

How Should States Define Teacher Effectiveness?

Bryan C. Hassel, October 30, 2009
Center for American Progress



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What is a Teacher's "Effect"?

A Simple Formula:

Effectiveness

- **How much** do the teacher's students learn, on average?

X

Reach

- **How many** students receive instruction from the teacher?

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We care about "teacher effectiveness" because we care about each teacher's "effect" on students.

So today what I'm proposing is actually a simple formula for thinking about a teacher's "effect."

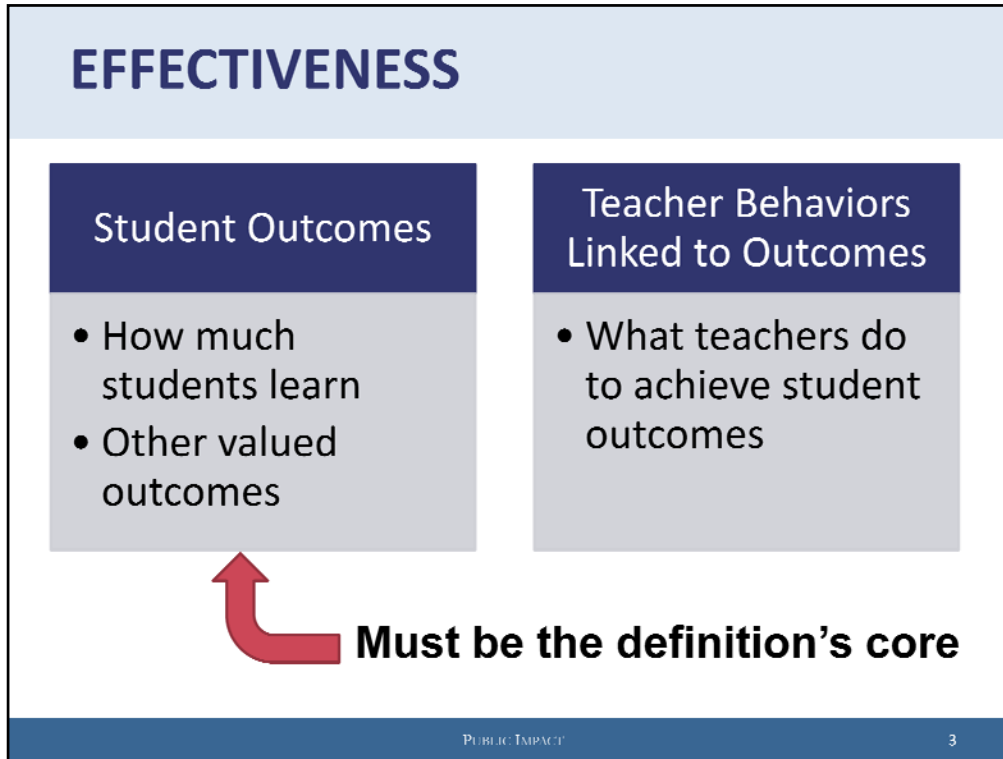
A teacher's effect equals the teacher's effectiveNESS times the teacher's REACH.

EffectiveNESS – how MUCH do the teacher's students learn, on average –

Times REACH – how MANY students receive instruction from the teacher.

"Reach" is an essential part of the formula because a highly-effective teacher who teaches a lot of students has a greater effect than one who teaches just a few.

I'm going to talk first about effectiveness, then about reach.



The core of a state's definition of teacher effectiveness must be student outcomes:

How much students learn, and other valued outcomes.

And that goes for every subject and grade, whether or not it's currently assessed with an official standardized test. EVERY teacher's effectiveness ultimately hinges on her students' outcomes.

I'm not going to talk about how to MEASURE student outcomes - that's the topic of subsequent sessions. My point here is just that student outcomes need to be the core, because no other core will help teachers and schools meet the ambitious goals we all share for improving student outcomes.

By saying "core" I don't mean that outcomes are ALL that needs to go into a definition of teacher effectiveness. The definition also needs to include teacher behaviors. Outcomes are still core, because it's behaviors LINKED TO OUTCOMES that need to be part of the definition.

