

Changing Teacher Practices: Transforming Teaching 101 to PD 101

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#NCTManual

Setting our ground rules: Norms

- ❖ Be a learner first.
- ❖ Honor productive struggle.
- ❖ Keep our learning space safe.
- ❖ When sharing, consider the balance of voices.
- ❖ Consider your role as a leader in facilitating and advancing teachers' thinking.

What do you notice and wonder?



Details



Donald H. Harrison

EL CAJON, California –Denny Whitson lives across the street from the large mushroom shaped water tank with clouds around its rim. He likes it very much, noting that he can look up from 20 miles away and know exactly where his home is. Other people aren't quite so enamored of the landmark.

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compartment with its metal clouds serves the 50-square-mile Helix Water District, which includes La Mesa, El Cajon, Lemon Grove, the community of Spring Valley, and various unincorporated areas of San Diego County.

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The combined water tower replaced two separate tanks that had to be removed from the site to make room for State Route 125 which lies below and to the west of the Katherine Street promontory. For the same reason, some nearby homes had to be removed as well, leaving an emptied cul-de-sac for Whitson, owner of a home repair company, to enjoy.

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Public Art's Hurly-Burly

By Ken Kuhlken, Dec. 3, 1998



Consider people who rant on issues about which they believe themselves experts. Everybody holds an opinion on everything -- like a fellow on the radio contending that the National Endowment for the Arts should be abolished because competent artists are all rich; or like Joe Bauer on KFMB who denigrated the enormous water tank of Fletcher Hills.

The tank is 150 feet high and mushroom-shaped, with a 100-foot-wide cap and 70-foot-wide stem. It stands in a residential neighborhood overlooking Santee and the mountains beyond. It was created by two water districts and decorated with stainless steel clouds by Jim Wilsterman, with whom I sat one recent afternoon gazing at the rust-brown monolith from across La Mesa on Boulder Heights. If I hadn't known better, I might've thought it was the landing port for a spaceship.

Wilsterman, who looks like a carpenter, took his degrees from San Diego and San Jose State Universities. A fluent and practiced storyteller, he told me how the tank came to be.

"The freeway 125 right-of-way was decided on back in 1947. It was supposed to come up over Fletcher Hills and pass through the field by Grossmont College and run down into Santee along the hillside. So all the people who lived immediately adjacent to the right-of-way had in the deeds to their houses that the property might eventually be taken for the freeway.

"There used to be two water tanks on the hill. One was built by Helix Water District, to serve mainly agriculture. It was painted red and white checks, like a Ralston Purina bag. Later, Padre Dam Water District built their tank on the same hill. Helix Water District goes from the summit where the tank sits to the south and west across La Mesa. Padre Dam District runs from the summit north.

"When Caltrans was finally ready to work on 125, the old tanks were in the right-of-way. So they had to be replaced. Caltrans funded the project and also prescribed 'aesthetic medication.'

"The water districts [decided] to move the tanks 600 yards to the southeast of where the old tanks were.

"The Helix Water District wanted their tank on stilts and the Padre Dam District was going to build theirs low and squat, and so they decided to stack them, to save money and also allow an interconnection so that if one water district had to shut its tank down the other district could serve the customers.

"In 1992 and 1993 I was working on the Pacific Beach library site with an architect, Manuel Oncina. I was designing a park on the library property. Oncina was asked by the Helix Water District to join a design team, and he determined that they didn't really need an architect, they needed an artist.

"So I was asked to go to a meeting with landscape architects and engineers. I walked into this meeting having no idea what the project was. I told them my philosophy about public art. One of the things I emphasized was my desire and my ability to work with a team, to ensure that public interests and concerns were addressed. I would become an ambassador, someone to go out into the community and work directly with the neighbors and explore doing a project with community members actually building it. I suggested there could be an agreement between Grossmont College, where I taught, and the water districts. The more community involvement we talked about, the more excited they got.

"They hired me as a design team member, and I attended innumerable meetings and listened, and when I told them I'd like to do three proposals, we drew up a contract.

"I brought the proposals to several open meetings, until we got from the community members who attended a consensus on what they'd like to see, and then my design was looked at by the engineers in terms of structural integrity, feasibility, and cost and put forward to the boards of the two water districts, who then voted.

