

**Moving Beyond Typical Professional  
Development that Doesn't Work  
and  
Toward Effective Teacher Development  
that Can Make a Real Difference**

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**This Morning's Agenda**

- **Opening gambit and framing our roles**
- **Some sound bite perspectives or givens**
- **Current underperforming realities**
- **Some partial insights about alternatives  
in the form of components of a system  
of Effective Teacher Development**

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## **My Goals (typically):**

- **Share**
- **Validate**
- **Stimulate**
- **Enarm**
- **Provoke**

**Ready?**

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## **Opening Gambit**

**Your knowledge, experience, insights, creativity, energy and expertise are desperately needed to significantly improve the knowledge and capacity of the nation's teachers of mathematics.**

**(If you don't feel inadequate.....)**

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## The Math Leader's Field of Activity

The heart of ensuring instructional quality and producing high levels of student achievement includes four key elements:

- A coherent and aligned **curriculum** that includes a set of grade level content expectations, appropriate print and electronic instructional materials, with a pacing guide that links the content standards, the materials and the calendar;
- High levels of **instructional effectiveness**, guided by a common vision of effective teaching of mathematics and supported by deliberate planning, reflection and attention to the details of effective practice;
- A set of aligned benchmark and summative **assessments** that allow for monitoring of student, teacher and school accomplishment at the unit/chapter and grade/course levels; and
- **Professional growth** within a **professional culture** of dignity, transparency, collaboration and support.

**(What, how, how well and with what support to do it better)**

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## **But....as we need to acknowledge**

- **Our curriculum is stale,**
- **Our instruction is underperforming,**
- **Our assessments are mediocre, and**
- **Our professional development is essentially useless!**

**Welcome to your job.**

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## **BUT...Great News**

- **Our curriculum is stale – enter CCSSM**
- **Our instruction is underperforming,**
- **Our assessments are mediocre – enter SBAC/PARCC**
- **Our professional development is essentially useless!**

**Welcome to a far more simplified world.**

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## The Math Leader's **Reduced** Field of Activity (in the CCSS Era)

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- A set of aligned benchmark and summative **assessments** that allow for monitoring of student, teacher and school accomplishment at the unit/chapter and grade/course levels; and
- **Professional growth** within a **professional culture** of dignity, transparency, collaboration and support.

(What, **how**, how well and **with what support to do it better**)

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## WHY BOTHER?

(in case there is any doubt)

Here are 6 opening perspectives on why teacher effectiveness is indispensable

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## 1. Where we fit on the food chain

Economic security and social well-being



Innovation and productivity



Human capital and equity of opportunity



**High quality education  
(literacy, MATH, science)**



Daily classroom math instruction

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## 2) Let's be clear:

We're being asked to do what has never been done before:

**Make math work for nearly ALL kids and get nearly ALL kids ready for college.**

**There is no existence proof, no road map, and it's not widely believed to be possible.**

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### **3) Let's be even clearer:**

And because there is no other way to serve a much broader proportion of students:

**We're therefore being asked to teach in distinctly different ways.**

Again, there is no existence proof, we don't agree on what "different" mean, nor how we bring it to scale.

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## **4. Instructional Ineffectiveness**

**My experiences since September (n = ~80):**

- **pictures, graphics**
- **contexts**
- **estimating**
- **student engagement/talk**
- **debrief/evidence of learning**
- **vocabulary – see, show, picture, ask**
- **big Ideas vs. answers and skills**
- **planning (flow of problems, tasks, activities)**

**Bottom line: Far too little opportunity to learn!**

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## 5) Another perspective:

Most teachers practice their craft behind closed doors, minimally aware of what their colleagues are doing, usually unobserved and under supported. Far too often, teachers' frames of reference are how they were taught, not how their colleagues are teaching. Common problems are too often solved individually rather than by seeking cooperative and collaborative solutions to shared concerns.