But why include behaviors, if student outcomes are paramount?

EFFECTIVENESS: Why “Behaviors”?

Outcome measures:

- Don't (yet) exist for untested grades, subjects and other valued outcomes
- Don't yield development advice for teachers
- Don't tell us who should specialize or take on advanced roles
- Can't be used to select new teachers

Because outcome measures don't tell us everything we need to know.

First, they don't yet exist for many grades, subjects and other valued outcomes.

Second, they don't yield development advice for teachers. If a teacher falls short of goals, the outcome measures don't tell the teacher or others WHY he fell short or what he needs to do differently in the future

Third, they don't tell us who should specialize or take on advanced roles. A teacher may score very high on outcome measures, but that doesn't mean she will be a great leader of other teachers, curriculum developer, or any other advanced role we might envision.

And similarly, outcome measures can't be used to select new teachers – who obviously haven't yet had the chance to produce student outcomes.

EFFECTIVENESS: Including Behaviors

Four Essentials:

1. Behaviors correlated with valued outcomes

- Identify teachers who achieve highest outcomes
- Measure behaviors (level and frequency) that set them apart from average & low performers
- Expert opinion, focus groups, consensus *sound good* . . . but are poor substitutes for analysis of actual behaviors linked to outcomes

So, states need to include teacher behaviors in their definitions of teacher effectiveness.

When including behaviors, though, states need to do it well. Here are four essential guidelines that every state should keep in mind.

One – choose wisely, selecting only those behaviors that are correlated with valued outcomes. We need to identify actual teachers who achieve the highest outcomes, and then use rigorous research to identify the behaviors that set them apart from average and low performers.

I know that sounds difficult, but this is the only valid way to select behaviors for inclusion in a definition of teacher effectiveness. Expert opinion, focus groups, consensus processes all sound good – but they are poor substitutes for analysis of actual behaviors linked to outcomes. That’s the standard every state should apply.

EFFECTIVENESS: Including Behaviors, cont.

2. Rigorous measurement to assess teachers

- Invest in reliability: great tools & processes

3. Dynamic improvement

- Not just a one-time project
- Continuously improve identification & measurement of outcome-linked behaviors

