Focus on Organizing for Teacher Learning NCTM
Grade bands: PreK-5

Title:
Transforming practice: Organizing schools for meaningful teacher and leader learning

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Description:
Almost all teachers participate in professional learning communities. What makes collaborative work impactful for teachers and adults in schools? How do you create coherence in mathematics instructional practices across an entire school? This presentation focuses on innovative ways of transforming how teachers work together.

Objectives and focus:
Eliciting, responding to, and advancing children's mathematical thinking lie at the heart of inspired teaching. We show how elementary schools have organized teachers' professional learning so that they learn a shared set of instructional practices, co-design lessons together, and engage in "teacher time outs" as they co-engineer lessons. Principal-coach teamwork is a vital aspect of the success of this design.

Transforming practice:
Organizing schools for meaningful teacher and leader learning

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We want to tell you a story of how an entire school invests in teaching and learning.

[slide of 1st to 78th percentile] This is a school that was performing as measured by test scores in the bottom 5% of all schools in Washington state. 5th graders went from in the first percentile of all students in the state to performing a the 78th percentile in just 3 years.

[slide showing growth across grades 3-5] Student achievement scores across grades 4 and 5 rose substantially over the three years of the school improvement grant efforts, such that by the third year the percentage of Hilltop students who scored proficient on the assessment outperformed both the district and state averages, while grade 3 approached the district and state averages.

If you've ever taught in the upper grades, you can especially appreciate that this change in performance is no small feat given that it typically means there have been signficant changes in the grades below it as well.

[What lies behind these test scores] The test scores are impressive…but it's what lies behind these scores that really tell the story. We are not talking about a school which uses strict disciplinary practices and drills students to improve test scores. We're talking about a school that embraces the idea that schools should be places where adults and students learn, where children's humanity should be nurtured and where disciplinary learning should be about meaning making.

It's a place of joyful possibilities and a place that takes assets-based view of children, of families, and of teachers. It's frankly the kind of school we need more of.

[slide] There are several things that are important to this work

1. A relentless focus on students, the meaning and experiences students have.
2. The idea that there is value in making teaching public and developing a collective identity about what it means to teach.
3. That schools should be places where we invest in teacher learning and student learning.

We want to take you inside this school and understand how it works as an organization, specifically in relation to teaching mathematics. But know that the ideas we present here pervade the school.

[school context] A little background.
Hilltop is a school – like many schools in the US – that was underperforming, and therefore mandated by federal policies to create a plan for improvement. It is located in a poverty-impacted urban community with much richness in the ethnic, linguistic, and cultural resources that the children bring to the school.

One of the important decisions that this school made was to give teachers time, a lot of time, during the school day and over the course of the year to learn together.

Now, before you think… we could never do this. We don't have this kind of time…hold off. Yes, meaningful change takes time but it doesn't have to be done in the same way. As you hear our story unfold, you'll see that we have learned from this case has helped us use time creatively in schools to allow teachers to productively work together.

Or before you think…well, I teach in a high performing school…this is not for me. Think again. Our story is not just about test scores – it's about creating an intellectually and socially vibrant community for teachers.

[photos of us talking with children]
To begin work with teachers, it was important for us to understand what exactly lied behind the test scores. We talked to every student in the school. We watched them work and we asked them to share with us their thinking.

[books of all kinds] Our work with children is guided by much of the amazing work done in the field of mathematics education over the course of the last three decades.

[CGI books] Our knowledge of children's thinking was particularly guided by the body of work which is known as Cognitively Guided Instruction or CGI. Those of you who are familiar with CGI know that it is absolutely life altering in how it helps you understand children's mathematics. For those of you who don't know about it, there are many ways to learn about it CGI was our guide.

[slide of these questions] We also asked students questions like … do you like to share your thinking and what does it mean to do math – which opened up dialogue between teachers and students about how they identified with math, with sharing….

One of the advantages of using some of these simple items together is that we could see how successive cohorts of students began each grade – and whether those cohorts started with stronger and better understandings. We saw that each year students were gaining stronger understandings, which each cohort starting the year with more sophisticated ways of reasoning.