"The districts chose for the tank material Cor-10 steel, for its structural strength and to minimize air pollution and prevent the need to sandblast and repaint every ten years. At first it's a dark tan, and as time goes on it gets darker and darker and finally becomes a brown-black. The Macy's home-furnishing center in Mission Valley is made out of the same metal, and people walk in and out of there and think it's wood or painted -- which is not what people say about the tank. If you bring up the subject in La Mesa or El Cajon, expect to hear the words 'ugly' and 'rusted' and 'eyesore.' "

He claims the public had many chances to influence the design. "Early on, the water district hired a La Jolla public relations company. They sent mailers out to all the people adjacent to the tank. They were invited to attend meetings and give their input. About 50 people showed up at the meetings and asked about how the project would effect traffic and dust. Art was low on their priorities. Mostly they seemed concerned about disruptions.

"There were three large meetings, and the only reservations people expressed were 'It's going to block my view of the mountain,' and 'The artwork might glare and shine in my eyes.'

More information

<http://www.sandiegoreader.com/news/1998/dec/03/public-arts-hurly-burly/#>

@Audrey_Mendivil

Perspective



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<http://www.sdjewishworld.com/2010/05/09/brown-mushroom-water-tower-is-cloudy-but-seen-for-miles/>

Our Challenge: Perspective



Our work today:

- Examine what elements form effective professional learning opportunities and how they relate to what we know about quality math instruction.
- Begin to design or modify a plan for professional learning for your team.

Why?

Doing the *right*
thing for the *right*
reason.

...because “the **biggest effects** of student learning occur when **teachers become learners of their own teaching...**”

-John Hattie

...because “good is the enemy of great.”

“We don’t have great schools, principally because we have good schools.”

-Jim Collins

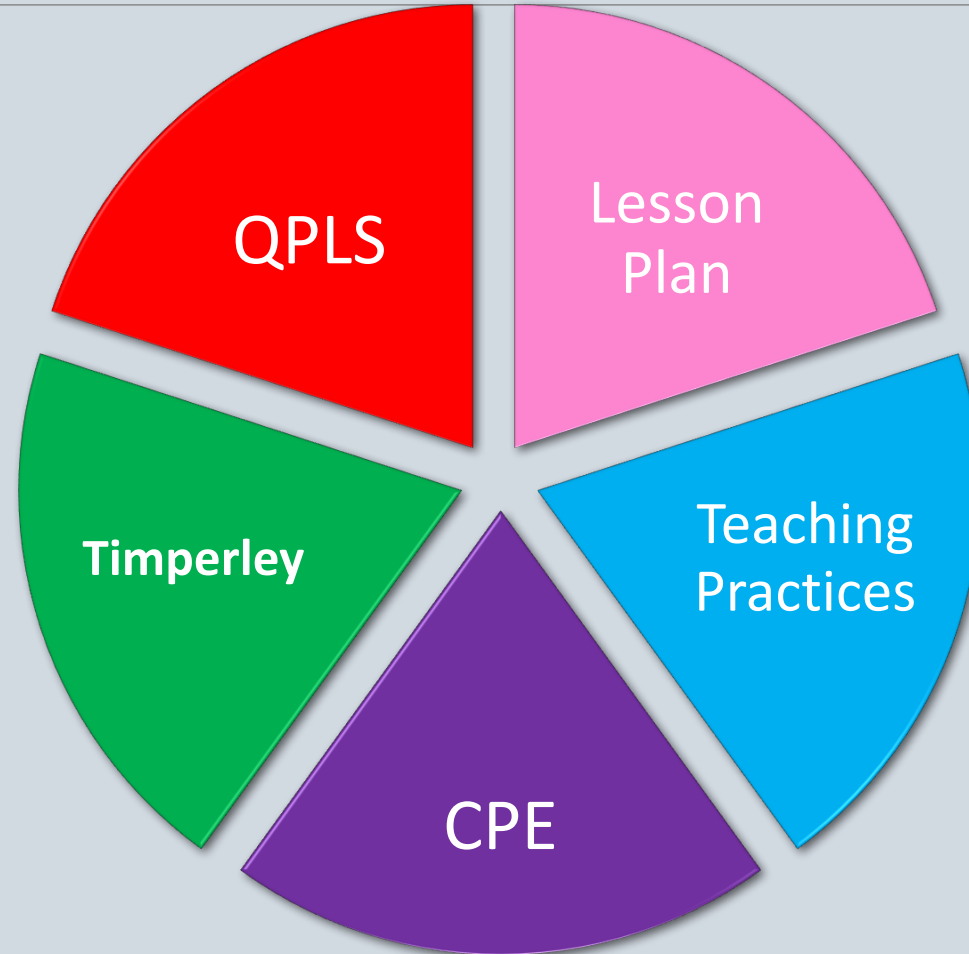
...because 80% of an LEAs funds are devoted to personnel.

