will you support your teams to further develop their work in these areas?
The PLC process is not weekly planning/coordination of lessons.

The PLC process is an ongoing CYCLE of INQUIRY.
The Team Cycle

Focus:
Using data, the team creates a lesson plan and a common assessment.

Strategies:
Teacher instructs using effective strategies from the team’s focus meeting.

Assessment:
The team conducts common assessment then meets to analyze data and discuss strategies.

Response:
Teacher remediates or enriches based on the pre-determined proficiency level.
The Team Cycle

**Focus**
- Using data, the team creates a lesson plan and a common assessment.

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The Team Cycle

PLC Meets

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Using data, the team creates a lesson plan and a common assessment.

Strategies
Teacher instructs using effective strategies from the team’s focus meeting.

Assessment
The team conducts common assessment then meets to analyze data and discuss strategies.

Response
Teacher remediates or enriches based on the pre-determined proficiency level.
Calendaring

October

Unit

Unit
# Calendaring

## October

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### Calendaring

**October**

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**Note:**
- PLC MTG: Professional Learning Community Meeting
- Unit: Unit Meeting
# Calendaring

## October

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RED CLAY
CONSOLIDATED
SCHOOL DISTRICT
Calendaring

October

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Calendaring

October

- **PLC MTG**
- Pre-Assess
- BBK
- Unit

RED CLAY CONSOLIDATED SCHOOL DISTRICT
October

- **3**: PLC MTG
- **4**: PLC MTG
- **6**: PLC MTG
- **7**: Pre-Assess
- **8**: BBK
- **9**: BBK
- **13**: Unit
- **14**: Unit
- **20**: Unit
- **27**: Unit

**Events**
- **PLC MTG**
- **Pre-Assess**
- **BBK**
- **Unit**
Calendaring

October

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*Note: PLC MTG stands for Professional Learning Community Meeting.*
The Team Cycle

**Focus**
Using data, the team creates a lesson plan and a common assessment.

**Strategies**
Teacher instructs using effective strategies from the team’s focus meeting.

**Assessment**
The team conducts common assessment then meets to analyze data and discuss strategies.

**Response**
Teacher remediates or enriches based on the pre-determined proficiency level.
Guaranteed Learning for ALL Students

**TEAM ACTIONS**
Ensuring high-levels of learning for all

- IDENTIFY Essential Standards
- DEVELOP CFAs that assess essential standards
- REVIEW data from CFAs
- IDENTIFY specific names of nonproficient
- INTERVENE and EXTEND

**CORE CURRICULUM**

- IDENTIFY Essential Standards
- COMMON FORMATIVE Assessments
- REVIEW CFA Data
- IDENTIFY Specific Students
- IMMEDIATE, SPECIFIC Intervention
- RE-assess

**LEADER ACTIONS**
High-leverage questions asked of every team

- "Which essential standards have been learned?"
- "What evidence can you show me that students learned it?"
- "What are the specific names of students who didn’t get it?"
- "What evidence do you have that your team intervened/extended?"

Team and leader actions to ensure high-levels of learning for ALL students
Making Data Useful AFE Video

Focus on Learning
# Suggested Timeline for PLC Activities

## PLC Activities

<table>
<thead>
<tr>
<th>1st MP</th>
<th>2nd MP</th>
<th>3rd MP</th>
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<tbody>
<tr>
<td>• Set Norms</td>
<td>• Review Norms</td>
<td>• Review Norms</td>
<td>• Review Norms</td>
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<tr>
<td>• Establish logistics for year (schedule, location, long-range planning calendar; roles)</td>
<td>• Implement strategies in the classroom</td>
<td>• Implement strategies in the classroom</td>
<td>• Implement strategies in the classroom</td>
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<tr>
<td>• Review needs data (DCAS, School Success Plan, etc.)</td>
<td>• Cycles of Inquiry</td>
<td>• Cycles of Inquiry</td>
<td>• Cycles of Inquiry</td>
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<tr>
<td>• Establish PLC SMART Goals</td>
<td>• Use Protocols for looking at student work</td>
<td>• Use protocols for looking at student work</td>
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<td>• Implement strategies in classroom</td>
<td>• Review Common Assessments</td>
<td>• Review Common Assessments</td>
<td>• Review Common Assessments</td>
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<tr>
<td>• Share learning with PLC</td>
<td>• Peer observations</td>
<td>• Peer observations</td>
<td>• Peer observations</td>
</tr>
<tr>
<td>• Determine Common Assessments</td>
<td>• Lesson Studies</td>
<td>• Lesson Studies</td>
<td>• Lesson Studies</td>
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<tr>
<td>• Determine PLC documentation strategies (artifacts)</td>
<td>• Action Research</td>
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<td>• Document work</td>
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<td>• Monitor progress towards SMART Goals</td>
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## Student Data & Sources