Show examples of individual student work and change over time

[slide with question] So…what helped us realize these important changes in our students' thinking?

We knew when we started working together that teachers needed opportunities to learn. The school improvement literature is very clear about the importance of professional community. A simple idea but hard to achieve.

[slide of talk moves poster and chapin discussions book]

1. **common discussion expectations and some ways to get students talking about their ideas**

One way we worked together to build professional community was developing common discussion expectations and some ways to get students talking about their ideas.

Classroom discussions were at the heart of our work together
Teachers were establishing common ground – school wide - in the ways they wanted children to engage, be oriented to one another, and be positioned as competent. We sought to engage our students in respectful, productive discussion that supports inquiry, justification, multiple representation, and seeing mistakes as opportunities for learning. To do this, we focus on key "talk moves" From Classroom Discussions by Suzanne Chapin and colleagues. Such as –

Revoicing
Repeating
Reasoning
Adding On
Wait Time
As well as
Turn and Talk
Explain and Revise

Teachers were establishing common ground in the ways they wanted children to engage, be oriented to one another, and be positioned as competent.

We're going to drop into a few minutes of a 2nd grade classroom at the very beginning of the school year where the teacher is embedding the introduction of these talk moves into a lesson on counting by 10s starting from 124.
We thank the students and teachers who were willing to be videotaped so we can learn. Remember that 2nd graders like to move a lot!

Let's take another look within a classroom
This is a 3rd grade classroom

This gives us a glimpse of small moves teachers can make to build community and student voice

https://www.teachingchannel.org/videos/students-acknowledging-other-ideas

[slide of the types of instructional activities]

2. common instructional activities

Another way we worked together to build professional community was developing common instructional activities

We chose to focus on activities such as choral counting, quick images, counting collections

There isn't anything fancy about these instructional activities nor are they THE ones that a group would use.

The advantage of having some common tools is that it enabled teachers to have a grounding to talk about practice. It's like have a groupworthy task for teaching.

It allowed students to learn ways of participating that were consistent across the school so that as they moved from grade level to grade level, they didn't have to learn a whole new set of ways of participating in math class.

And students new to the school (this school experiences about 25% mobility) would be socialized into well developed classroom cultures where students respect and listen to one another.

We also know that teachers move grade levels and having some common activities, tools, and expectations supported those moves between grade levels for teachers.

Let's go inside a classrooms to see brief glimpses of the IAs in action
Our friend Mr. Crandall is engaging his 3rd grade students in a number talk
This begins to portray WHAT we worked on together – and now we are going to share more about HOW we worked together

https://www.teachingchannel.org/videos/multiplication-division-in-the-core

3. ways of learning together

Math Labs
Include classroom visits – TTO

We had tools but we also needed ways of bringing teachers together to learn these ideas. The coach could go room by room, modeling and talking with teachers about what to try. But this would not be very efficient.

We took advantage of the time that the school improvement grant bought us to change HOW we learned. One structure that we were able to create were something we called "Math Labs." They were full day, job-embedded professional development. Teachers came together with their same grade level colleagues during the regular school days. They had guest teachers in their classrooms working with their students, as they came together to learn about kids' thinking and math labs.
Each grade level experienced 4-6 math labs throughout each school year.

[slide of learning cycle] **So…here's how the a typical math lab was organized**

First, teachers learned the IA—learning the about the structure and the unique parts of that instructional activity.

Next, they co-planned the IA-this is important because it allowed the group to own the lesson. It wasn't Elham's lesson or Allison's lesson, but the group's lesson. Collectively, they identified what they wanted to work on with students, so they could then enter one of the teacher's classrooms to co-enact it together.

The truly transformative aspect of this work, that developed over time, is the way we organized the classroom visit for the co-enactments.