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## 6) The key things we know

People won't do what they can't envision,  
 People can't do what they don't understand,  
 People can't do well what isn't practiced,  
 But practice without feedback results in little change, and  
 Work without collaboration is not sustaining.  
**Ergo: Our job, as leader, at its core, is to help people envision, understand, practice, receive feedback and collaborate.**

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## **And how do we typically deal with this state of affairs?**

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### **What is typical and doesn't work 1:**

- **One-shot after-school workshops;**
- **Too much passive listening modes of delivery (instead of active learning and collaborative problem solving);**
- **Too much focus on general topics (e.g., classroom management) rather than the specific content of the curriculum;**
- **Too much focus on topics that have little relation to real teaching and learning needs;**

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## What is typical and doesn't work 2:

- **Too little connection to the actual planning and implementation of the work of teaching;**
- **Too much individual work rather than collegial activity and sharing;**
- **Too little attention to follow-up, practice, feedback; and**
- **Too little recognition of the fact that change is a long-term process.**

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## And even when we do it well...

### **IES \$22 million PD Math Impact Study:**

High-quality professional development on the topic of rational numbers (fractions, ratios, proportions and percents) for 7<sup>th</sup> grade teachers that was designed to develop teachers' capability to teach these topics more effectively. The professional development took the form of a 3-day summer institute, a series of five 1-day follow-up seminars conducted during the school year, and 10 days of in-school coaching for a total of 68 contact hours. The study was conducted in 77 mid- and high-poverty schools (within 12 school districts) randomly assigned to treatment and control conditions.

**(In other words, in terms of time and content, it doesn't often get any better than this.)**

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## **FYI**

**Six districts received the PD from one provider (America's Choice) and the other six districts received the PD from a second provider (Pearson Achievement Systems). Moreover, six of the districts (three for each provider) used the Connected Math materials and the other six used either Glencoe or Prentice Hall textbooks. In none of these possible comparisons does there appear to be a significant difference in impact.**

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## **And what did the PD Math Study find:**

**Even high quality, high duration, primarily direct instruction, content and pedagogically balanced professional development with a high degree of participant engagement, the PD had essentially no impact on what teachers know, what teachers do, or what students learn!**

**And year 2?**

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## **So:**

- **If PD as currently conceived and practiced doesn't work, and**
- **If the need for growth and improvement has never been greater,**
- **Then we need a new model for strengthening what teachers know and do!**

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## **Among the elements of this new model**

- **An on-going process, not a series of events**
- **Learning communities – supported with time, resources and leadership**
- **Learning tied directly to practice**
- **Coaching**
- **Induction**
- **Transparency**
- **Building a culture of collaboration and on-going learning**

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**Accordingly,  
some thoughts on shifting  
from PD to ETD  
(Professional Development to  
Effective Teacher Development)**

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**Organizational Culture**

**“There is an old saying that culture eats strategy for lunch, and I think that’s true. There’s often a lot of discussion about having the right strategy, but for innovation it is more important to create the right culture. Culture is often difficult to change, but it is imperative if an agency wants to be innovative.”**

**- Judith Rodin, president Rockefeller Foundation  
Washington Post On Leadership**

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## **Organizational Innovation**

**There are a few things that an agency leader should do that would encourage innovative activity and will help to begin to change the culture:**

- **First make a very public and specific commitment to innovation.**
- **Then, encourage staff to innovate correctively around agreed upon goals that overlap with real everyday work.**
- **Finally, put a system in place that sparks experimentation and idea generation that can be viewed as having impact for the recipients of the work, because people feel proud when they are able to create impact.**

**- Judith Rodin, president Rockefeller Foundation  
Washington Post On Leadership**

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## **Innovative Leadership**

**What are some common traits of an innovative leader?**

**Flexibility and smart risk-taking, which means that you are taking a “learn as you go” approach. You can’t figure everything out in advance. Be willing to take smart risks, but be really vigilant so you’re continuously learning from what you’re doing.**

**- Judith Rodin, president Rockefeller Foundation  
Washington Post On Leadership**

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**So the question is:  
How do we convert this highfalutin language  
into something real and practical?**

**Here is an emerging answer:**

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### Effective Teacher Development Schema