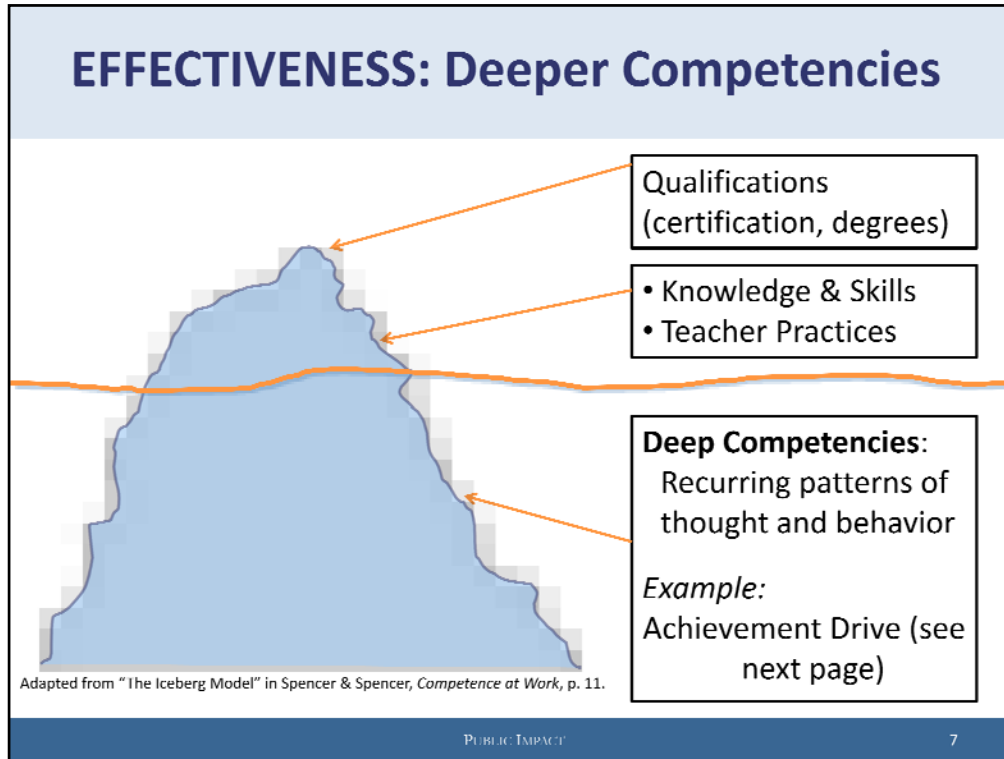
4. Look beneath the surface

- Deeper competencies that distinguish performance even with same “practices”

Second – once states have identified behaviors to include, they need rigorous measurement to assess how well teachers are engaging in behaviors that matter. Again, I’m not getting into measurement. My point here is just that there’s no point in deploying elaborate systems to measure teacher behavior without also investing in great tools and processes that make those measures reliable.

Third is dynamic improvement. Identifying behaviors that matter, and measuring them reliably, can’t be a one time project. We shouldn’t wait until we have perfect measures to start this work. But then both identification and measurement need to be continuously improved, not etched in stone in the spring 2010 legislative session as everyone’s preparing for Race to the Top.

Fourth, states need to look beneath the surface, seeking deeper competencies that differentiate performance even among teachers who seem similar on the surface. [go right to next slide]



Think of a teacher's capability as an iceberg, with a tip above the water line that's easily seen – but a giant mass below the water that's not as easily observed.

The very tip is the teacher's formal credentials, like certification and degrees. These are the easiest to see, but we know from years of research that they explain very little of the differences in outcomes that teachers produce.

Also above the water line are a teacher's knowledge and skills, and her easily-observed practices.

Below the water line are deeper competencies that aren't as obvious based on short observations of teachers in action – the recurring, underlying patterns of thought and action that underlie more easily-observed practices. It's easiest to see this with an example (see next slide).

EFFECTIVENESS: Deeper Competencies, cont.

Example Teacher A

- Eager to do well
- Attentive to state curriculum & district pacing guides
- Follows official “effective teacher” practices
- Dutifully administers benchmark assessments every two months as required; reviews data
- Concerned when a student has problems; when has time, uses prior experience and knowledge to help the student

Example Teacher B

- Spends extra time in the summer poring over last year’s data for each incoming student; checks with students’ prior teachers to learn more about each child’s challenges and needs
- Conducts research & consults with peers to prepare to meet those challenges and needs
- Assesses students every week, not just mandated bi-monthly tests
- Based on assessment data, makes plans to try new instruction methods – and executes
- When new tactics do not work, doesn’t give up on any child – gets help early & often

No one would be surprised if Teacher B achieved much better results. But a brief observation of the two probably would not reveal all of these differences. The behaviors that truly distinguish them – advance planning, hard analysis & thinking, learning over time, and relentless adjustment & follow-up, are much harder to observe in short stretches.

Start with Teacher A. At the beginning of the year, he’s eager to do well. He’s attentive to the state curriculum and the district’s pacing guides. He follows the teaching practices laid out in the state’s new definition of teacher effectiveness. The district requires benchmark assessments every 2 months, and he dutifully administers them and reviews the data. When a student has trouble, he’s concerned – and when he has time uses his knowledge to help the student as well as he can.

But now think of a second teacher. At the beginning of the year, she spends extra time considering where each of her incoming students is starting. She pores over all of last year’s data, and checks in with the students’ prior teachers to learn more about the barriers each child faces. Based on that, she does research and talks to peers to prepare to tackle those specific challenges. She’s kept track of past experiences with similar kids, and she has that to go on, too. She assesses her students every week, not just the mandated every two months. Every week she knows who’s making progress and who’s stuck. Based on her knowledge and new research she does on new barriers, she makes a plan to try new tactics – and executes it. And when there’s a student’s need she can’t meet, she gets help early and often, from her colleagues or from outside the school. She doesn’t give up.