This took some intentional planning and thinking about how to create a culture of trust and risk taking to enable teachers to engage with one another this way.
How did we do it…well, if you're a teacher watching someone else teach, you're thinking all the time about what you might do differently or a question you'd love to ask everyone. So, when we had co-planned the lesson and we started by leading the lesson, we would intentionally pause and ask the teachers who were with us, "What question do you want to pose the students? What are you curious about?"

Coining this type of interaction as "teacher time out" became the normative way for us to take the approach that no one was on stage when we were visiting classrooms being the "expert." Instead, because we had co-planned the lesson, we went into classrooms with lots of curiosity about what the students would do and if we could figure out together how to steer the instructional conversations in meaningful directions.

[teacher time out photos] What does this look like? Imagine a classroom of 3rd graders; 6 adults walk in (C, P, Ts) and sit among the students. One adult takes the

lead… someone calls a TTO because they are curious about something/they hear an idea that should be shared/etc… The lesson is paused so that in the moment, teachers can co-problem solve and think of where they want to steer the lesson next. They don't have to wait until afterwards to say, I wonder if we would have asked this, what would have happened? When a TTO is called, what do the students think about it? TTO are short, quick conversations-they often listen in and are curious what the teachers are saying. They offer advice to the teachers; sometimes they suggest we take a TTO.

And wow… when we did that…. We left the classrooms invigorated, completely on a high about what we had just learned and experienced. And usually, we found a way to schedule a second classroom visit so we could take what we learned from the first one and try it out. Revising is powerful work!

[teacher time out quotations]
Here you are looking at how some teachers characterize TTO and how it helps them in their learning. Notice that teachers appreciate the opportunity to take risks and that their colleagues take risks and ask for help in the midst of teaching; that all of the adults, no matter what formal role they might have, are positioned as experts and learners; and they love how it models to students how to take risks, revise their thinking, and that it's okay to make mistakes.

Also—When the coach visited individual classroom in between math labs to help teachers implement the IAs into their classrooms, the coach and teacher used TTO. The coach or the teacher could call a TTO to have time to put their heads together and think about what idea they could pursue next.

4. principal-coach teamwork that really helped grade levels come together and work together.

The coach and principal worked together to support teachers.
The coach helped with some crucial things that teachers needed. How to make sense of the district pacing guide and insert intentionally and strategically the common instructional activities.
She attended and shaped weekly grade level PLC meetings so that teachers talked about what they were learning from their students, writing common exit tickets. This did not mean that teachers had to be in mandated lock-step with one another and unable to be flexibly responsive to their own students, but it did mean that had a common platform from which to make sense of each other's thinking. The refining support for teachers happened here.

The principal's participation in this work has been crucial. She approached each math lab as a learner too. She became humbled when she took the pen and tried out ideas, recognizing and feeling that orchestrating conversations with students is

complex work. But she encouraged teachers to take risks telling them, "You can't look good and get better at the same time." [CLICK] Part of her work as a principal is to press teachers to make commitments and expect teachers to try things. "So when I'm in your classrooms this week, I want to see you trying this idea. And I can even teach it with you if you want"
Here's what's really important, she was not the expert in the school when it came to math teaching and she had many "ahas" over the years about children's thinking and about mathematics, but she knew enough to differentiate superficial take up of practices and more meaningful. She wasn't just satisfied if she saw teachers using talk moves – she understood that repeating or revoicing should be in service of making sense of and advancing mathematical understanding so she looked for that.

[TEDD.ORG slide]
So what…what does this story have to do with organizing for teacher learning.

We make decisions all the time in school about how to use time and resources.

We think we have learned some important ideas about how to be intentional to develop routine ways to learn together. We won't ever be done learning, so we don't need short, terminal professional development. We need ongoing ways to learn together.

Visit TEDD.org to see our attempt to begin to create a collection of helpful resources. Make commitments and find spaces with your colleagues and with your building leadership to learn. See if you can make it a regular part of your work together, not just a one time or a yearly focus.

[slide of books that can guide teaching] Organize a book study that enables you to try things out together.

[slide of #mtbos] Be inspired by what teachers are blogging about on #MTBOS