- Test scores (DCAS, DIBELS, Common Assessments, etc.)
- Student assignments
- Teacher observations
- Exit tickets
- Other formative assessments

## Resources

- School Success Plan
- District Strategic Plan
- Common Core Standards
- I-Tracker Pro

- Test scores (DCAS, DIBELS, Common Assessments, etc.)
- Student assignments
- Teacher observations
- Exit tickets
- Other formative assessments
PLCs are professional development.

Do you agree or disagree with this statement? Explain.

Thumbs-Up/Thumbs-Down/Neutral
Sparks and Hirsch (nd), who recommend the following national professional development model for teachers:

- Create learning schools in which all staff are involved in “sustained, rigorous study of what they teach and how they teach it” (p. 11).

- Provide time for teacher professional development equaling 25 percent of time during each day for teachers to work together and to collaboratively plan lessons and share information.

- Base professional development on the collaboration model—teachers learning from each other.

This model is not unlike the one in place in Japanese schools.
Job-Embedded PD

- Lesson Study
- Action Research
- **Application** of Information from Book Study
- **Application** of Information from stand & deliver PD
- Peer Observations
- Peer Coaching
Transform Professional Development

- Process-Driven
- Consensus of Opinion
- “Pull Out”
- Provider-Driven
- Individual Learning
- Generic Pedagogy
- Focus on Teacher “Duties”
- Results-Driven
- Research-Based Standards
- Daily Job-Embedded Structures
- Teacher-Driven
- Team Learning
- Content-Specific Pedagogy
- Focus on Student Achievement
Grand Rounds and Instructional Rounds

Read the “Third Principle” (pp. 27 – 30).

Discuss with your team:

What information presented today relates to the situation discussed in the article?

How could you use PLCs to improve the situation presented in the article?
PLC Time is Sacred Time

For learning teams to reach their full potential it is critical that they have ample opportunities to act and lead within those boundaries with minimal interruptions by activities that do not align with the instructional goals outlined in the District Strategic Plan and School Success Plan. It is expected that PLC meeting times not be considered a repository of time where time can be taken from for other activities. School districts that have made great gains in student achievement ensured that PLC is “sacred” time for teachers to work together as professionals.

PLC time is NOT sit and get workshops!
Collaborative Learning Community

- 4 Pillars
- Connect Administrative Teams – BLT – PLC
- Continuous Improvement Cycle
Professional Development Flowchart

**PLC**
- Develops instructional plan
- Identifies instructional needs, resources, and professional development needs

  SchoolStream
  PLC Instructional Plan and PLC minutes

**BLT**
- Reviews PLCs’ instructional plans
- Decides instructional needs, resources, and professional development
- Makes suggestions on who is responsible for each of the deliverables

  SchoolStream
  PLC Instructional Plan, PLC minutes, and BLT Monthly Review

**Curriculum & Instruction**
- Reviews BLT Monthly Review forms, PLCs’ instructional plans, and minutes
- Makes suggestions on how to provide support

  SchoolStream
  PLC Instructional Plan, PLC minutes, and BLT Monthly Review
Defined Autonomy:

Simultaneous loose and tight cultures establish clear parameters and priorities that enable individuals to work within established boundaries in a creative and autonomous way. PLCs are characterized by ‘directed empowerment’ or what Marzano and Waters refer to as ‘defined autonomy’ – freedom to act and lead within clearly articulated boundaries.”

- DuFour & DuFour (2012); Marzano & Waters (2009)
Empowerment:

Effective empowerment does not mean encouraging people to go off and do whatever they want. It means creating the conditions that help people succeed. Those conditions include:

1. Establishing clear purpose, priorities, and parameters that allow people to be creative and autonomous within clearly established boundaries.