Steve Leinwand – NCSM – March, 2011

WHY?	HOW?	WHAT?	HOW?	HOW WELL?
Needs	Enabling Conditions	Content Focuses	Approaches	Outcomes
To grow and to improve, people need to:	Hearing and watching disconnected from the classroom are insufficient, therefore people need:	When all is said and done, the heart of the enterprise is a clear focus on:	There are many approaches or structures that support growth and improvement, including:	And the result is that people know more, perform better and have a greater impact on student learning, that is:
<b>Envision</b> (or they can't) <b>Understand</b> (or they won't) <b>Practice</b> (or they don't get better) Get <b>feedback</b> (or it's ineffective) <b>Collaborate</b> (or it's unsustainable and too lonely)	Opportunities to <b>observe</b> and <b>discuss</b> effective practice Opportunities to <b>develop understanding</b> of content and pedagogy Opportunities for <b>practice with feedback</b> <b>Opportunities to collaborate</b> <b>Opportunities to plan and prioritize</b> based on needs assessment and data A <b>supportive culture</b> of sharing, critique, trust, reflection, respect and transparency To be <b>held accountable</b> for change and improvement	<b>Tasks</b> (selecting, creating and/or adapting instructional and assessment tasks that convey the intended content) <b>Teaching</b> (planning and implementing the instruction that conveys the tasks) <b>Student outcomes</b> (analyzing the student work that emerges from instruction (NCTM Practice-based Professional Development))	<ul style="list-style-type: none"> <li>- Task analysis</li> <li>- Collaborative planning</li> <li>- Co-teaching</li> <li>- Lesson study</li> <li>- Instructional rounds</li> <li>- Records of practice</li> <li>- Video analysis</li> <li>- Learning communities</li> <li>- Coaching</li> <li>- Gallery teaching</li> </ul>	<b>Knowledge</b> (greater content and pedagogical knowledge) <b>Effectiveness</b> (more request use of effective classroom practices providing greater opportunity for student to learn) <b>Impact</b> (higher levels of student achievement)

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## WHY?

### Needs (or the contextual mindsets)

To grow and to improve, people need to:

- **Envision** (or they can't)
- **Understand** (or they won't)
- **Practice** (or they don't get better)
- Get **feedback** (or it's ineffective)
- **Collaborate** (or it's unsustainable and too lonely)

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## HOW?

### Enabling Conditions

Hearing and watching disconnected from the classroom are **insufficient, therefore people need:**

- Opportunities to **observe** and **discuss** effective practice
- Opportunities to **develop understanding** of content and pedagogy
- Opportunities for **practice with feedback**
- **Opportunities to** collaborate
- **Opportunities to plan and prioritize** based on needs assessment and data
- A **supportive culture** of sharing, critique, trust, reflection, respect and transparency
- To be **held accountable** for change and improvement

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## WHAT?

### Content Focuses

**When all is said and done, the heart of the enterprise is a clear focus on:**

- **Tasks** (selecting, creating and/or adapting instructional and assessment tasks that convey the intended content)
- **Teaching** (planning and implementing the instruction that conveys the tasks)
- **Student outcomes** (analyzing the student work that emerges from instruction)

(NCTM Practice-based Professional Development)

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## HOW?

### Approaches

**There are many approaches or structures that support growth and improvement, including:**

- Task analysis
- Collaborative planning
- Co-teaching
- Lesson study
- Instructional rounds
- Records of practice
- Video analysis
- Learning communities
- Coaching
- Gallery teaching

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## HOW WELL?

### Outcomes

And the result is that people know more, perform better and have a greater impact on student learning, that is:

- **Knowledge** (greater content and pedagogical knowledge)
- **Effectiveness** (more request use of effective classroom practices providing greater opportunity for student to learn)
- **Impact** (higher levels of student achievement)

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## To envision, we need a vision (a vision that maximizes opportunity to learn)

An effective and coherent mathematics program should be *guided* by a clear set of content standards, but it must be *grounded* in an equally clear and shared vision of teaching and learning – the two critical reciprocal actions that link teachers and students largely determine educational impact.

Where is your vision of effective teaching and learning of mathematics?

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## Elements of a Vision

- **Effective mathematics instruction is thoughtfully planned.**
- **The heart of effective mathematics instruction is an emphasis on problem solving, reasoning and sense-making.**
- **Effective mathematics instruction balances and blends conceptual understanding and procedural skills.**
- **Effective mathematics instruction relies on alternative approaches and multiple representations.**

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## Elements of a Vision (cont.)