If teachers are the largest investment – how are you protecting that investment?

...because we haven’t reached our goal. We aren’t serving **all** students, in the **best** ways, **all** the time.

From Teaching 101 to PD 101:

The components of teaching & learning

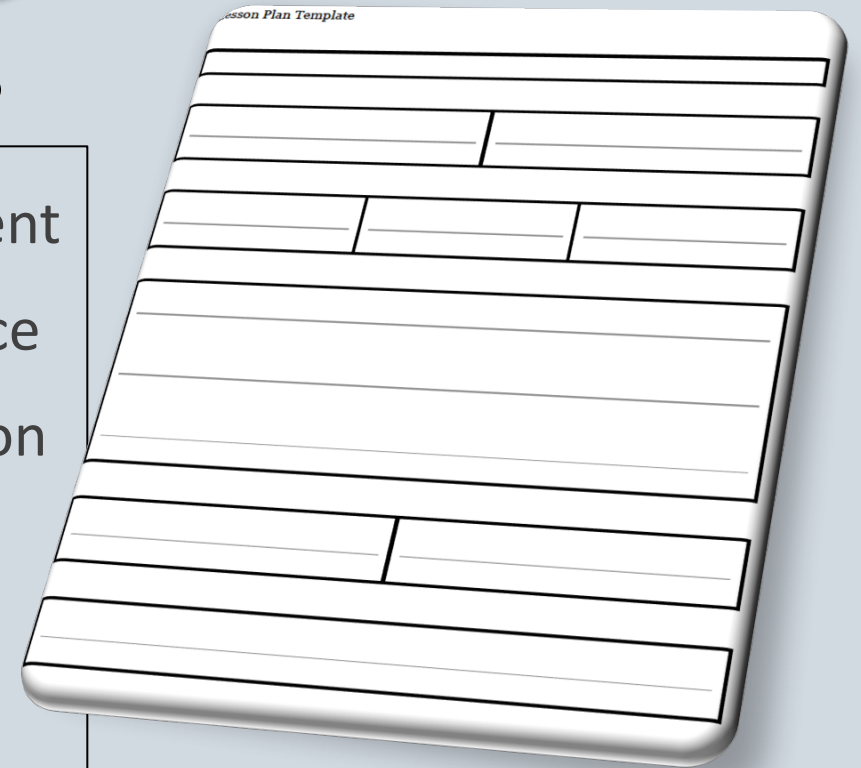


Teaching 101: Lesson Plans

Lesson
Plan

What are the elements or components of a lesson plan?

- Mathematical goal/learning target
- Formative assessment
- Anticipatory Set
- Independent practice
- Activating prior knowledge
- Tutoring/intervention
- Information / Activities
- Guided practice
- Questions
- Reflection
- Tasks
- Closure

