Visible Leading

A major argument throughout this book is the power of feedback to teachers on what is happening in their classroom so they can ascertain 'How am I going?' in achieving the learning intentions they have set for their students, such that they can then decide 'Where to next?' for the students.

(Quoted from Hattie, 2009, p. 181)

Think about the VISIBLE LEADING Criteria…

- Articulates a vision of high expectations for 21st century schools..
- Builds capacity through modeling, supervision and coaching.
- Redesigns structures, roles, and functions to support visible teaching ,assessing, learning and leading.
- Provides feedback by using observation protocols to "look for" and discuss visible assessing, teaching, and learning.
- Creates structures that promote collaboration, inquiry, and reflection.
- Designs/provides high quality individual and school-based professional development based on performance data and standards.
- Analyzes policy to determine those that may impede visible assessing, teaching, learning and leading.
- Uses assessments, data and research to improve practice and student learning.
- Provides open, honest, communication to foster improvement.
  Promotes a culture of efficacy and optimism for improving visible assessing, teaching, learning and leadership.

Examine the Crosswalk to Influences Identified by Hattie with Medium to High Effect Sizes…	Effect Size	Read about It in Hattie (2009)
Providing formative evaluation	d = .90	1. 181
Microteaching	d = .81	p. 112-113
Professional development	d = .62	p. 119-120
Retention	d = - .16	p. 97-99

Summary of Visible Leading

Visible leading practices foster professional learning communities focused on improving visible teaching, assessing, and learning. Visible leading also is characterized by distributive leadership that spreads decision-making authority throughout the school; teachers, staff, administrators, parents, students and community members all work together to make the school a better place. In schools where distributive leadership prevails, "Effective instructional leaders recognize the talents and expertise of others in their schools, provide opportunities for leadership development in others, and create a broad leadership base in their schools" (DiPaola & Hoy, 2008, p. 9).

Formative evaluation is an important strategy for visible leading. As Hattie (2009) reminds us,

> *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 make the difference…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* (p. 181).

Thus, several of the *Visible Leading* criteria address the need for providing structures to support visible teaching, assessing and learning, especially structures that promote collaboration and reflection. Also collection and analysis of varied data provide formative feedback to teachers—especially classroom observational data.

While microteaching often is associated with pre-service teacher preparation programs, adaptations also are influential as a professional development tool. Microteaching involves observed teachers conducting mini lessons to small groups of student and engagement in post-discussions with the observing teacher about the lesson. Studies have found that experiences including, "microteaching, with analysis, reflective teaching, and videotaped role play with debriefing" had positive influence on teacher effect, knowledge, and instructional behavior (Hattie, 2009, p. 112). Peer observations with feedback and reflective analysis provide opportunities for analysis, reflection, and feedback for improvement.

Visual leading reflects a commitment to promoting growth in practice through implementation of effective professional development. Certain job-embedded forms of professional development have been found to be effective on teacher knowledge and behavior. Hattie found that four types of professional development were most influential: 1) observation of actual classroom methods; 2) microteaching; 3) video-audio feedback; and 4) practice. Least influential methods were discussion, lectures, games/simulations, and guided field trips (Hattie, 2009, p. 120). One meta-analysis highlighted by Hattie identified the following seven themes about professional development that influences student outcomes:

1. Opportunities for teachers occurred over an extended period of time
2. Involvement of external experts was more related to success than within-school initiatives.

3. Teachers were engaged sufficiently during the learning process to deepen their knowledge and extend their skills in ways that improved student outcomes.
4. The professional development initiatives challenged teachers' prevailing discourse and conceptions about learning.
5. Involvement in a professional community of dialogue about practice was necessary but not sufficient by itself; discussions were more effective when about challenging problematic beliefs and when they were grounded in student artifacts.
6. Professional development was more influential on student outcomes when school leaders supported professional learning experiences, there was access to appropriate expertise, and there were opportunities to meet and process new information.
7. Funding, release time, and whether involvement was voluntary or compulsory were unrelated to influences on student outcomes (Hattie, 2009, p. 121).

Visible leaders also monitor policies and practices that may impede visible teaching, assessing, and learning. You will note that this guide highlights positive influences with one exception—the practice of retention. Retention is a prevailing practice in schools, yet the research finds that, "Overall there are negative effects for students who are retained" (Hattie, 2009, p. 97). With an influence of -.16, it would seem that visible leaders should determine alternatives to retention when developing strategies for addressing the needs of struggling learners.

A Caution for School Leaders

Hattie's book *Visible Learning* is a valuable tool for informing decisions about improving teaching, assessing, learning, and leading; however, the research that is presented must be contextualized for the school district, school, administrator, and teacher who seeks improvement. When designing and implementing professional development for change decisions should be based on needs for improvement. It is important to conduct a gap analysis to determine focus relative to influential initiatives.

Sample Visible Leading Resources

1. Self-Reflection Tool for Visible Teaching, Assessing Learning, and Leading (VTALL)

- Engage staff in self-reflecting on the extent to which they practice visible teaching, assessing, learning and leading.
- Distribute the reflection tool and goal setting form.
- Ask staff to consider the extent to which they practice each of criteria. Staff will respond in according to *NA* (not applicable), *I'd like to work on this, I do this well,* or *I could teacher others.* It should not be assumed that teachers will not respond to the *Visible Leading* criteria as in the view of distributive leadership, all staff may be leaders.
- Ask staff to complete the goal setting after completing the reflection tool. Staff will identify the aspect of the VTALL model for which the show the most strengths and the area they would like to address. Staff will then develop a specific goal to target for improving teaching, assessing, learning, or leading.
- Create a graph showing overall staff strengths and weakness relative to *Visible Teaching, Assessing, Learning, and Leading.* Create the following graphic using a piece of flip chart paper and hang on the wall.
- Give each staff member two sticky dots.
- Ask staff to place one dot in the chart space that corresponds to their area of strength and place one dot in the space indicating an area needing growth.
- Ask staff to analyze and discuss the graph to determine implications for school improvement and professional development.
- Collect goal setting forms and identify ways to support growth in practice.

Category	Area of Strength?	Area Needing Growth?
Visible Teaching		
Visible Assessment		
Visible Learning		
Visible Leading		

REFLECTION TOOL: Visible Teaching, Assessing, Learning, and Leading

Name_____ **School**_____ **Grade/Content**_____

Respond to each statement by checking in the appropriate box: (*I'd like to work on this…*), (*I do this well…*), or (*I could teach others*). Use the reflection tool to identify goals for increasing learning in your classroom/school.

REFLECTION CRITERIA	*NA*	*I like to work on this.*	*I do this well*	*I could teach others.*
Visible Teaching for High Student Engagement				
1. Shows caring and respect for students' needs, responses, and diversity.				
2. Uses small group options: pairs, cooperative learning, guided reading, reciprocal teaching, etc.				
3. Assigns/uses leveled and varied text: articles, magazines, fiction, non-fiction, internet, etc.				
4. Uses management strategies to reduce disruptions in learning: clear expectations, rules, and procedures, etc.				
5. Clarifies and articulates *specific* learning objectives/learning intentions.				
6. Provides direct/explicit instruction and models what students should know or do to master objectives.				
7. Develops vocabulary and connects concepts and ideas.				
8. Questions for high level thinking and deep learning.				
9. Maintains instructional clarity across lesson organization, explanation, examples, and guided practice.				
10. Differentiates through re-teaching, acceleration, and enrichment. etc.				
Visible Assessing for High Student Engagement				
11. Identifies and communicates challenging success criteria in checklists and rubrics.				
12. Pre-assesses to determine what students already know and can do.				
13. Checks for understanding and achievement of learning intentions.				
14. Provides specific descriptive feedback.				
15. Engages students in self-assessment of their work, what they learn, and how they learn.				
16. Uses existing products or samples as models for student products.				
17. Uses assessments aligned with objectives/learning intentions/standards and instructional processes.				
18. Provides choices in assessment products.				
19. Engages students in giving specific feedback to peers and to the teacher.				
20. Involves students in setting learning goals.				
Visible Learning for High Student Engagement				
21. Uses manipulatives and technology.				
22. Engages in making decisions and choices.				
23. Applies cognition strategies: make connections, question, summarize, infer, synthesize, visualize, big ideas.				
24. Engages in reading.				
25. Engages in writing.				
26. Engages in discussing text.				
27. Engages in problem solving or creates products.				
28. Engages in peer tutoring, cooperative learning, reciprocal teaching, and other cooperative structures.				
29. Creates/uses advanced/graphic organizers, concept mapping, logs, interactive notebooks, and foldables.				
30. Engages in relevant, real-world learning experiences that advance 21st century skills.				
Visible Leading for High Student Engagement				
31. Articulates a vision of high expectations for 21st century schools.				
32. Builds capacity through modeling, supervision and coaching.				
33. Redesigns structures, roles, and functions to support visible assessing, teaching, learning and leading.				
34. Provides feedback by using observation protocols to "look for" and discuss visible assessing, teaching, and learning.				
35. Creates structures that promote collaboration, inquiry, and reflection.				
36. Designs/provides high quality individual and school-based professional development based on performance data and standards.				
37. Analyzes policy to determine those that may impede visible assessing, teaching, learning and leading.				
38. Uses assessments, data and research to improve practice and student learning.				
39. Provides open, honest, communication to foster improvement..				
40. Promotes a culture of efficacy and optimism for improving visible assessing, teaching, learning and leadership.				