- **Effective mathematics instruction uses contexts and connections to engage students and increase the relevance of what is being learned.**
- **Effective mathematics instruction provides frequent opportunities for students communicate their reasoning and engage in productive discourse.**
- **Effective mathematics instruction incorporates on-going cumulative review.**
- **Effective mathematics instruction maximizes time on task.**
- **Effective mathematics instruction employs technology to enhance learning.**

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## Elements of a Vision (cont.)

- Effective mathematics instruction gathers formative evidence of learning in every class.
- Effective mathematics instruction uses multiple forms of assessment and uses the results of this assessment to adjust instruction.
- Effective teachers of mathematics reflect on their teaching, individually and collaboratively, and make revisions to enhance student learning.

**(Is this what we see? Is this what we train to? Is this the focus of our coaching? Is this reflected in our evaluations?) Why not?**

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## To coach, we need a structure

- Was there opportunity for the students to learn? Why and why not? When and when not?
- What evidence was there that the mathematics was in fact learned? How was it collected and what did it tell us?
- How well planned were the tasks, questions and flow?
- What worked and was worthy of praise?
- What didn't work and why?
- What opportunities were missed?
- What growth nugget can I leave with the teacher?

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## For collaboration, we need time and structures

- **Structured and focused department meetings**
- **Before school breakfast sessions**
- **Common planning time – by grade and by department**
- **Pizza and beer/wine after school sessions**
- **Released time 1 p.m. to 4 p.m. sessions**
- **Hiring substitutes to release teachers for classroom visits**
- **Coach or principal teaching one or more classes to free up teacher to visit colleagues**
- **After school sessions with teacher who visited, teacher who was visited and the principal and/or coach to debrief**
- **Summer workshops**
- **Department seminars**

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## For collaboration, we need strategies 1

Potential Strategies for developing professional learning communities:

- **Classroom visits – one teacher visits a colleague and they debrief**
- **Demonstration classes by teachers or coaches with follow-up debriefing**
- **Co-teaching opportunities with one class or by joining two classes for a period**
- **Common readings assigned, with a discussion focus on:**
  - **To what degree are we already addressing the issue or issues raised in this article?**
  - **In what ways are we not addressing all or part of this issue?**
  - **What are the reasons that we are not addressing this issue?**
  - **What steps can we take to make improvements and narrow the gap between what we are currently doing and what we should be doing?**
- **Technology demonstrations (graphing calculators, SMART boards, document readers, etc.)**
- **Collaborative lesson development**

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## For collaboration, we need strategies 2

Potential Strategies for developing professional learning communities:

- Video analysis of lessons
- Analysis of student work
- Development and review of common finals and unit assessments
- What's the data tell us sessions based on state and local assessments
- "What's not working" sessions
- Principal expectations for collaboration are clear and tangibly supported
- Policy analysis discussions, e.g. grading, placement, requirements, promotion, grouping practices, course options, etc.

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## Finally – let's be honest:

**Sadly, there is no evidence that a day like today makes one iota of difference.**

**You came, you sat, you were "taught".**

**I entertained, I informed, I stimulated.**

**But: It is most likely that your knowledge base has not grown, you won't change practice in any tangible way, and your students won't learn any more math.**

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**Prove me wrong**  
**by**  
**Sharing**  
**Supporting**  
**Taking Risks**

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**Closing Thoughts**  
**(from Key Ignite 2010 on You Tube)**

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## DiTCoQuA

- Dignity
- Transparency
- Collaboration
- Quality
- Accountability

**AKA the Gospel According to Steve**

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## Logic Model (part 1)

**Until and unless we are treated,  
and we treat each other, with  
dignity and respect, there will  
not be enough trust for  
transparency.**

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## Logic Model (part 2)

Until and unless we have much greater transparency and openness (a mindset that we can learn from each other), there are few incentives to collaborate.

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## Logic Model (part 3)

Until and unless we collaborate, and remember that learning (our students' as well as our own) is a socially mediated process, it is unlikely we will significantly improve the overall quality of our work.

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## **Logic Model (part 4)**

**And until and unless this foundation is built, there is insufficient support and an inadequate culture for meaningful accountability that ensures that every student who tries has the opportunity to learn.**

**Amen.**

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# **Thank you!**

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