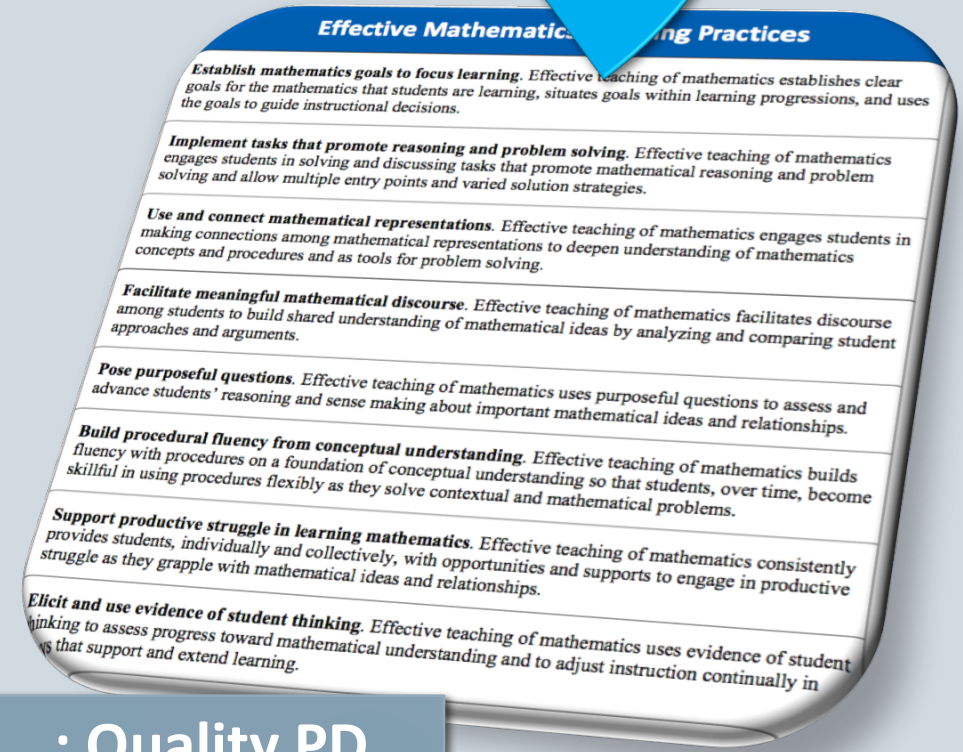


Mathematics Teaching Practices

Teaching
Practices

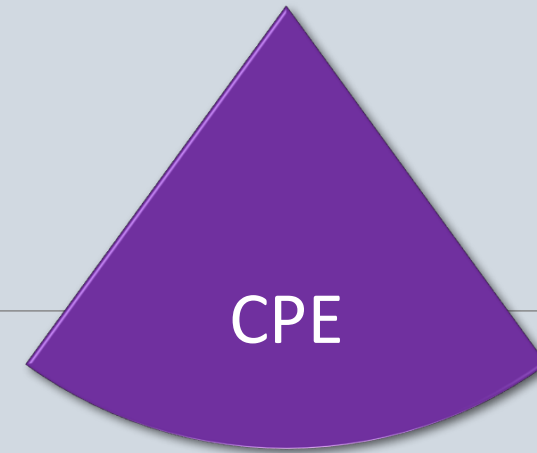
Effective Mathematics Teaching Practices

- Establish mathematics goals to focus learning
- Implement tasks that promote reasoning and problem solving
- Use and connect mathematical representations
- Facilitate meaningful mathematical discourse
- Pose purposeful questions
- Build procedural fluency from conceptual understanding
- Support productive struggle in learning mathematics
- Elicit and use evidence of student thinking



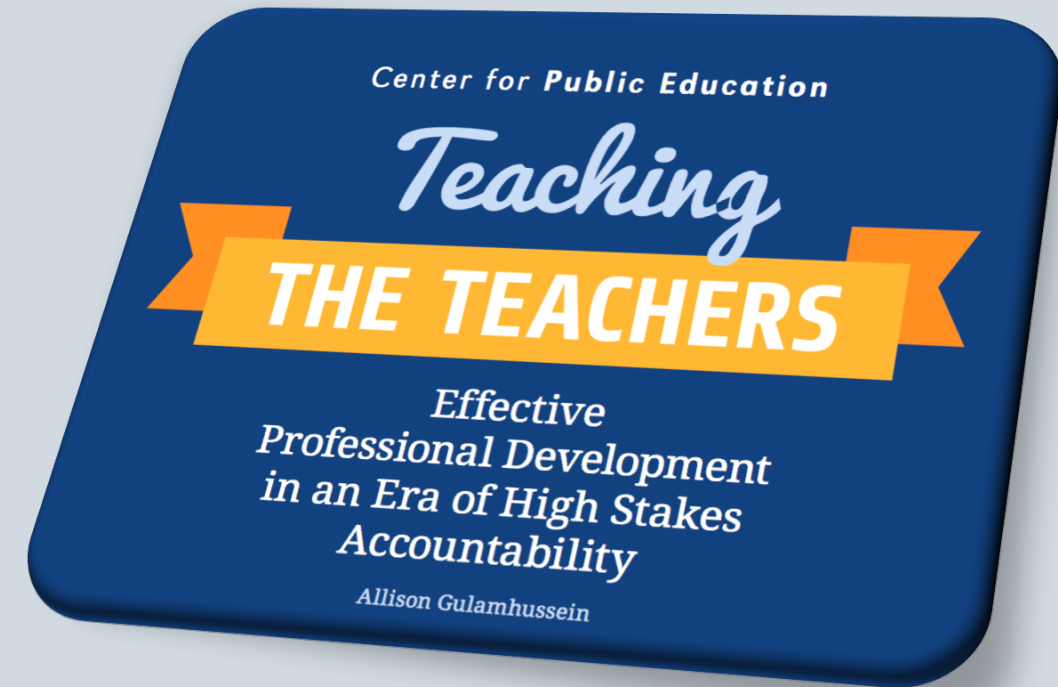
Teaching practice: Quality teaching :: _____ : Quality PD

Center for Public Education



5 Principles of Effective PD

- Duration: on-going, time to learn
- Support during implementation
- Model new practices
- Variety of approaches and active engagement
- Specific to discipline or grade-level