2. Providing people with access to the resources that enable them to make informed decisions rather than pooling opinions.

3. Engaging them in establishing clear, unambiguous benchmarks so they can monitor their own progress.

4. Ensuring they have relevant and timely data that informs their practice and allows them to make adjustments.

5. Building the capacity of people to be successful in what they are attempting to do by providing them with training, support, and resources that lead to success.

Empowerment means establishing a culture in which people are hungry for evidence and are willing to face the brutal facts when things don’t go as hoped.

(DuFour & Marzano, 2011)
Learning by Doing

“Capacity building… is not just workshops and professional development for all. It is the daily habit of working together, and you can’t learn this from a workshop or course. You need to learn it by doing it and having mechanisms for getting better at it on purpose.”

(Fullan, 2005)
The Heart of the PLC Process

Two years of working in collaborative teams: no gains.

It wasn’t until the teams…

- established a guaranteed curriculum,
- monitored student learning through common assessments,
- and used the evidence of student learning to identify and solve problems through new instructional strategies,

…that student achievement soared.

(Gallimore, Emerling, Saunders, & Goldenberg, 2009)
PLC Process

McKean PLC Video
“Talking is not doing. Planning is not doing. Goal setting is not doing. Training is not doing. Even directing resources to support a plan is not doing. It is not until people are doing differently that any organization can expect different results.” Rick DuFour
An Act Of Futility

If we continue to take in data as we have always taken in data,
Then we will continue to think as we have always thought.
If we continue to think as we have always thought,
Then we will continue to believe as we have always believed.
If we continue to believe as we have always believed,
Then we will continue to act as we have always acted,
Then we will continue to get what we have always gotten.
Doing the Right Work

Educators work collaboratively and take collective responsibility for student learning.

Collaborative teams implement a guaranteed and viable curriculum, unit by unit.

Collaborative teams monitor student learning through ongoing common formative assessments.

Educators use the results of common assessments to:
- Improve individual practice
- Build the team’s capacity to achieve its SMART goals
- Intervene on behalf of students

The other steps on the PLC journey are designed to help teams engage in this essential work.
Doing the Right Work

Is our PLC committed to fostering collective responsibility for improved student performance?

Is our PLC aligned with rigorous state student academic achievement standards as well as related local educational agency and school improvement goals?

Is the PLC facilitated by well-prepared school principals and/or school-based professional development coaches, mentors, master teachers, or other teacher leaders?

Do the communities convene several times per week or the equivalent of several hours?

Do the professionals organize into teams of teachers, principals, as well as other instructional staff members?

Is the PLC engaging in a defined continuous cycle of improvement?

Is the PLC evaluating student, teacher, and school learning needs through a thorough review of data on teacher and student performance?

Is the learning based on the rigorous analysis of the data and a definition of clear educator learning goals?
Is the learning characterized by implementing coherent, sustained, and evidenced-based learning strategies, such as lesson study and the development of formative assessments, that improve instructional effectiveness and student achievement?

Is the learning supported by job-embedded coaching or other forms of assistance to promote the transfer of new knowledge and skills to the classroom?

Is the PLC assessing regularly the effectiveness of the professional development in achieving identified learning goals, improving teaching, and assisting all students in meeting challenging state academic achievement standards?

Is the PLC using assessment findings to inform ongoing improvements in teaching and student learning?

Is the PLC tapping external assistance when it finds it does not have the internal expertise to achieve its goals?

**Stephanie Hirsh**  
Executive Director, Learning Forward
### Cultural Shifts

- **Shift in Fundamental Purpose**

- **Shift in Assessment**

- **Shift in Response When Student Don’t Learn**

### Cultural Shifts in a Professional Learning Community

#### A Shift in Fundamental Purpose

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<thead>
<tr>
<th>From a focus on teaching</th>
<th>to a focus on learning</th>
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<tbody>
<tr>
<td>From emphasis on what was taught</td>
<td>to a fixation on what students learned</td>
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<tr>
<td>From coverage of content</td>
<td>to demonstration of proficiency</td>
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<td>From providing individual teachers with curriculum documents such as state standards and curriculum guides</td>
<td>to engaging collaborative teams in building shared knowledge regarding essential curriculum</td>
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#### A Shift in Use of Assessments