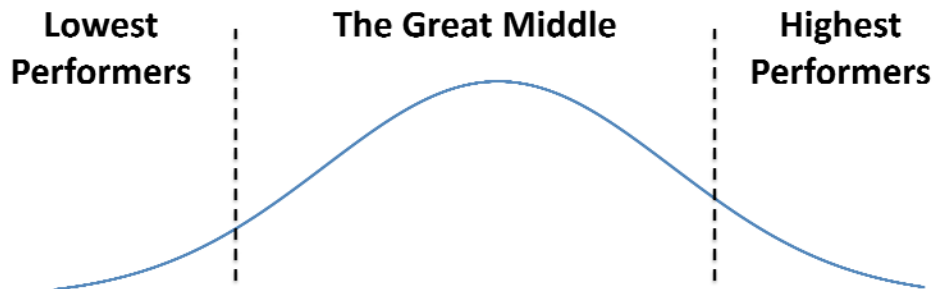
If you observed these two teachers for half an hour, you might pick up on these differences. But what really distinguishes these 2 – advance planning, hard analysis & thinking, learning over time, and relentless adjustment and follow-up, are much harder to observe in short stretches.

EFFECTIVENESS: Deeper Competencies, cont.

- Explain high proportion of job performance
- Well-honed measurement approaches exist
- Have multiple uses in a performance system:
 - Differentiate teachers by level of performance
 - Identify teacher potential for varied career paths
 - Use for selection of new teachers(because similar competencies are used in other settings)

That doesn't mean they CAN'T be observed. In fact there are well-honed tools for identifying, measuring and using these deeper competencies in a variety of professional settings. So there's no reason why education should be looking just at the tip of the iceberg of teacher capabilities when there's such an enormous mass of deeper competencies beneath the surface that in all likelihood better explain performance.

EFFECTIVENESS: Distinguishing Performers

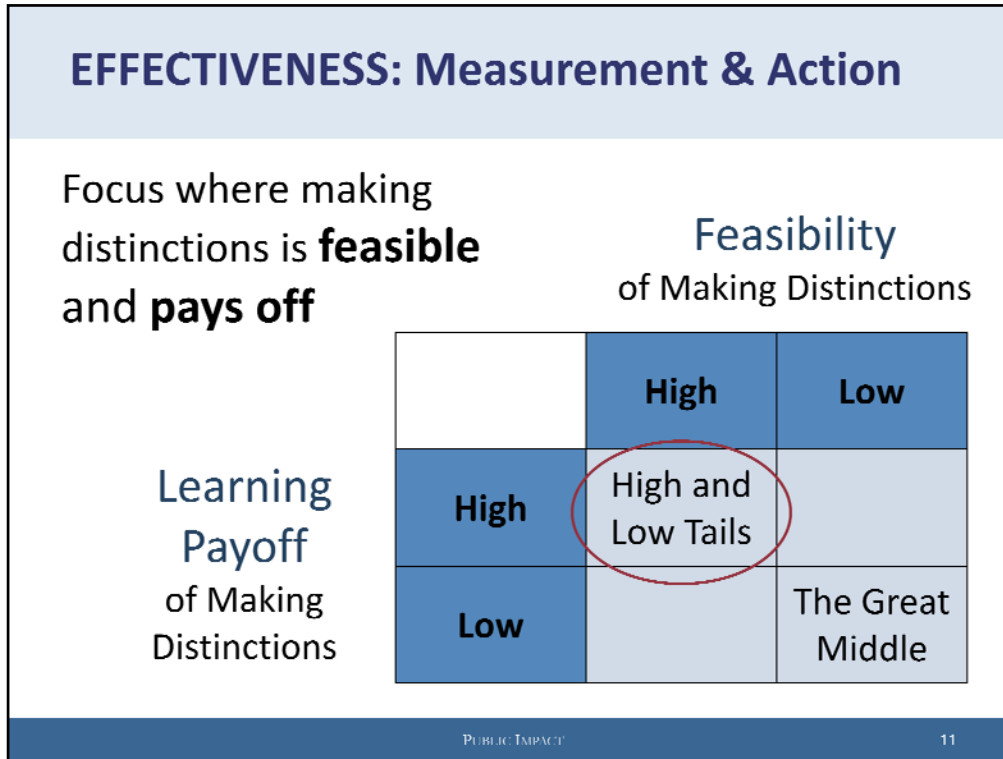


- Most teachers in middle – harder to differentiate performance
- But lowest and highest performers stand out from the crowd...and make a huge difference for kids

Now – whether we’re talking about student outcomes produced by teachers, or teacher behaviors, we’re likely to observe a performance curve like this, just like we would see in any job.