5 Principles of Effective PD

Principle I

Principle II

Principle III

Principle IV

Principle V

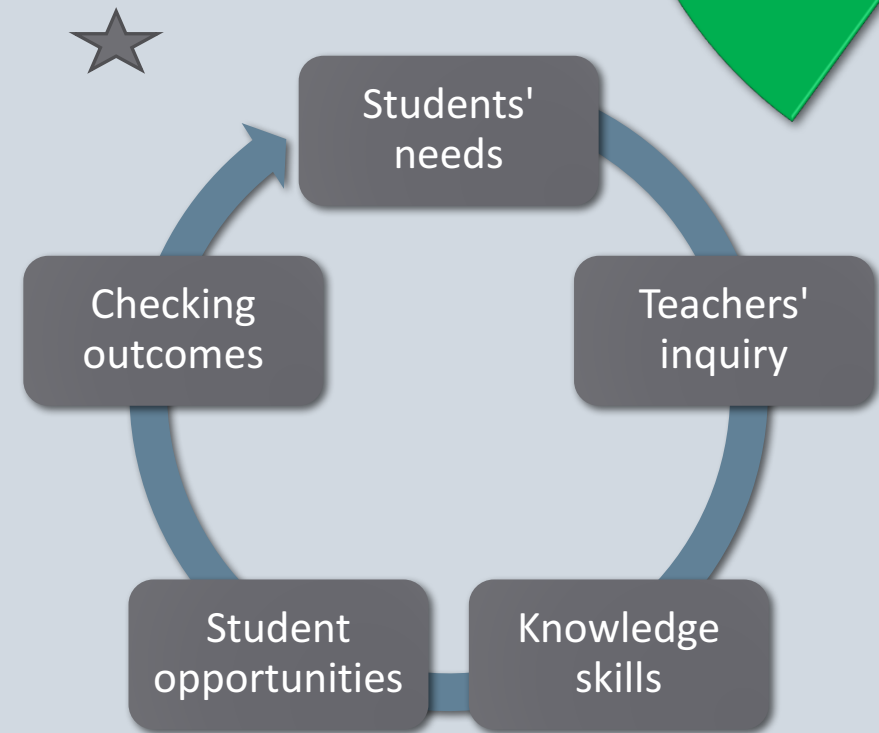
Realizing the Power of Professional Learning

Helen Timperley

Timperley

Shifts in thinking about professional learning and development:

1. From professional development to professional learning
2. Students at the center of professional learning
3. Professional learning as systematic inquiry
4. Focus on professional knowledge and skills
5. Student opportunities
6. Checking the outcomes