Gregory & Rozzelle (2011). College of William and Mary, School University Research Network

Goal Setting for Visible Teaching, Assessing, Learning and Leading

Name_____ Position_____

My greatest area of strength is…

The area in which I need to most improve is…

One specific goal I have for improving…

How I envision this goal will help my students…

Concrete support I need…

2. Observing for Visible Teaching, Assessing, and Learning

- Collect classroom observation data concerning visible teaching, assessing, and learning criteria.

- Review the observation protocol with the staff and explain the process (guide page 117). Explain how long the observation will be. Tell staff how four "sweeps" of equal time will be applied. For example if observing for 20 minutes:

    - Take notes for 5 minutes.
    - After 5 minutes, note what was observed by checking appropriate spaces. If not observed, the space will not be checked.
    - Repeat process for all four sweeps equaling 20 minutes of observation time.

- Repeat process for all four sweeps equaling 20 minutes of observation time.

- Plan to give feedback by using the planning template on guide page 118.

- Share observational data using the conferencing protocol on guide pages 118-119.

- Use the conversational moves on guide page 120 to conduct the conference.

Other Adaptations:

- Engage teachers in conducting observations with you. Conduct observations together and then discuss observations and plan for conferencing.

- Align observation focus with goals. For example, if a teacher has a visible assessing goal, only observe that section of the protocol or allow the teacher to request observation of criteria in a specific area.

- Use other observation protocols to provide more detailed data about a visible teaching, assessing, or learning criteria. For example, if the teacher is working on question, you could use a protocol such as *The Cognitive Levels of Questioning and Wait Time* protocol (DiPaola and Hoy, 2008, *Principals Improving Instruction*, p. 206).

OBSERVATION AND FEEDBACK TOOL: Visible Teaching, Assessing, Learning, and Leading

Name_____ **School**_____ **Grade/Content**_____

Date_____ **Time In**_____ **Time In**_____

Conduct four "sweeps" of equal length in time (i.e. 5 minutes). Jot down notes during sweep. At end of each sweep check only those "look-fors" observed during the allotted time.

OBSERVATION "LOOK-FORS"	*1st Sweep*	*2nd Sweep*	*3rd Sweep*	*4th Sweep*
Visible Teaching for High Student Engagement				
1. Shows caring and respect for students' needs, responses, and diversity.				
2. Uses small group options: pairs, cooperative learning, guided reading, reciprocal teaching, etc.				
3. Assigns/uses leveled and varied text: articles, magazines, fiction, non-fiction, internet, etc.				
4. Uses management strategies to reduce disruptions in learning: clear expectations, rules, and procedures, etc.				
5. Clarifies and articulates *specific* learning objectives/learning intentions.				
6. Provides direct/explicit instruction and models what students should know or do to master objectives.				
7. Develops vocabulary and connects concepts and ideas.				
8. Questions for high level thinking and deep learning.				
9. Maintains instructional clarity across lesson organization, explanation, examples, and guided practice				
10. Differentiates content through re-teaching, acceleration, and enrichment, etc.				
Visible Assessing for High Student Engagement				
11. Identifies and communicates challenging success criteria in checklists and rubrics.				
12. Pre-assesses to determine what students already know and can do.				
13. Checks for understanding and achievement of learning intentions.				
14. Provides specific descriptive feedback.				
15. Engages students in self-assessment of their work, what they learn, and how they learn.				
16. Use existing products or samples as models for student products.				
17. Uses assessments aligned with objective/learning intentions/standards and instructional processes.				
18. Provide choices in assessment products.				
19. Engages students in giving specific feedback to peers and to the teacher.				
20. Involves students in in setting learning goals.				
Visible Learning for High Student Engagement				
21. Uses manipulatives and technology.				
22. Engages in making decisions and choices.				
23. Applies cognition strategies: make connections, question, summarize, infer, synthesize, visualize, big ideas.				
24. Engages in reading.				
25. Engages in writing.				
26. Engages in discussing text.				
27. Engages in problem solving or creates products.				
28. Engages in peer tutoring, cooperative learning, reciprocal teaching, and other cooperative structures.				
29. Creates/uses advance/graphic organizers, concept mapping, logs, interactive notebooks and foldables.				
30. Engages in relevant, real-world learning experiences that advance 21st century skills.				

Commendations:

Considerations/Questions:

CONFERENCING PROTOCOL*

- Ask teacher to summarize his/her impressions of the time he/she was observed and share evidence to support those impressions.
- Analyze the observation evidence together(share data collected)
- Synthesize evidence and learnings, draw conclusions, set next steps.
- Reflect on the coaching process, propose refinements.

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CONFERENCE PLANNING TEMPLATE*	
Teacher_____ Date_____ Grade/Class_____ Lesson_____	
What did you observe? To what do you want to draw attention? What questions might you pose? What instructional coaching might you provide?	
Effective Practices Observed:	Area of Growth:
Outcomes for conference:	
Circumstances to consider:	
Questions to pose/Instructional coaching to provide:	

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GUIDELINES FOR GIVING FEEDBACK ABOUT CLASSROOM OBSERVATIONS*

*New Teacher Center @University of California, Santa Cruz

1. Base your feedback on observable evidence.
   Collect data during observations and share these with the teacher. Avoid sharing our perceptions, justifications or conclusions. By analyzing the data together—you help the teacher draw conclusions.

   Opinion:*Students were unclear about what to do.*

   Evidence:*When students were told to begin working, two left the classroom with passes; six walked around and chatted; five hands were raised; three approached the teacher with questions; ten got out papers and began working.*

2. Reinforce evidence of effective practices.
   As much as possible, share specific evidence of success before sharing evidence of problems—as long as the evidence is sincere. By reinforcing effective practices, rather than giving advice, the teacher knows what skills she/he has that can be expanded or built upon.

   Advice giving: *You should be more positive with the students.*

   Positive reinforcement: *After you smiled and told J that his response was well thought out, he raised his hand enthusiastically to answer the rest of the questions posed. Your comments help create a positive learning environment in your class.*

3. Be specific rather than general.
   Avoid labeling what was observed with general terms or educational jargon that may be interpreted differently. Rather describe what the student and the teacher were actually doing.

   General: *You were teaching a phonics lesson.*

   Specific: *Students were listing words they knew that began with the letter /b/.*

   General: *Students were practicing grammar.*

   Specific: *Students were identifying and circling nouns in a list of sentences.*

4. Describe rather than evaluate.
   By avoiding evaluative language, positive or negative, the feedback will be more useful. If it's negative, it is less likely the teacher will react defensively. Avoiding evaluative language also encourages the teacher to evaluate her/his own effectiveness based on your observations.

   Evaluative: *What a great lesson!*

   Descriptive: *You connected the theme of this book to students' personal lives during the transition then facilitated their small group discussions, helping them clarify their thinking with probing questions such as, 'How do you know…?' Their summaries Weak transition.*

   Descriptive: *10 minutes were provided for the transition. Most students answered the question in their journal in about 3 minutes. They spent the remainder of the time chatting or sitting.*

5. Note the impact of the teacher's behavior on the students.
   Help the teacher see connections between his/her actions and the students' behavior or learning. This helps a teacher build an internal locus of control and their sense of efficacy. It also discourages blaming the students for what isn't working well.

   Evaluative: *You need to develop a stronger presence.*

   Descriptive: *When you stand at the front of the classroom and establish eye contact with the students, they focus on you as the teacher.*

6. Attend to the teacher's stated needs or area of focus.
   Feedback can be more meaningful when the teacher has stated an area in which he/she wishes to improve. Build continuity by tying your observations to the teacher's goals, previous observations or other data. Assisting a teacher with his/her areas of focus helps reinforce reflective practices and builds trust.
   You've told me about your focus on establishing consistent routines. I observed that within two minutes of entering the classroom, students had checked the transition and were busy working quietly in their journals.

SUPPORTIVE LANGUAGE FOR PROVIDING FEEDBACK*	
Mediational Questions	• What is the impact of…on students? • What criteria do you use to…? • How do you decide…?(come to a conclusion) • What happens when you…? • What do you think would happen if…? • What would it look like if…? • What might you see happening in you classroom if…? • How is…different from (like)…? • What's another way you might…?
Paraphrasing	• So… • Let me make sure I understand… • In other words…it sounds like… • What I'm hearing then… • From what I hear you say… • I'm hearing many things…
Clarifying	• Could you tell me more about… • Tell me what you mean by… • Let me see if I understand… • I'd be interested in hearing more about… • It'd help me understand if you'd give me an example of… • Tell me how that idea is like (different from)… • To what extent…?
Interpretation	• What you are describing could mean… • Could it be that what you're saying is… • Is it possible that…
Instructional	• Would you like more information; to review some options; some resources… • A couple of things to keep in mind are… • Research seems to indicate… • Sometimes it is helpful if…
Summarizing	• You have stated that your goal is… • Let's review the key points in our discussion… • Tell me you next steps… • So this is your homework…

Other Considerations	• Use an approachable voice
	• Communicate acceptance, empathy
	• Use open-ended questions
	• Use plural forms (goals, possibilities)
	• Use present tense (How do you…? Instead of What did you…?OR How did you…?
	• Reflect positive presuppositions
	  ✓ Presumes prior and ongoing thought
	  ✓ Nobility of purpose
	  ✓ Positive intentionality)
	• Incorporate inquiries framed with tentativeness
	  ✓ *I'm curious about…*
	  ✓ *Would you tell me more about...*
	  ✓ *I'm not sure I understand…*
	  ✓ *I wonder what you mean by…*

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3. Transforming through Collaborative Practices

I am personally convinced that one person can be a change catalyst, a "transformer" in an situation, any organization. Such an individual is yeast that can leaven an entire loaf. It requires vision, initiative, patience, respect, persistence, courage, and faith to be a transforming leader.
--Stephen R. Covey

The 21st century involves us all in transforming how we lead, teach, and learn. All would agree that *effective* professional development is an important building block for transformation. Research over the past two decades has helped us to identify criteria for supporting change in practice and this research suggests that PLCs provide a forum for effective professional development. Read more on page about professional development practices and designs for transforming teaching learning, and learning!