Most teachers are in the Great Middle. And one of the big reasons our debates about defining and measuring teacher effectiveness get so heated is because of worries that measures within this great middle won’t be accurate and fair. That’s because it actually is technically difficult to tell a definitive difference between teachers who are, say, exactly average and those that are a few points above average.

The two ends, or tails, of the curve are another matter. The lowest and highest performers stand out from the crowd. And, their presence in schools makes an enormous difference for kids – the best are way better than the norm, and the worst teachers are way worse.



These two qualities of the “tails” make them the best focus for our efforts to make distinctions in teacher effectiveness. It’s technically more feasible to identify teachers in the high and low ends than to make fine distinctions within the Great Middle.

AND the learning payoff is also much higher of knowing who those highest and lowest performers *are*.

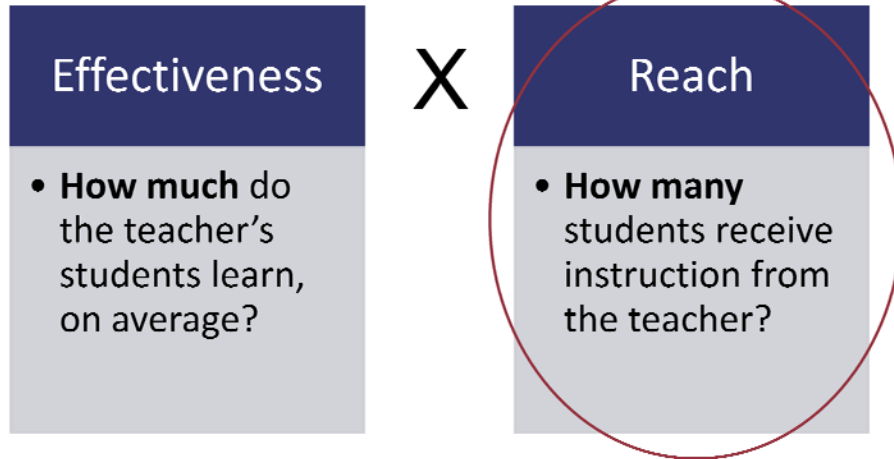
So what is that payoff? As Tom Kane and his colleagues have shown, removing a higher proportion of the lowest performers could have a huge effect on student outcomes.

Identifying very high-performers could have a similar payoff – if we could retain more of the very best teachers for longer, we’d see large benefits for kids.

But there’s an added potential benefit of identifying the very best teachers – and that’s extending their reach to more students – which brings me back to....

What is a Teacher's "Effect"?

A Simple Formula:



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My original simple formula – states need to know not just whether an individual teacher is highly effective, but how many students are being reached by that highly-effective teacher.

REACH: Extending Impact of the Best

“Reach Extension” = the number of additional students who receive top instruction

In-Person Reach Extension

- Teachers interact in-person with students and staff but reach more students by eliminating non-instructional time or leading other staff
- Higher touch & reach without additional technology

Remote Reach Extension

- Teachers interact “live” but not in-person with students via video-conferencing, phone, email, and online discussion
- Students can access great teachers regardless of where they live

Boundless Reach Extension

- Teachers contribute instructional ideas and perform for video and software delivery
- Frees top teachers’ time for high-touch interactions

For more on reach extension, see Public Impact’s working paper *3X for All: Extending the Reach of Education’s Best*, October 2009.

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That’s because if states know who their best teachers are, and their current reach, they can focus on “reach extension” which is just increasing the number of students who receive top instruction.

Now, there are many ways schools, districts, and states could extend the reach of their best. They can do it by using technology to give students access to great teachers no matter where they live.

Or they can do it by reorganizing teachers’ time and roles in schools so that the best teachers interact with more students.