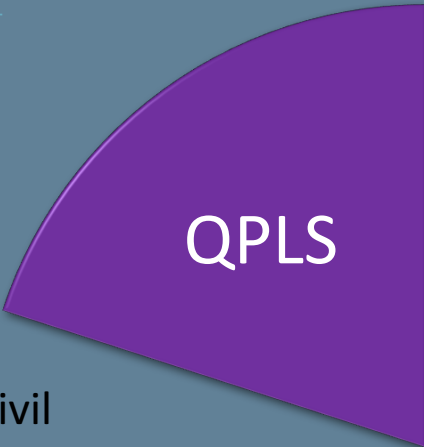


Quality Professional Learning Standards

Approved by the State Superintendent of Public Instruction

Professional Learning Support Division
California Department of Education

<http://www.cde.ca.gov/pd/ps/documents/caqpls.pdf>



QPLS

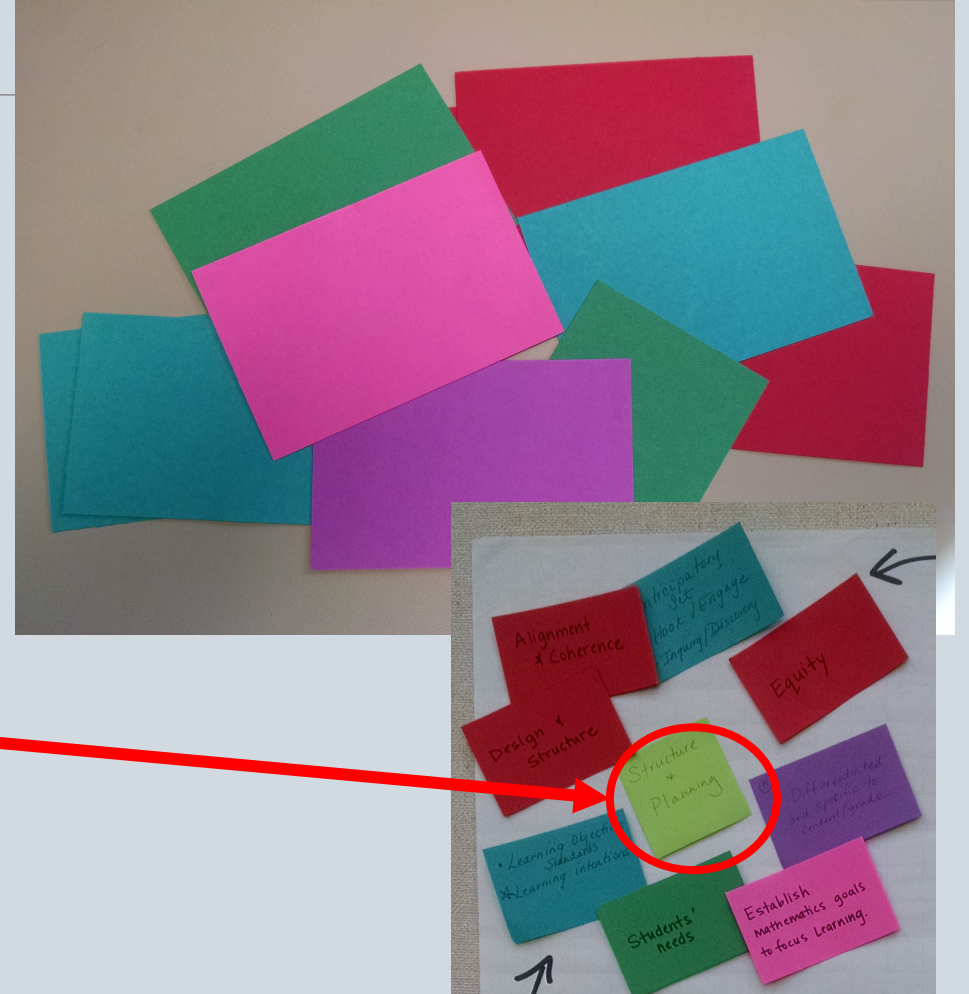
What is Professional Learning?

- Rooted in student and educator needs (data)
- Focused on content and pedagogy
- Designed to ensure equitable outcomes
- Ongoing, intensive, and embedded in practice
- Collaborative, with an emphasis on shared accountability
- Supported by adequate resources
- Coherent and aligned with other standards, policies and programs

"The standards were not designed to be used as a checklist or workbook for creating one-size-fits-all professional learning." (p.5)

What are the components of effective PD?

- ☆ Take time to investigate each card.
- ☆ Sort all of the cards into 4-6 groups based on commonalities.
- ☆ Name each group as it relates to designing quality professional learning opportunities.



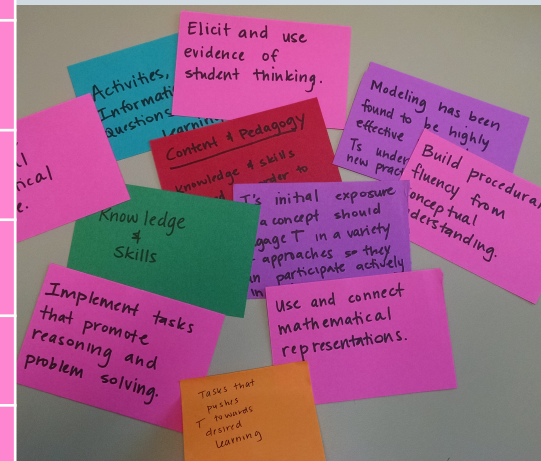


What big themes come across our work?

What is the same? What are differences that appear?

How I saw it

	Teaching Practices	Timperley	CPE	QPLS	Lesson Plans
Know where teachers are and where you want them to go.	Establish mathematics goals to focus learning.	Students’ needs	Specific to the discipline	Alignment & Coherence	Mathematical goal / learning target
		Systematic Inquiry		Data	Set / Activating prior knowledge
				Collaboration & Shared accountability	Tied to content & practice standards
Design and implement tasks that push teachers towards desired learning.	Implement tasks that promote reasoning and problem solving.	Professional knowledge & skills	Engage in a variety of approaches to promote sense-making.	Content & Pedagogy	Information / Activities
	Use and connect mathematical representations.				Questions
	Facilitate meaningful mathematical discourse.		Modeling with new practices		Tasks
	Build procedural fluency from conceptual understanding.				Formative assessment
Provide support during implementation	Elicit and use evidence of student thinking.	Student opportunities	Support for teacher during implementation	Equity	Independent practice
	Pose purposeful questions.				Tutoring / Intervention
	Support productive struggle in learning mathematics.				Guided practice
Reflect & Revise		Checking outcomes	Duration is significant and ongoing	Design & Structure	Formative assessment
				Resources	Reflection / Closure