What have we learned about transformational professional development? **First,** we have learned that ***content matters;*** thus, effective professional development focuses on student learning and develops teachers' pedagogical skills to teach *specific content.* **Second,** we know that ***context counts;*** professional development is more effective when it is an ongoing, coherent part of a school reform effort that seamlessly links curriculum, assessment, standards, and professional learning opportunities. **Third,** we have discovered that ***design impacts;*** professional development that impacts practices actively engages teachers and leaders in learning opportunities to examine and refine our practices for teaching, leading, and learning—job embedded forms of professional development. To summarize, effective professional development:

- Deepens teachers' knowledge of content and how to teach it to students.
- Helps teachers understand how students learn specific content.
- Provides opportunities for active, hands-on learning.
- Enables teachers to acquire new knowledge, apply it to practice, and reflect on the results with colleagues.
- Is part of a school reform effort that links curriculum, assessment, and standards to professional learning.
- Is collaborative and collegial.
- Is intensive and sustained over time.*

As mentioned previously, professional learning communities (PLCs) reflect the criteria for effective professional development. If implemented true to their defining characteristics, PLC's:

A. **Assess** students and examine student achievement,
B. **Build** collaborative teams that focus on improved teaching and learning, and
C. **Commit** to continuous improvement.

To achieve results, PLC's also engage in **collaborative professional development designs.** These designs involve teams of teachers and leaders in learning opportunities in four purposeful arenas:

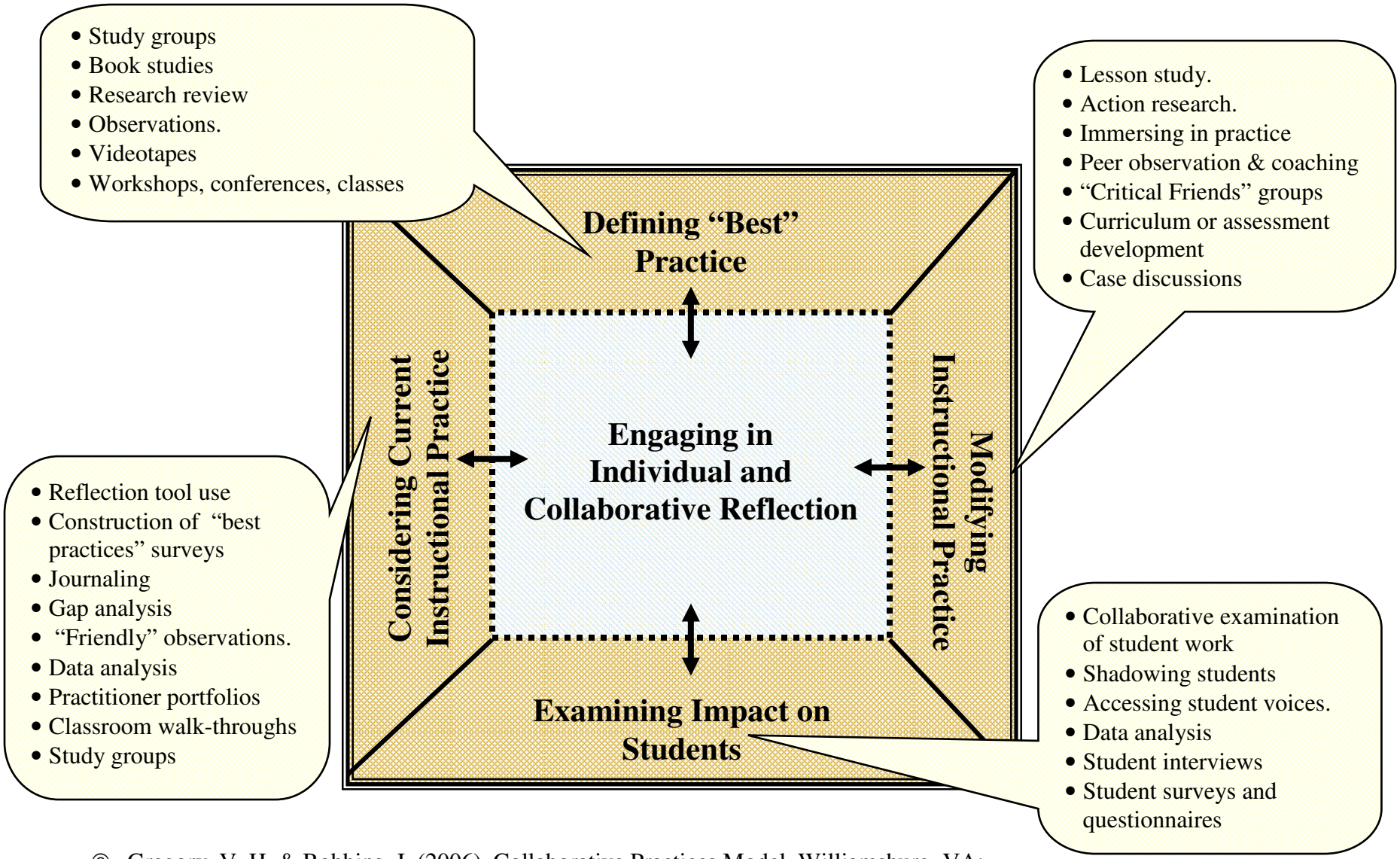
- Defining "best" practices,
- Considering current instructional practices
- Modifying instructional practices, and

- Examining the impact of instructional practice on students.

The ***Collaborative Practices Model*** outlines professional development designs that foster learning in all four arenas. You will find explicit instructions for implementing various collaborative professional development designs on guide pages 123-128. These active learning designs foster growth in practice; they support teachers and leaders in transforming their practices to improve leading, teaching, and learning in the 21st century! Use the thoughts and applications section of the graphic organizer to jot down specific ways to apply the model.

*Darling-Hammond, L. & Richardson, N. (February, 2009). "Teacher Learning: What Matters?" Educational Leadership Vol. 66, No. 5, p. 49.

COLLABORATIVE PRACTICES MODEL: FRAMING RIGOR, RELEVANCE, & REFLECTION



Description of Sample Collaborative Professional Development Strategies

Design	*Description/Steps*	*Thoughts & Applications*
Assessing Student Voices Revised from Robertson, H. M. & Hord, S. M. (2004). Accessing student voices. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 43-52). Oxford, OH: National Staff Development Council.	*Use various strategies to include students' voice when discussing how to improve educational practice.* Interviewing Students 1. Plan by clarifying the purpose, choosing interviewers, picking a process, choosing a sample group, developing a timeline, and finding an interview location. 2. Implement the process. 3. Compile and analyze responses. Engaging Student-Led Focus Groups 1. Prepare by identifying the issue, developing questions, determining students to include, notifying staff, and choosing a facilitator 2. Conduct the focus group 3. Debrief using teacher observers who report observations and suggest outcomes. 4. Make decisions that reflect student perspectives 5. Make decisions public.	
Action Research Revised from Caro-Bruce, C. (2004). Action research. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 53-60). Oxford, OH: National Staff Development Council.	*Conduct practitioner research to improve instructional practices.* 1. Find a focus and use action questions that are significant, manageable, contextual, clearly stated, open-minded, and self-reflective. 2. Develop an action plan that identifies the focus, a rationale, sources of data collection, and whether to include a literature review. 3. Collect multiple forms of data, from multiple sources. 4. Analyze the data. 5. Write about the work 6. Plan for future action.	
Case Discussions Revised from Barnett-Clare, C. & Ramirez, A. (2004). Case discussions. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 75-84). Oxford, OH: National Staff Development Council.	*Use cases to show common dilemmas and challenges and find solutions.* 1. Prepare for the discussion by selecting a case, preparing the group, studying the case, identifying the purpose, and arranging the room 2. Lay the ground-rules, provide an overview, use warm-up activities, read/review the case, and list the facts. 3. Generate discussion questions 4. Discuss the case by identifying roles and using varied questions. 5. Reflect on case content and the case review process. 6. Discuss implications for practice.	

Design	*Description/Steps*	*Thoughts & Applications*
Classroom Walk-Throughs Revised from Ginsberg, M. B. (2004). Classroom walk-throughs. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 85-93). Oxford, OH: National Staff Development Council.	*Conduct four- to five- to provide school-wide snapshot of environments, learning experiences, and student perspectives.* 1. Create the context for walk-throughs by identifying shared language, establishing inclusion, developing a positive attitude, and communicating competence. 2. Prepare for walk-throughs by gathering the group, practicing, and debriefing. 3. Conduct the walk-through and analyze standards, student engagement, classroom environment, practices, communication, etc. 4. Consolidate responses. 5. Share observations with team.	
Collaborative Examination of Student Work Adapted from Systems Integration Project, 2002. Examining Student Work	*Examine student work to target improved teaching and learning.* 1. Create blocks of time to look at student work in depth throughout the school year. 2. Use structured processes (protocols) to guide collaborative examination. 3. Discuss student assignments and work to determine implications for teaching and learning. 4. Conduct on site, in school, using classroom work or homework. 5. Involve teams of 4 to 8 teachers, administrators, counselors (may also have parents). 6. May be grade level, vertical, or content teams. 7. Schedule meetings held on a regular basis. 8. Specify meeting agenda and protocol.	
Critical Friends Groups Revised from Quate, S. (2004). Critical friends groups. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 95-102). Oxford, OH: National Staff Development Council.	*Use Critical Friends Groups to study instructional practices, build an understanding of "best" practices, discuss student work, talk about teacher tasks, and confer about professional issues.* 1. Identify facilitator, presenter, process observer, and responder roles. 2. Arrange the meeting. 3. Meet to discuss the work to be presented (facilitator and presenter). 4. Assign text reading. 5. Begin meeting with a bridge activity. 6. Establish norms for working together. 7. Discuss agreed-upon texts in a structured way. 8. Discuss the presenter's work using identified protocols. 9. Plan for the next meeting.	