For more on reach extension, see Public Impact’s working paper *3X for All: Extending the Reach of Education’s Best*, October 2009 available at: http://publicimpact.com/publications/3xforall_extendingthereachofeducationsbest_publicimpact_october2009.pdf

REACH Payoff: More Kids Get the Best

Two Districts with 50,000 Elementary Students	Number of Teachers in Highest Effectiveness Category	Avg. Number of Students Reached by Each Highly Effective Teacher	Number of Students Reached by Highly Effective Teachers
District A	500	18	9,000
District B	500	27	13,500

- District B reaches 50% more kids with top instruction
- More top teachers enter & stay because of opportunity for additional impact and rewards

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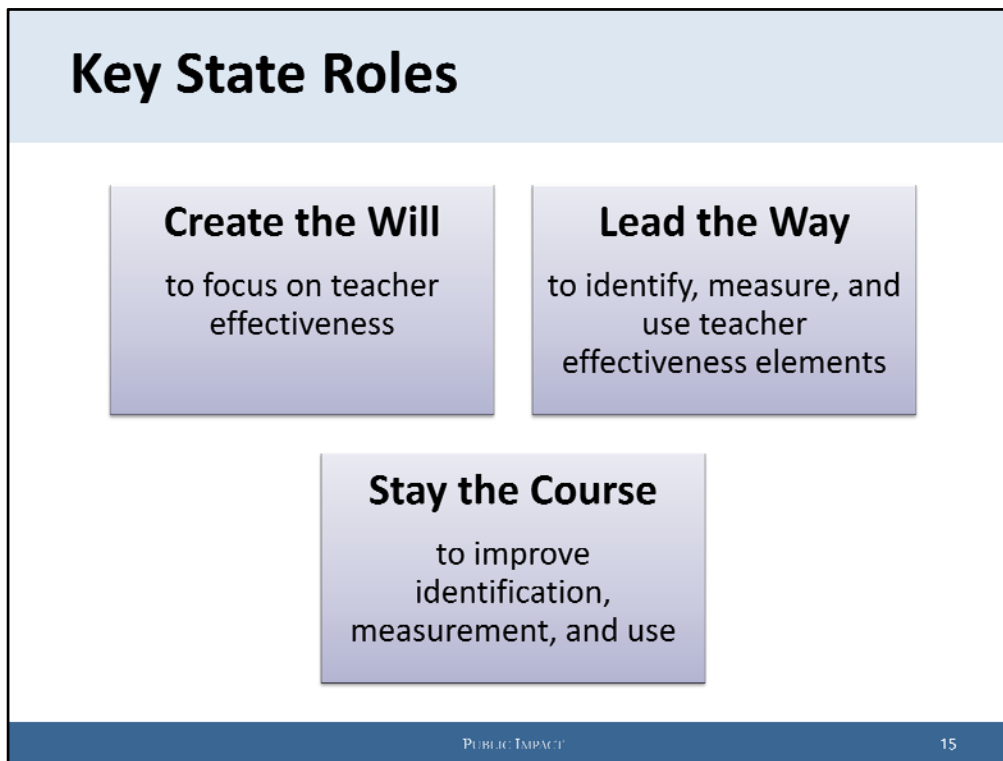
Ultimately reach extension is so important because it's a largely untapped way of getting the best instruction to more kids.

Consider 2 districts, both with 50,000 elementary students, and both with 500 teachers in the highest effectiveness category of your state's new teacher effectiveness system.

But what if in district A, these top teachers only reach 18 students each, while in district B they reach 27.

Now let me pause because you may be thinking I'm talking here about increasing class sizes from 18 to 27, but I'm not necessarily talking about that. Let me give you an example. Right now, elementary teachers spend about half their time on non-instructional duties. What if, once we know a teacher is in the top effectiveness category, she's relieved of just about all of those non-instructional duties. Then, she could teach 50% more kids and still have time left over to coach her peers, or follow-up with individual students needing more help.

So in this example, District B reaches 50% more kids with top instruction – without having any more highly effective teachers. And then imagine these numbers on a national scale. And then consider another payoff of reach extension – as more top teachers enter and stay in the profession because of the opportunities for career advancement and additional pay that reach extension enables.