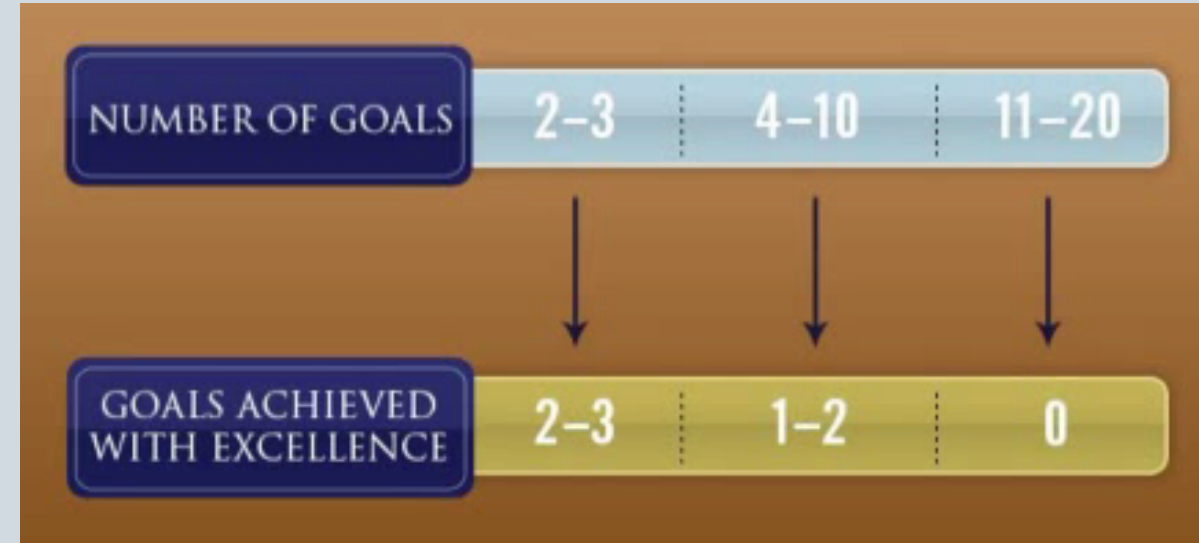


How to change: Small Steps

You construct a freeway...



The more you focus on...



McChesney, C., Covey, S., & Huling, J. (2012). *The 4 Disciplines of Execution*. New York: Free Press

How to change: Small Steps

Shrink the change



Heath, C. & Heath, D. (2010) *Switch: How to change things when change is hard*. New York: Broadway Books.

HOW TO MAKE A SWITCH

*For things to change, somebody somewhere has to start acting differently. Maybe it's you, maybe it's your team.
Picture that person (or people).*

Each has an emotional Elephant side and a rational Rider side. You've got to reach both. And you've also got to clear the way for them to succeed. In short, you must do three things:

→ DIRECT the Rider

FOLLOW THE BRIGHT SPOTS. Investigate what's working and clone it. [Jerry Sternin in Vietnam, solutions-focused therapy]

SCRIPT THE CRITICAL MOVES. Don't think big picture, think in terms of specific behaviors. [1% milk, four rules at the Brazilian railroad]

POINT TO THE DESTINATION. Change is easier when you know where you're going and why it's worth it. ["You'll be third graders soon," "No dry holes" at BP]

→ MOTIVATE the Elephant

FIND THE FEELING. Knowing something isn't enough to cause change. Make people feel something. [Piling gloves on the table, the chemotherapy video game, Robyn Waters's demos at Target]

SHRINK THE CHANGE. Break down the change until it no longer spooks the Elephant. [The 5-Minute Room Rescue, procurement reform]

GROW YOUR PEOPLE. Cultivate a sense of identity and instill the growth mindset. [Brasilata's "inventors," junior-high math kids' turnaround]

→ SHAPE the Path

TWEAK THE ENVIRONMENT. When the situation changes, the behavior changes. So change the situation. [Throwing out the phone system at Rackspace, 1-Click ordering, simplifying the online time sheet]

BUILD HABITS. When behavior is habitual, it's "free"—it doesn't tax the Rider. Look for ways to encourage habits. [Setting "action triggers," eating two bowls of soup while dieting, using checklists]

RALLY THE HERD. Behavior is contagious. Help it spread. ["Fataki" in Tanzania, "free spaces" in hospitals, seeding the tip jar]

How to change: Rethink Norms

We rise to level of expectation.