Design	*Description/Steps*	*Thoughts & Applications*
Data Analysis Revised from Bernhardt, V. L. (2004). Data analysis. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 111-118). Oxford, OH: National Staff Development Council.	*Examine data independently and then study how the data sets related to each other holistically.* 1. Determine what data is important to gather, review, analyze. 2. Create data sources if you do not have the data sources. 3. Decide on how to disaggregate data (i.e. skills, sub-groups, grade level, teacher, content, etc.) 4. Identify individuals to gather data. 5. Graph data. 6. Analyze data results. 7. Determine what implications of data for changing practices. 8. Implement and follow-up on ideas.	
Instructional Gap Analysis Gregory, V. H. & Rozzelle, J. (2006). Williamsburg, VA: College of William and Mary.	*Identify best practices and reflect on current practice to determine a plan of action for improving instruction.* 1. Use varied resources to identify "best practices" for a content area or instructional concern. 2. Develop or use an existing document to list exemplary practices and foster reflection or current practices. 3. Individually compare and contrast current practices to exemplary practices and identify which practices are used to great extent and those used to little extent. 4. Share reflection on "gaps" with team members and look for common "gaps" 5. Determine an action plan for addressing instructional gaps. 6. Implement action plan and gather evidence of impact on students. 7. Share implementation actions and results with team.	
Journaling Compiled from Killion, J. (2004). Journaling. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 127133). Oxford, OH: National Staff Development Council.	*Engage teachers in journaling to process their thinking and learning in writing, to construct meaning, and to reflect on experiences.* 1. Establish guidelines for journaling to learn. 2. Establish journal entry format to describe, analyze, identify new knowledge, and/or determine future actions. 3. Respond to journal entries by answering questions, noticing thinking patterns, asking questions, offering ideas, linking to practice, and/or suggesting resources. 4. Share and analyze journals with team.	
Lesson Study Revised from Lewis, C. C. (2004). Lesson study. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp135-148). Oxford, OH: National Staff Development Council.	*Use lesson study to focus on what actually happens between teacher and students in the classroom.* 1. Form goals for student learning and long-term development. 2. Design a lesson collaboratively that reflects goals. 3. Teach the lesson with one member teaching while other members observing to gather evidence. 4. Discuss the gathered evidence and use the evidence to develop a new and improved lesson. 5. Teach the revised lesson in another classroom and repeat the process.	

Design	*Description/Steps*	*Thoughts & Applications*
Peer Coaching Revised from Robbins, P. (2004). Peer coaching. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 163-174). Oxford, OH: National Staff Development Council.	*Engage two or more colleagues in peer coaching to reflect on current practices, refine and build new skills; share ideas; teach one another; conduct classroom research; or solve problems.* 1. Get administrative support. 2. Develop a vision and purpose for peer coaching. 3. Identify supportive time, people, and material resources. 4. Learn about existing peer coaching practices and protocols. 5. Develop a plan and protocols that are appropriate for the school context. 6. Provide training to teachers participating in peer coaching. 7. Plan follow-up discussion and celebration.	
Practitioner Portfolios Revised from Dietz, M. E. (2004). Portfoios for educators. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 175-183). Oxford, OH: National Staff Development Council.	*Implement practitioner portfolios to collect and reflect on artifacts that will foster professional collaboration, conversation, reflection, inquiry and observations about work in schools.* 1. Examine sample portfolios collaboratively to build a shared understanding of portfolios. 2. Determine portfolio purpose to foster collegial conversations. 3. Articulate the purpose of the portfolio by identifying defining questions. 4. Describe the process including what the portfolio will look like; how educators will work together; and what plan will guide the work. 5. Establish reviews and schedule celebrations.	
Shadowing Students Compiled from Easton, L. B. (2004). Shadowing students. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 195-202). Oxford, OH: National Staff Development Council.	*Shadow students to follow a student or educator through one day, part of a day or longer, to understand what that person experiences.* 1. Prepare by exploring critical questions, reviewing aspects of the school context, and deciding who will shadow. 2. Initiate the shadowing process by selecting students to be shadowed and preparing shadows for what to do. 3. Debrief the shadowing experience by writing and sharing observations and determining themes, patterns, and generalizations, implications for practice, and future steps. 4. Implement and follow-up identified implications and future steps.	

Design	*Description/Steps*	*Thoughts & Applications*
Study Groups Compiled from Murphy, C. & Murphy, M. (2004). Study groups. In Easton, L. B. (Ed.). Powerful designs for professional learning. (pp. 217-230). Oxford, OH: National Staff Development Council.	*Use study groups to engage grade level teams, departments, or special needs groups in reading, researching, and sharing knowledge pertaining to professional development needs of an individual or school, relative to student needs. Study groups are based on five principles: 1) students are first; 2) everyone participates; 3) leadership is shared; 4) responsibility is equal; and 5) the work is public.* 1. Initiate study groups by determining the interest, deciding on training, conducting an orientation, and collecting data relative to student needs, 2. Analyze the data collected before the faculty meeting. 3. Identify student needs by individually writing and collectively preparing a master list of student needs evidenced in the data. 4. Categorize the student needs included on the master list and consolidate the categories until every student need on the master list is in one of the categories. 5. Complete an individual and study group action plan that identifies; 1) specific student needs, 2) data sources that document need, 3) baseline data, 4) study group target by a designated time, 4) resources for improvement, 5) data 6 to 12 weeks after implementation 6. Implement cycles of action research by assessing specific needs, planning for instruction (lesson plans), acting on the plans, and reflecting on student responses. 7. Evaluate the effect study groups have on student learning.	

4. Professional Learning Communities

PROFESSIONAL LEARNING COMMUNITIES

Excerpt based on work by the Center for Comprehensive School Reform and Improvement (2009)

Professional Learning Communities (PLCs) shift the focus of school reform from restructuring to reculturing (Louis, 2006). A PLC is an ongoing process used to establish a schoolwide culture that develops teacher leadership explicitly focused on building and sustaining school improvement efforts. Generally, PLCs are composed of teachers, although administrators and support staff routinely participate (Bolam, McMahon, Stoll, Thomas, & Wallace, 2005; Huffman, 2000). In some schools, PLCs are extended to community members and students, as appropriate (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Stoll & Louis, 2007). Through participation in PLCs, teachers enhance their leadership capacity while they work as members of ongoing, high-performing, collaborative teams that focus on improving student learning (Rentfro, 2007).

Definition of a PLC

Although there is no universal definition of a PLC (Stoll et al., 2006; Williams, Brien, Sprague, & Sullivan, 2008), the following definitions offer a range of ways to describe a PLC:

- An ongoing process through which teachers and administrators work collaboratively to seek and share learning and to act on their learning, their goal being to enhance their effectiveness as professionals for students' benefit (Hord, 1997)
- A school culture that recognizes and capitalizes on the collective strengths and talents of the staff (Protheroe, 2008).
- A strategy to increase student achievement by creating a collaborative school culture focused on learning (Feger & Arruda, 2008).
- Team members who regularly collaborate toward continued improvement in meeting learner needs through a shared curricular-focused vision (Reichstetter, 2006).
- A group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive learning-oriented and growth-promoting way (McREL, 2003).
- Educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, DuFour, Eaker, & Many, 2006).
- An inclusive group of people, motivated by a shared learning vision, who support and work with each other to inquire on their practice and together learn new and better approaches to enhance student learning (Stoll, Bolam, McMahon, Thomas, Wallace, Greenwood et al., 2005).

While these definitions capture the spirit of PLCs, they are only a starting point for understanding them.

What makes a PLC difficult to define is that it is not a prescription, a new program, a model, or an innovation to be implemented. Rather, a PLC is an infrastructure or a way of working together that results in continuous school improvement (Hord, 1997).

Characteristics of a PLC

A PLC is not a model, per se; rather, it is an approach or process. Most PLC definitions assume a set of characteristics that reflect the nature of a true PLC. An understanding of these characteristics provides educators with a shared lens through which to examine their own PLCs. They also can provide an infrastructure for shaping practice and assessing progress. A brief description of some of the most commonly cited characteristics follow:

- **Collaborative culture** (Bolam et al., 2005; Feger & Arruda, 2008; Kruse, Louis, & Bryk, 1994). PLCs are based on the premise that through collaboration, professionals achieve more than they could alone (DuFour & Eaker, 1998). Teachers benefit from the resources that each brings to the PLC (Newman, 1994). Collaboration provides a mechanism for sharing responsibility for student learning and a means to work together toward a common purpose (Reichstetter, 2006; Stoll et al., 2006).

  Collaboration (e.g., opportunities for teachers to engage in ongoing collegial opportunities where they talk about teaching, receive frequent feedback on teaching, design classes together, teach each other, etc.) has been found in successful schools and is missing in unsuccessful schools (Little, 1989, 2003).

- **Focus on examining outcomes to improve student learning** (DuFour, 2004; Feger & Arruda, 2008; Kruse, Louis, & Bryk, 1994; Louis, 2006).