| From infrequent summative assessments to frequent common formative assessments |
| From assessments to determine which students failed to learn by the deadline to assessments to identify students who need additional time and support |
| From assessments used to reward and punish students | to assessments used to inform and motivate students |
| From assessing many things infrequently | to assessing a few things frequently |
| From individual teacher assessments | to assessments developed jointly by collaborative teams |
| From each teacher determining the criteria to be used in assessing student work | to collaborative teams clarifying the criteria and ensuring consistency among team members when assessing student work |
| From an over-reliance on one kind of assessment | to balanced assessments |
| From focusing on average scores | to monitoring each student’s proficiency in every essential skill |

#### A Shift in the Response When Students Don’t Learn

| From individual teachers determining the appropriate response | to a systematic response that ensures support for every student |
| From fixed time and support for learning | to time and support for learning as variables |
| From remediation | to intervention |
| From institutional support outside of the school day | to directed (that is, required) support occurring during the school day |
| From one opportunity to demonstrate learning | to multiple opportunities to demonstrate learning |
Cultural Shifts

- Shift in Work of Teachers
- Shift in Focus

### A Shift in the Work of Teachers

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<td>From isolation . . .</td>
<td>to a focus on learning</td>
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<tr>
<td>From each teacher clarifying what students must learn . . .</td>
<td>to collaborative teams building shared knowledge and understanding about essential learning</td>
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<td>From each teacher assigning priority to different learning standards . . .</td>
<td>to collaborative teams establishing the priority of respective learning standards</td>
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<td>From each teacher determining the pacing of the curriculum . . .</td>
<td>to collaborative teams of teachers agreeing on common pacing</td>
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<td>From individual teachers attempting to discover ways to improve results . . .</td>
<td>to collaborative teams of teachers helping each other improve</td>
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<td>From privatization of practice . . .</td>
<td>to open sharing of practice</td>
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<td>From decisions made on the basis of individual preferences . . .</td>
<td>to decisions made collectively by building shared knowledge of best practice</td>
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<td>From &quot;collaboration lite&quot; on matters unrelated to student achievement . . .</td>
<td>to collaboration explicitly focused on issues and questions that most impact student achievement</td>
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<td>From an assumption that these are &quot;my kids, those are your kids&quot; . . .</td>
<td>to an assumption that these are &quot;our kids&quot;</td>
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### A Shift in Focus

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<td>From an external focus on issues outside of the school . . .</td>
<td>to an internal focus on steps the staff can take to improve the school</td>
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<td>From a focus on inputs . . .</td>
<td>to a focus on results</td>
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<td>From goals related to completion of project and activities . . .</td>
<td>to SMART goals demanding evidence of student learning</td>
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<td>From teachers gathering data from their individually constructed tests in order to assign grades . . .</td>
<td>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</td>
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Cultural Shifts

- Shift in School Culture

- Shift in PD

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<td>From independence...</td>
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<td>From a language of complaint...</td>
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<td>From long-term strategic planning...</td>
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<td>From infrequent generic recognition...</td>
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<th>A Shift in Professional Development</th>
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<td>From external training (workshops and courses)...</td>
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<td>From the expectation that learning occurs infrequently (on the few days devoted to professional development)...</td>
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<td>From presentations to entire faculties...</td>
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<td>From learning by listening...</td>
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<tr>
<td>From learning individually through courses and workshops...</td>
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<tr>
<td>From assessing impact on the basis of teacher satisfaction (&quot;did you like it?&quot;)...</td>
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<tr>
<td>From short-term exposure to multiple concepts and practices...</td>
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Professional Learning Communities

Leadership

Student Success

Results Oriented

Collaborative Culture

Excellence

Shared Expertise

RED CLAY CONSOLIDATED SCHOOL DISTRICT
“Ultimately there are two kinds of schools: learning enriched schools and learning-impoverished schools. I have yet to see a school where the learning curves...of the adults were steep upward and those of the students were not. Teachers and students go hand and hand as learners...or they don’t go at all.”

-Roland Barth (2001), Learning by Heart
"Good ideas are not adopted automatically. They must be driven into practice with courageous impatience. Once implemented they can be easily overturned or subverted through apathy or lack of follow-up, so a continuous effort is required."

-- Admiral Hyman G. Rickover