What are your expectations?

How do you communicate them?

Setting our ground rules: Norms

- ❖ Be a learner first.
- ❖ Honor productive struggle.
- ❖ Keep our learning space safe.
- ❖ When sharing, consider the balance of voices.
- ❖ Consider your role as a leader in facilitating and advancing teachers' thinking.

How to change: Why did it fail?



How to change: Why did it fail?

Top-down decisions

How can you include teachers in the decision-making process?

Lack of variety in delivery modes;
Standardized approach disregards the varied needs & experiences of teachers
How can you differentiate?

Little or no support in transferring ideas to the classroom

What support is available? How do we make it accessible?

Idea that teachers need to be fixed

*What's your why?
How are you communicating it?*

Diaz-Maggioli, G. (June 2004)
Teacher-Centered PD. ASCD

Putting it all together

- ✓ What's your next step?
- ✓ How can you modify current PD?
- ✓ How can you create a new plan for PD?
- ✓ How can we help each other?

Essential Elements



Expectations

Setting our ground rules: Norms

- ❖ Take on the role of learner while solving problems.
- ❖ Reflect on your role as teacher in facilitating and advancing student thinking.
- ❖ Honor productive struggle.
- ❖ Never tell an answer.
- ❖ When sharing in small groups, no one speaks twice before everyone speaks once.
- ❖ **Respect the learning space.**

@fawnpnguyen #NCTMinst

Small Steps



@Audrey_Mendivil

Set up for Success

What's your why?

How can you include teachers in the decision-making?

How can you differentiate?

What support is available?



#PINTERESTFAIL

Putting it all together:

How will we know when we have succeeded?

Have a clear picture of what success looks like.

Look for lead measures along the way.

District X Math Teacher Professional Development Activities					
Ideal State: All elementary teachers would be confident in the math content of their grade level, and would create and implement math lessons that help all elementary students gain conceptual understandings and reach mastery of their grade level standards.					
Audience: All elementary teachers and students.					
Current Reality: The elementary teachers do not feel confident in the math content they teach, as measured by their organization and planning of units, use of resources, and use of district assessments; and students have weak conceptual understanding as evidenced by classroom observations and assessments.					
Problem: Teachers are not planning and delivering math instruction that help students build their conceptual understanding, because they themselves are struggling with their confidence and competence in the math content they teach.					
Resources (S8: What we need to act):	High Leverage Actions (S6: What we do to close the gap between current/ideal state):	Output (S7: tangible evidence actions produce):	Short Term (S5: knowledge):	Intermediate (S4: behaviors):	Long-Term (S3: conditions):
4 TOSAs 1 POSA Sub days to cover all teachers 3x per year	Provide Professional Development (PD) workshops for teachers on - Standards of Mathematical Practice (SMPs) - Formative Assessment - Questioning Strategies - Modifying resources - Lesson Planning Implement Lesson Studies for math instruction as an ongoing process. Model math lessons for teachers by experts. Teacher co-plan & co-teach lessons with expert teachers. Develop Math Fellows program to coach & develop math teacher leaders.	% of observations of math lessons where students are engaged in SMPs. Increase in the level of teachers' confidence in math content (as rated by survey). Increase in the number of formative assessments used in math instruction by grade level. Exemplar lesson plans for each grade level Exemplar lesson videos for each grade level	Teachers know what student behaviors indicate each SMP. Teachers know how to question students to elicit SMPs. Teachers know their grade level math content progression. Teachers can use formative assessment to inform their math instruction.	Teachers plan lessons in response to student understanding. Teachers monitor and adjust within a lesson based on students' progress and understandings. Teachers modify resources to account for student understanding. Teachers plan lessons with SMP objective.	Teachers are confident and competent in math instruction, and can design and implement balanced student-centered math lessons with appropriate math content and practice standards objectives.

Next Steps

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<http://tinyurl.com/session398>

Call to Action

- 1) **Continue learning:** Read, discuss, share – continue the conversation.
- 2) **Put into practice what you learned:** What small step will you take when planning your next PD?
- 3) **Share your experience:** Talk with a colleague about what you learned, share on Twitter #MTBoS
- 4) **Open up your doors:** Ask a colleague to observe you, check out #ObserveMe for ideas, use the feedback to grow!
- 5) **Provide feedback:** Quick survey to help me grow

Logic Model