  PLCs promote results-oriented thinking that is focused on continuous improvement and student learning (Reichstetter, 2006). The focus goes beyond a team getting together to look at data. In PLCs, teachers respond to data that require mutual accountability and changing classroom practices. Data help motivate teachers to see what is happening and what they need to do collectively (White & McIntosh, 2007).

- **Supportive and shared leadership** (Feger & Arruda, 2008; Hord, 1997; Kruse, Louis, & Bryk, 1994; Louis & Kruse, 1995; Mitchell & Sackney, 2006).

  PLCs often are viewed as a foundation for developing teacher leaders (Caine & Caine, 2000). Administrators are committed to sharing decision making with teachers and providing opportunities for them to serve as leaders (Hargreaves & Fink, 2006; McREL, 2003). Leadership is shared and distributed among formal and informal leaders (Phillips, 2003; Reichstetter, 2006).

  The purposes and goals of a PLC grow from among the participants, based on their values, beliefs, and individual and shared experiences (Thompson, Gregg, & Niska, 2004). Teacher leadership capacity sustains PLCs. Sharing power and authority with teachers through decision making and shared leadership increases leadership capacity and builds a belief in the school's collective ability to affect student teaching (Olivier & Hipp, 2006).

- **Shared personal practice** (Hord, 1997; Kruse, Louis, & Bryk, 1994; Thompson, Gregg, & Niska, 2004).

  A major focus of PLCs is on professional learning in which teachers work and learn together as they continually evaluate the effectiveness of their practices and the needs, interests, and skills of their students (McREL, 2003).Teachers share experiences, observe each other, and discuss teaching. Shared practice and collective inquiry help sustain improvement by strengthening connections among teachers, stimulating discussion about professional practice, and helping teachers build on one another's expertise (McREL, 2003). Through continuous inquiry and reflective dialogue teachers discover solutions and address student needs (Hord, 1997; Stoll et al., 2006)

The ABC's of PLC's

Gregory, V. H. (2007). Chesterfield, VA: Chesterfield County Public Schools

Educators are famous for their abbreviated versions of the real thing. We are the collective authors of NCLB, SOLS, AP and IB and often, we use these terms glibly, with little thought to the defining characteristics or underlying philosophies.

PLC—professional learning community—is one of the latest (and greatest) additions to our acronym repertoire; but after listening to several conversations, one soon learns that PLC means different things to different people. Examine the six-year plan; listen to staff meeting conversations; pick up an educational publisher's catalogue; or, attend a national or state conference—you will probably find some reference to PLC's. How can we in Chesterfield County Public Schools define the term "PLC" so that we are speaking a common language? What does this mean—professional learning community?

Professional learning communities consist of, "Educators committed to working *collaboratively* in ongoing processes of collective inquiry and action research in order to achieve better results for the students they serve. PLCs operate under the assumption that the key to *improved learning* for students is continuous *job-embedded learning for educators*" (DuFour, DuFour, Eaker, Many, 2006). Professional learning communities share certain defining characteristics that reflect the best practices for leading school reform. The defining characteristics can be described as the ABC's of PLC's.

A = Assess Students and Examine Student Achievement

PLC's clarify essential outcomes for all students and develop common formative assessments that will measure student learning of these outcomes. Administration of common assessments results in the identification of students who 1) did not meet the target, 2) met the target, and 3) exceeded the target.

B = Build Collaborative Teams that Focus on Improved Teaching and Learning

PLC's engage in practices that reflect the belief that ALL students WILL learn and establish systems of support for students who are not learning. Teams improve instruction by identifying research-based instructional strategies and examining whether current instructional strategies reflect such practices. This "instructional gap analysis" engages staff in open-honest dialogue about how to improve.

C = Commit to Continuous Improvement

PLC's identify results-oriented improvement goals that target the explicit needs of students for whom they are collectively responsible. Teams engage in *relevant* ongoing, professional development experiences that link to the identified goals. The professional development experiences are job-embedded and differentiated according to what is needed to improve instruction and learning. The teams commit to trying new practices, assessing the impact of collective efforts, and gathering new data pertaining to the results-oriented goals.

Planning for Effective Professional Community Meetings

1. Establish Norms or Ground Rules

Suggested Topics

- Attendance
- Promptness
- Equal opportunity to participate
- Interruptions
- Assignments
- Decision making
- Confidentiality
- Meeting evaluation
- Conversational courtesies

Note: Review the established norms at the beginning of each meeting and make commitment to norms.

2. Establish Meeting Roles

- Facilitator – Keeps the group on task
- Timekeeper – Keeps the group on time.
- Note Taker or Recorder – Keeps an official record of the meeting decisions/actions.
- Observer – Observes how the team works together.
- Encourager—Cheers on the team.

Note: These roles should be rotated throughout the team, from meeting to meeting.

3. Establish Meeting Agendas

- Purpose
- Meeting outcomes
- Topics
- Treatments
- Time estimates
- Lead people
- Methods

Note: Quickly review agenda items and timeline at the beginning of each meeting.

4. Conduct Results-Oriented Meetings

Sample Results-Oriented PLC Strategies

- Analyze data related to school improvement plan by grade-level, subject, or department and determine greatest area of need.
- Develop SMART Goals based on data analysis.
- Research "best practices," conduct a "gap analysis" and target a plan of action.
- Collaboratively examine student work.
- Engage in lesson study.
- Develop common assessments and analyze results.
- Develop a product/process/plan.
- Resolve a problem or conflict.

5. Reflect on Team Work at the Completion of Each Meeting

- How well did we accomplish our goals for this meeting?
- In what ways did we work well as a team today?
- How could we have improved our teamwork today?

17. Learning Forward Standards for Professional Development

Learning Forward Standards for Professional Development		
Standard	Description	Actions to Take
Learning Communities Standard	Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment.	• Engage in continuous improvement • Develop collective responsibility • Create alignment and accountability
Leadership Standard	Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning.	• Develop capacity for learning and leading • Advocate for professional learning • Create support systems and structures
Resources Standard	Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning.	• Prioritize human, fiscal, material, technology, and time resources • Monitor resources • Coordinate resources
Data Standard	Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning.	• Analyze student, educator, and system data • Assess progress • Evaluate professional learning
Learning Designs Standards	Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes.	• Apply learning theories, research, and models • Select learning designs • Promote active engagement
Implementation Standard	Professional learning that increases educator effectiveness and results for all students applies research on change and sustains support for implementation of professional learning for long-term change.	• Apply change research • Sustain implementation • Provide constructive feedback
Outcomes Standard	Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards.	• Meet performance standards • Address learning outcomes • Build coherence

LEARNING COMMUNITIES STANDARD

Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment.

Professional learning within communities requires continuous improvement, promotes collective responsibility, and supports alignment of individual, team, school, and school system goals. Learning communities convene regularly and frequently during the workday to engage in collaborative professional learning to strengthen their practice and increase student results. Learning community members are accountable to one another to achieve the shared goals of the school and school system and work in transparent, authentic settings that support their improvement.

Engage In Continuous Improvement

Learning communities apply a cycle of continuous improvement to engage in inquiry, action research, data analysis, planning, implementation, reflection, and evaluation. Characteristics of each application of the cycle of continuous improvement are:

- The use of data to determine student and educator learning needs;
- Identification of shared goals for student and educator learning;
- Professional learning to extend educators' knowledge of content, content-specific pedagogy, how students learn, and management of classroom environments;
- Selection and implementation of appropriate evidence-based strategies to achieve student and educator learning goals;
- Application of the learning with local support at the work site;
- Use of evidence to monitor and refine implementation; and
- Evaluation of results.

Develop Collective Responsibility

Learning communities share collective responsibility for the learning of all students within the school or s system. Collective responsibility brings together the entire education community, including members of th education workforce -- teachers, support staff, school system staff, and administrators -- as well as familie policy makers, and other stakeholders, to increase effective teaching in every classroom. Within learning communities, peer accountability rather than formal or administrative accountability ignites commitment t professional learning. Every student benefits from the strengths and expertise of every educator when communities of educators learn together and are supported by local communities whose members value education for all students.

Collective participation advances the goals of a whole school or team as well as those of individuals. Communities of caring, analytic, reflective, and inquiring educators collaborate to learn what is necessary increase student learning. Within learning communities, members exchange feedback about their practice one another, visit each other's classrooms or work settings, and share resources. Learning community men strive to refine their collaboration, communication, and relationship skills to work within and across both internal and external systems to support student learning. They develop norms of collaboration and relatio trust and employ processes and structures that unleash expertise and strengthen capacity to analyze, plan, implement, support, and evaluate their practice.

While some professional learning occurs individually, particularly to address individual development goals, the more one educator's learning is shared and supported by others, the more quickly the culture of continuous improvement, collective responsibility, and high expectations for students and educators grows. Collective responsibility and participation foster peer-to-peer support for learning and maintain a consistent focus on shared goals within and across communities. Technology facilitates and expands community interaction, learning, resource archiving and sharing, and knowledge construction and sharing. Some educators may meet with peers virtually in local or global communities to focus on individual, team, school, or school system improvement goals. Often supported through technology, cross-community communication within schools, across schools, and among school systems reinforces shared goals, promotes knowledge construction and sharing, strengthens coherence, taps educators' expertise, and increases access to and use of resources.

Communities of learners may be various sizes, include members with similar or different roles or responsibilities, and meet frequently face-to-face, virtually, or through a combination. Educators may be members of multiple learning communities. Some communities may include members who share common students, areas of responsibility, roles, interests, or goals. Learning communities tap internal and external expertise and resources to strengthen practice and student learning. Because the education system reaches out to include students, their families, community members, the education workforce, and public officials who share responsibility for student achievement, some learning communities may include representatives of these groups.