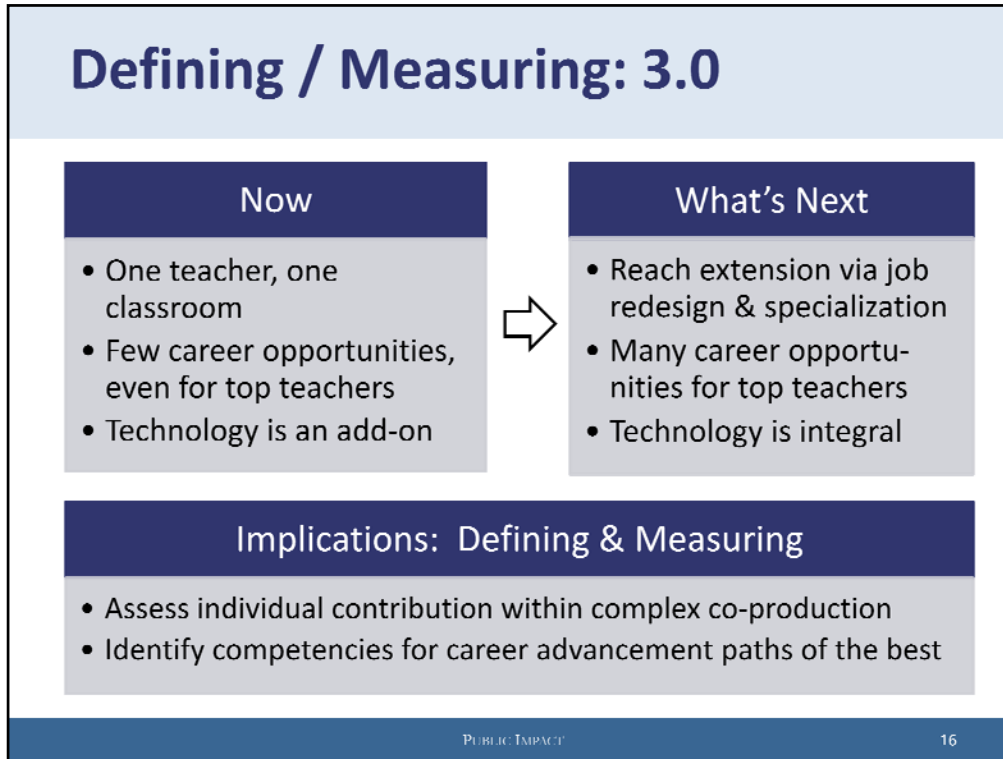
Now there are a lot of big implications for states in this discussion of defining and measuring teacher effectiveness, and we're going to spend some time as a group later in the day really delving into that.

But here let me suggest three of the big roles states need to assume.

They first need to create the will to focus on teacher effectiveness. They have a couple of primary tools for doing this. One is requiring teacher effectiveness measures that truly differentiate teachers based on their performance, with student outcomes as the core. And then second, shining a bright light on a range of metrics that reveal how different schools and districts are doing on improving teacher effectiveness.

Second, states need to lead the way on the whole range of activities we're talking about here – from identifying the student outcomes and teacher behaviors that matter, to devising the measures of these elements, to ensuring the use of the resulting data across the whole range of teacher policies. Some districts and schools will want to go above a state-mandated floor on these points, but the state's role in creating that floor is critical.

Finally, states need to stay the course to improve identification of what matters, measurement, and the use of teacher effectiveness data. As I said before, this can't be a one-time project.



That's especially important because as soon as all states move from the current abysmal 1.0 systems of teacher evaluation to version 2.0, the need for version 3.0 is going to be on the horizon.

Teachers today largely work in a one-teacher, one-classroom world. Even the very best have few career opportunities that keep them teaching. Technology is an add on.

But there's some indication that all of this is about to change. And if it does, the 2.0 systems we're all working on right now are going to need to change too. So even if every state "races to the top" next year in defining and measuring teacher effectiveness, we all need to realize – we're not done.



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