Create Alignment And Accountability

Professional learning that occurs within learning communities provides an ongoing system of support for continuous improvement and implementation of school and systemwide initiatives. To avoid fragmentation among learning communities and to strengthen their contribution to school and system goals, public officials and school
system leaders create policies that establish formal accountability for results along with the support needed to achieve results. To be effective, these policies and supports align with an explicit vision and goals for successful learning communities. Learning communities align their goals with those of the school and school system, engage in continuous professional learning, and hold all members collectively accountable for results.

The professional learning that occurs within learning communities both supports and is supported by policy and governance, curriculum and instruction, human resources, and other functions within a school system. Learning communities bridge the knowing-doing gap by transforming macro-level learning -- knowledge and skill development -- into micro-level learning -- the practices and refinements necessary for full implementation in the classroom or workplace. When professional learning occurs within a system driven by high expectations, shared goals, professionalism, and peer accountability, the outcome is deep change for individuals and systems.

Related Research

- **Bolam, R., McMahon, A., Stoll, L., Thomas, S., & Wallace, M. (with Greenwood, A., et al.). (2005, May).** *Creating and sustaining effective professional learning communities* (Research Brief RB637). Nottingham, United Kingdom: Department for Education and Skills.

- **Hord, S.M. (Ed.). (2004).** *Learning together, leading together: Changing schools through professional learning communities.* New York: Teachers College Press & NSDC.

- **Lieberman, A. & Miller, L. (Eds.) (2008).** *Teachers in professional communities: Improving teaching and learning*. New York: Teachers College Press.

- **McLaughlin, M.W. & Talbert, J.E. (2001).** *Professional communities and the work of high school teaching*. Chicago: University of Chicago Press.

- **Saunders, W.M., Goldenberg, C.N., & Gallimore, R. (2009, December).** Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title I schools. *American Educational Research Journal*, 46(4), 1006-1033.

LEADERSHIP STANDARD

Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning.

Leaders throughout the pre-K-12 education community recognize effective professional learning as a key strategy for supporting significant school and school system improvements to increase results for all students. Whether they lead from classrooms, schools, school systems, technical assistance agencies, professional associations, universities, or public agencies, leaders develop their own and others' capacity to learn and lead professional learning, advocate for it, provide support systems, and distribute leadership and responsibility for its effectiveness and results.

Develop Capacity For Learning And Leading

Leaders hold learning among their top priorities for students, staff, and themselves. Leaders recognize that universal high expectations for all students require ambitious improvements in curriculum, instruction, assessment, leadership practices, and support systems. These improvements require effective professional learning to expand educators' knowledge, skills, practices, and dispositions. All leaders demand effective professional learning focused on substantive results for themselves, their colleagues, and their students. Leaders artfully combine deep understanding of and cultural responsiveness to the community they serve with high expectations and support for results to achieve school and school system goals. They embed professional learning into the organization's vision by communicating that it is a core function for improvement and by establishing and maintaining a public and persistent focus on educator professional learning.

Leaders of professional learning are found at the classroom, school, and system levels. They set the agenda for professional learning by aligning it to classroom, school, and school system goals for student and educator learning, using data to monitor and measure its effects on educator and student performance. They may facilitate professional learning, coach and supervise those who facilitate it, or do both. As facilitators of professional learning, they apply a body of technical knowledge and skills to plan, design, implement, and evaluate professional learning. As coaches and supervisors of those who facilitate professional learning, they develop expertise in others about effective professional learning, set high standards for their performance, and use data to give frequent, constructive feedback.

To engage in constructive conversations about the alignment of student and educator performance, leaders

cultivate a culture based on the norms of high expectations, shared responsibility, mutual respect, and relational trust. They work collaboratively with others, such as school and system-based resource personnel and external technical assistance providers, so that all educators engage in effective job-embedded or external professional learning to meet individual, team, school, and system goals.

Systems that recognize and advance shared leadership promote leaders from all levels of the organizations. Leaders can hold formal roles, such as principal, instructional coach, or task force chair, for long periods of time or informal roles, such as voluntary mentor or spokesperson, for shorter periods. All leaders share responsibility for student achievement among members of the school and community. Leaders hold themselves and others accountable for the quality and results of professional learning. Leaders work collaboratively with others to create a vision for academic success and set clear goals for student achievement based on educator and student learning data.

Advocate For Professional Learning

Leaders clearly articulate the critical link between increased student learning and educator professional learning. As supporters of professional learning, they apply understanding of organizational and human changes to design needed conditions, resources, and other supports for learning and change.

As advocates for professional learning, leaders make their own career-long learning visible to others. They participate in professional learning within and beyond their own work environment. Leaders consume information in multiple fields to enhance their leadership practice. Through learning, they clarify their values and beliefs and their influence on others and on the achievement of organizational goals. Their actions model attitudes and behavior they expect of all educators.

Leaders engage with all stakeholders -- those within the education workforce, students, public officials who oversee schools, parent and community organizations, and the business community -- to communicate the importance of professional learning. They engage parents and other caretakers in the education of their children and establish partnerships with key community organizations to promote the success of all students.

Create Support Systems And Structures

Skillful leaders establish organizational systems and structures that support effective professional learning and ongoing continuous improvement. They equitably distribute resources to accomplish individual, team, school, and school system goals. Leaders actively engage with policy makers and decision makers so that resources, policies, annual calendars, daily schedules, and structures support professional learning to increase student achievement. Leaders create and align policies and guidelines to ensure effective professional learning within their school systems or schools. They work within national, regional, and local agencies to adopt standards, monitor implementation, and evaluate professional learning's effectiveness and results.

Related Research

- **Knapp, M.S., Copland, M.A., & Talbert, J.E. (2003, February).** *Leading for learning: Reflective tools for school and district leaders.* Seattle, WA: Center for the Study of Teaching and Policy.

- **Leithwood, K., Louis, K.S., Anderson, S., & Wahlstrom, K. (2004).** *How leadership influences student learning: A review of research for the Learning from Leadership Project.* New York: Wallace

Foundation.

- **Spillane, J.P., Halverson, R., & Diamond, J.B. (2001, April).** Investigating school leadership practice: A distributed perspective. *Educational Researcher*, 30(3), 23-27.

- **Waters, J.T., Marzano, R.J., & McNulty, B.A. (2003).** *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement.* Aurora, CO: McREL.

- **York-Barr, J. & Duke, K. (2004, Fall).** What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research*, 74(3), 255-316.

RESOURCES STANDARD

Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning.

Effective professional learning requires human, fiscal, material, technology, and time resources to achieve student learning goals. How resources are allocated for professional learning can overcome inequities and achieve results for educators and students. The availability and allocation of resources for professional learning affect its quality and results. Understanding the resources associated with professional learning and actively and accurately tracking them facilitates better decisions about and increased quality and results of professional learning.

Prioritize Human, Fiscal, Material, Technology, And Time Resources

Resources for professional learning include staff, materials, technology, and time, all dependent on available funding. How these resources are prioritized to align with identified professional learning needs affects access to, quality of, and effectiveness of educator learning experiences. Decisions about resources for professional learning require a thorough understanding of student and educator learning needs, clear commitment to ensure equity in resource allocation, and thoughtful consideration of priorities to achieve the intended outcomes for students and educators.

Staff costs are a significant portion of the resource investment in professional learning. Costs in this category include school and school system leaders and other specialized staff who facilitate or support school- or school system-based professional learning, such as instructional coaches, facilitators, and mentors, as well as salary costs for educators when professional learning occurs within their workday. The time leaders commit to professional learning either their own or for those they supervise, is a cost factor because it is time these leaders are investing in professional learning; managing this time is another area of responsibility for leaders.

Time allocated for professional learning is another significant investment. Education systems worldwide have schedules that provide time in the school day for teacher collaboration and planning to increase student learning. Learning time for educators may extend into after-school meetings, summer extended learning experiences, and occasional times during the workday when students are not present.

Professional learning embedded into educators' workdays increases the opportunity for all educators to receive individual, team, or school-based support within the work setting to promote continuous

improvement. Dedicated job-embedded learning time elevates the importance of continuous, careerlong learning as a professional responsibility of all educators and aligns the focus of their learning to the identified needs of students they serve. Including substantive time for professional learning, 15% or more, within the workday shifts some costs for external professional learning to support job-embedded professional learning.

Technology and material resources for professional learning create opportunities to access information that enriches practice. Use of high-speed broadband, web-based and other technologies, professional journals and books, software, and a comprehensive learning management system is essential to support individual and collaborative professional learning. Access to just-in-time learning resources and participation in local or global communities or networks available to individuals or teams of educators during their workday expand opportunities for job-embedded professional learning.

Investments in professional learning outside the school or workplace supplement and advance job-embedded professional learning. To increase alignment and coherence between job-embedded and external professional learning, both must address the individual, school, and school system goals for educator and student learning.

When economic challenges emerge, schools and school systems often reduce investments in professional learning. In high-performing countries, professional learning is valued so highly as a key intervention to improve schools that reducing it is not an option. Top-performing businesses frequently increase training and development in challenging times. In lean times, professional learning is especially important to prepare members of the workforce for the changes they will experience, maintain and increase student achievement, develop flexibility to detect and adapt to new economic conditions and opportunities, and sustain employee morale, retention, commitment, and expertise.

Monitor Resources

Resources for professional learning come from many sources, including government allocations, public and private agencies, and educators themselves. Tracking and monitoring these resources is challenging, yet essential. Some costs, such as those for staff, registrations, consultants, materials, stipends for mentor teachers, and relief teachers, are relatively easy to track. Others, such as the portion of time educators are engaged in job-embedded professional learning and technology used for professional learning, are more difficult to monitor. Yet without a consistent and comprehensive process to track and monitor resources, it is difficult to evaluate the appropriateness or effectiveness of their allocation and use.

The level of funding for professional learning in schools varies tremendously. Some studies on professional learning in public schools have suggested that the investments range from less than 1% of total operating expenses to as high as 12%. In the highest-performing countries, investments in professional learning for educators, particularly teachers and principals, are much higher. Decisions about funding must specifically address inequities in learning needs and opportunities to learn and be given highest priority so that that all students and the educators who serve them have the resources to achieve at the highest levels.

Coordinate Resources

The coordination of resources for professional learning is essential to their appropriate and effective use. With funding for professional learning, school improvement, and other reform initiatives coming from multiple sources and for multiple purposes, ensuring alignment and effectiveness in resource use is

paramount to ensuring success. School and school system leaders are primarily responsible for coordinating resources. However, all educators have a shared responsibility to understand and contribute to decisions about and monitor the effectiveness of resources allocated for professional learning.

To make certain that resources invested in professional learning achieve their intended results, school system leaders regularly convene representatives of all stakeholders to examine and recommend changes to policies, regulations, and agreements related to professional learning.

Related Research

- **Abdal-Haqq, I. (1996).** *Making time for teacher professional development*. Washington, DC: ERIC Clearinghouse on Teaching and Teacher Education. (ERIC Document Reproduction Service No. ED 400259)

- **Chambers, J.G., Lam, I., & Mahitivanichcha, K. (2008, September).** *Examining context and challenges in measuring investment in professional development: A case study of six school districts in the Southwest region* (Issues & Answers Report, REL 2008-No. 037). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest.

- **Haslam, M.B. (1997, Fall).** How to rebuild a local professional development infrastructure. *NAS Getting Better by Design.* Arlington, VA: New American Schools.

- **Odden, A., Archibald, S., Fermanich, M., & Gallagher, H.A. (2002).** A cost framework for professional development. *Journal of Education Finance*, 28(1), 51-74.

- **OECD. (2011).** *Strong performers and successful reformers in education: Lessons from PISA for the United States.* Paris: OECD Publishing.

DATA STANDARD

Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning.

Data from multiple sources enrich decisions about professional learning that leads to increased results for every student. Multiple sources include both quantitative and qualitative data, such as common formative and summative assessments, performance assessments, observations, work samples, performance metrics, portfolios, and self-reports. The use of multiple sources of data offers a balanced and more comprehensive analysis of student, educator, and system performance than any single type or source of data can. However, data alone do little to inform decision making and increase effectiveness.

Thorough analysis and ongoing use are essential for data to inform decisions about professional learning, as is support in the effective analysis and use of data.

Analyze Student, Educator, And System Data

Data about students, educators, and systems are useful in defining individual, team, school, and system goals for professional learning. Probing questions guide data analysis to understand where students are in relationship to the expected curriculum standards and to identify the focus for educator professional learning. Student data include formal and informal assessments, achievement data such as grades and annual, benchmark, end-of-course, and daily classroom work, and classroom assessments. Other forms of data, such as those that cover demographics, engagement, attendance, student perceptions, behavior and discipline, participation in extracurricular programs, and post-graduation education, are useful in understanding student learning needs, particularly if they are analyzed by student characteristics.

Knowing student learning needs guides decisions about educator professional learning, yet student data alone are insufficient. A comprehensive understanding of educator learning needs is essential to planning meaningful professional learning. Sample data to consider for identifying goals for educator learning include preparation information, performance on various assessments, educator perceptions, classroom or work performance, student results, and individual professional learning goals.

Changes at the student and educator levels are best sustained when school and system-level learning occur simultaneously. School and system administrators also engage in data collection and analysis to determine changes in policy, procedures, fiscal resources, human resources, time, or technology, for example, needed to support school- and team-based learning. Administrators might analyze data about inputs, such as fiscal, personnel, and time allocation; outputs, such as frequency of participation, level of engagement, and type of communication; and outcomes, such as changes in educator practice and student achievement.

Assess Progress

Data also are useful to monitor and assess progress against established benchmarks. At the classroom level, teachers use student data to assess the effectiveness of the application of their new learning. When teachers, for example, design assessments and scoring guides and engage in collaborative analysis of student work, they gain crucial information about the effect of their learning on students. Evidence of ongoing increases in student learning is a powerful motivator for teachers during the inevitable setbacks that accompany complex change efforts.

At the school level, leadership teams use data to monitor implementation of professional learning and its effects on educator practice and student learning. Engaging teams of teacher leaders and administrators in analyzing and interpreting data, for example, provides them a more holistic view of the complexity of school improvement and fosters collective responsibility and accountability for student results.

Frequent collection and use of data about inputs, outputs, and outcomes of professional learning reinforce the cycle of continuous improvement by allowing for ongoing adjustments in the learning process to increase results for students, educators, and systems. Ongoing data collection, analysis, and use, especially when done in teams, provide stakeholders with information that sustains momentum and informs continuous improvement.

Evaluate Professional Learning

Those responsible for professional learning implement and maintain standards for professional learning and use the standards to monitor, assess, and evaluate it. Well-designed evaluation of professional learning provides information needed to increase its quality and effectiveness. Evaluation of professional

learning also provides useful information for those who advocate for professional learning; those responsible for engaging in, planning, facilitating, or supporting professional learning; and those who want to know about the contribution of professional learning to student achievement.

Internal and external evaluators conduct evaluations of professional learning. Some professional learning, such as programs funded through grants or other special funding, requires formal, external evaluations. Whether or not an external evaluation is required, all professional learning should be evaluated on an ongoing basis for its effectiveness and results. For example, a school system might engage in a rigorous evaluation of its mentoring and induction program every three years and collect other output data annually for formative assessment.

Questions that guide the evaluation of professional learning address its worth, merit, and effects. Evaluation questions are designed based on the goals of professional learning and the various audiences interested in the evaluation. For example, federal policy makers might want to know if the investment in professional learning contributed to changes in student achievement. School system leaders may want to know if increasing time for teacher collaboration and adding coaches result in changes in teacher practice and student learning. Teachers might want to know if the implementation of new instructional practices increased their effectiveness with certain types of students. Evaluators design a process to answer the evaluation questions, gather quantitative and qualitative data from various sources, analyze and interpret the data, form conclusions, and recommend future actions.

Evaluation of professional learning includes examination of data related to inputs, outputs, and outcomes. Evaluation of professional learning follows a rigorous process, international standards for evaluation, and a code of ethics for evaluators.

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LEARNING DESIGNS STANDARDS

Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes.

Integrating theories, research, and models of human learning into the planning and design of professional learning contributes to its effectiveness. Several factors influence decisions about learning designs, including the goals of the learning, characteristics of the learners, their comfort with the learning process and one another, their familiarity with the content, the magnitude of the expected change, educators' work environment, and resources available to support learning. The design of professional learning affects its quality and effectiveness.

Apply Learning Theories, Research, And Models

Cognitive psychologists, neuroscientists, and educators have studied how learning occurs for nearly a century. The resulting theories, research, and models of human learning shape the underlying framework and assumptions educators use to plan and design professional learning. While multiple designs exist, many have common features, such as active engagement, modeling, reflection, metacognition, application, feedback, ongoing support, and formative and summative assessment that support change in knowledge, skills, dispositions, and practice.

Professional learning occurs in face-to-face, online, and hybrid settings. Some professional learning focuses on individual learning, while other forms focus on team-based or whole-school learning. Most professional learning occurs as a part of the workday, while other forms occur outside the school day. Both formal and informal designs facilitate and organize educator learning. Some learning designs use structured processes such as courses or workshops. Others are more fluid to allow for adjustments in the learning process. Some learning designs require team members or external experts as facilitators, while others are individually organized. Learning designs use synchronous or asynchronous interactions, live or simulated models and experiences, and print and nonprint resources to present information, model skills and procedures, provide low-risk practice, and support transfer to the workplace.

Job-embedded learning designs engage individuals, pairs, or teams of educators in professional learning during the workday. Designs for job-embedded learning include analyzing student data, case studies, peer observation or visitations, simulations, co-teaching with peers or specialists, action research, peer and expert coaching, observing and analyzing demonstrations of practice, problem-based learning, inquiry into practice, student observation, study groups, data analysis, constructing and scoring assessments, examining student or educator work, lesson study, video clubs, professional reading, or book studies. Learners and facilitators of learning may weave together multiple designs within on-site, online, or hybrid learning to achieve identified goals and to differentiate learning designs to meet the unique needs of individual learners. Learning designs that occur during the workday and engage peers in learning facilitate ongoing communication about learning, develop a collaborative culture with peer accountability, foster professionalism, and support transfer of the learning to practice.

Technology is rapidly enhancing and extending opportunities for professional learning. It

particularly facilitates access to, sharing, construction, and analysis of information to enhance practice. Technology exponentially increases possibilities for personalizing, differentiating, and deepening learning, especially for educators who have limited access to on-site professional learning or who are eager to reach beyond the boundaries of their own work setting to join local or global networks to enrich their learning.

Select Learning Designs

When choosing designs for professional learning, educators consider multiple factors. The first is the intended outcome, drawn from analysis of student and educator learning needs. Learning designs that engage adult learners in applying the processes they are expected to use facilitate the learning of those behaviors by making them more explicit. Effective designs for professional learning assist educators in moving beyond comprehension of the surface features of a new idea or practice to developing a more complete understanding of its purposes, critical attributes, meaning, and connection to other approaches. To increase student learning, educator learning provides many opportunities for educators to practice new learning with ongoing assessment, feedback, and coaching so the learning becomes fully integrated into routine behaviors.

Educators are responsible for taking an active role in selecting and constructing learning designs that facilitate their own and others' learning. They choose appropriate learning designs to achieve their individual, team, or school goals. Educators' learning characteristics and preferences also inform decisions about learning designs. Learners' backgrounds, experiences, beliefs, motivation, interests, cognitive processes, professional identity, and commitment to school and school system goals affect how educators approach professional learning and the effectiveness of various learning designs. Decisions about learning designs consider all phases of the learning process, from knowledge and skill acquisition to application, reflection, refinement, assessment, and evaluation. Learning designers consider how to build knowledge, develop skills, transform practice, challenge attitudes and beliefs, and inspire action.

Promote Active Engagement

Active engagement in professional learning promotes change in educator practice and student learning. Active engagement occurs when learners interact during the learning process with the content and with one another. Educator collaborative learning consistently produces strong, positive effects on achievement of learning outcomes. Active engagement respects adults as professionals and gives them significant voice and choice in shaping their own learning. Through active engagement, educators construct personal meaning of their learning, are more committed to its success, and identify authentic applications for their learning. Active learning processes promote deep understanding of new learning and increase motivation to implement it. Active learning processes include discussion and dialogue, writing, demonstrations, inquiry, reflection, metacognition, co-construction of knowledge, practice with feedback, coaching, modeling, and problem solving. Through exploration of individual and collective experiences, learners actively construct, analyze, evaluate, and synthesize knowledge and practices.

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IMPLEMENTATION STANDARD

Professional learning that increases educator effectiveness and results for all students applies research on change and sustains support for implementation of professional learning for long-term change.

The primary goals for professional learning are changes in educator practice and increases in student learning. This is a process that occurs over time and requires support for implementation to embed the new learning into practices. Those responsible for professional learning apply findings from change process research to support long-term change in practice by extending learning over time. They integrate a variety of supports for individuals, teams, and schools. Finally, they integrate constructive feedback and reflection to support continuous improvement in practice that allows educators to move along a continuum from novice to expert through application of their professional learning.

Apply Change Research

Effective professional learning integrates research about individual, organization, technical, and adaptive change through supporting and sustaining implementation for long-term change. Those responsible for professional learning, whether leaders, facilitators, or participants, commit to long-term change by setting clear goals and maintaining high expectations for implementation with fidelity. Drawing from multiple bodies of research about change, leaders provide and align resources, including time, staff, materials, and technology, to initiate and sustain implementation. Individuals, peers, coaches, and leaders use tools and metrics to gather evidence to monitor and assess implementation. Leaders and coaches model salient practices and maintain a sustained focus on the goals and strategies for achieving them. Leaders create and maintain a culture of support by encouraging stakeholders to use data to identify implementation challenges and engage them in identifying and recommending ongoing refinements to increase results. They

engender community support for implementation by communicating incremental successes, reiterating goals, and honestly discussing the complexities of deep change.

Understanding how individuals and organizations respond to change and how various personal, cognitive, and work environment factors affect those experiencing change gives those leading, facilitating, or participating in professional learning the ability to differentiate support, tap educators' strengths and talents, and increase educator effectiveness and student learning.

Sustain Implementation

Professional learning produces changes in educator practice and student learning when it sustains implementation support over time. Episodic, periodic, or occasional professional learning has little effect on educator practice or student learning because it rarely includes ongoing support or opportunities for extended learning to support implementation. Formal professional learning, such as online, on-site, or hybrid workshops, conferences, or courses, is useful to develop or expand knowledge and skills, share emerging ideas, and network learners with one another. To bridge the knowing-doing gap and integrate new ideas into practice, however, educators need three to five years of ongoing implementation support that includes opportunities to deepen their understanding and address problems associated with practice.

Ongoing support for implementation of professional learning takes many forms and occurs at the implementation site. It may be formalized through ongoing workshops designed to deepen understanding and refine educator practice. It occurs through coaching, reflection, or reviewing results. It may occur individually, in pairs, or in collaborative learning teams when educators plan, implement, analyze, reflect, and evaluate the integration of their professional learning into their practice. It occurs within learning communities that meet to learn or refine instructional strategies; plan lessons that integrate the new strategies; share experiences about implementing those lessons; analyze student work together to reflect on the results of use of the strategies; and assess their progress toward their defined goals. School- and system-based coaches provide extended learning opportunities, resources for implementation, demonstrations of the practices, and specific, personalized guidance. Peer support groups, study groups, peer observation, co-teaching, and co-planning are other examples of extended support. When educators work to resolve challenges related to integration of professional learning, they support and sustain implementation. Professional learning is a process of continuous improvement focused on achieving clearly defined student and educator learning goals rather than an event defined by a predetermined number of hours.

Provide Constructive Feedback

Constructive feedback accelerates implementation by providing formative assessment through the learning and implementation process. It provides specific information to assess practice in relationship to established expectations and to adjust practice so that it more closely aligns with those expectations. Feedback from peers, coaches, supervisors, external experts, students, self, and others offers information for educators to use as they refine practices. Reflection is another form of feedback in which a learner engages in providing constructive feedback on his or her own or others' practices.

Effective feedback is based on clearly defined expected behaviors, acknowledges progress toward expectations, and provides guidance for achieving full implementation. Giving and receiving feedback about successes and improvements require skillfulness in clear, nonjudgmental communication based on evidence, commitment to continuous improvement and shared goals, and trusting, respectful relationships between those giving and receiving feedback.

To add validity and reliability to the feedback process, educators develop and use common, clear expectations that define practice so that the feedback is focused, objective, relevant, valid, and purposeful. Educators consider and decide what evidence best demonstrates the expected practices and their results. Frequent feedback supports continuous improvement, whereas occasional feedback is often considered evaluative. Feedback about progress toward expected practices provides encouragement to sustain the desired changes over time. Tools that define expected behaviors facilitate data collection and open, honest feedback.

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OUTCOMES STANDARD

Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards.

For all students to learn, educators and professional learning must be held to high standards. Professional learning that increases results for all students addresses the learning outcomes and performance expectations education systems designate for students and educators. When the content of professional learning integrates student curriculum and educator performance standards, the link between educator learning and student learning becomes explicit, increasing the likelihood that professional learning contributes to increased student learning. When systems increase the stakes for students by demanding high, equitable outcomes, the stakes for professional learning increase as well.

Meet Performance Standards

Educator performance standards typically delineate the knowledge, skills, practices, and dispositions of highly effective educators. Standards guide preparation, assessment, licensing, induction, practice, and evaluation. Frequently regulated by government agencies, standards establish requirements for educator preparation, define expectations of an effective workforce, guide career-long professional learning of the education workforce, and set fair and reliable indicators of effectiveness for measuring educator performance.

Teacher standards specify what teachers need to know and do to deliver on the promise of an effective, equitable education for every student. Typical areas included in teacher standards are knowledge, skills, and dispositions related to content knowledge; pedagogy; pedagogical content knowledge; assessment; understanding how students learn; understanding how students' cognitive, social, emotional, and physical development influences their learning; engaging students with diverse cultures, language, gender, socioeconomic conditions, and exceptionalities; engaging families and communities in student learning; creating learning environments; professional growth and development; and professional collaboration.

Standards for school and system leaders, like teacher standards, describe what effective leaders know and do so that every student and educator performs at high levels. Whether for teacher leaders or school or school system administrators, these standards delineate specific expectations for preparation, assessment, licensure, professional learning, practice, and evaluation of those engaged in leadership roles within a school or school system. Typical areas covered in leader standards include establishing a vision and strategic plan for effective learning; leading learning of students and staff; developing workplace culture to support learning; engaging in their own professional learning; managing facilities, workforce, operations, and resources; establishing effective relationships and communication systems; managing change; sharing leadership with others; engaging staff and families in decision making; understanding and responding to the diverse needs of students and communities; understanding and responding to cultural, political, social, legal, and financial contexts; and securing individual, team, school, and whole system accountability for student success.

Standards for other members of the education workforce delineate the unique knowledge, skills, qualities, and dispositions required of those in specialized roles. These roles include school nurses, guidance counselors, librarians, instructional coaches, resource personnel, classroom assistants, and other instructional and noninstructional staff who are vital to schools and school systems. Standards for advanced or specialized certification guide professional learning for those who seek career advancement or differentiated roles.

Address Learning Outcomes

Student learning outcomes define equitable expectations for all students to achieve at high levels and hold educators responsible for implementing appropriate strategies to support student learning. Learning for educators that focuses on student learning outcomes has a positive effect on changing educator practice and increasing student achievement. Whether the learning

outcomes are developed locally or nationally and are defined in content standards, courses of study, curriculum, or curricular programs, these learning outcomes serve as the core content for educator professional learning to support effective implementation and results. With student learning outcomes as the focus, professional learning deepens educators' content knowledge, pedagogical content knowledge, and understanding of how students learn the specific discipline. Using student learning outcomes as its outcomes, professional learning can model and engage educators in practices they are expected to implement within their classrooms and workplaces.

Build Coherence

Coherence requires that professional learning builds on what educators have already learned; focuses on learning outcomes and pedagogy aligned with national or local curriculum and assessments for educator and student learning; aligns with educator performance standards; and supports educators in developing sustained, ongoing professional communication with other educators who are engaged in similar changes in their practice. Any single professional learning activity is more likely to be effective in improving educator performance and student learning if it builds on earlier professional learning and is followed up with later, more advanced work to become a part of a coherent set of opportunities for ongoing professional learning. Coherence also ensures that professional learning is a part of a seamless process that begins in the preparation program and continues throughout an educator's career and aligns tightly with the expectations for effectiveness defined in performance standards and student learning outcomes.

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