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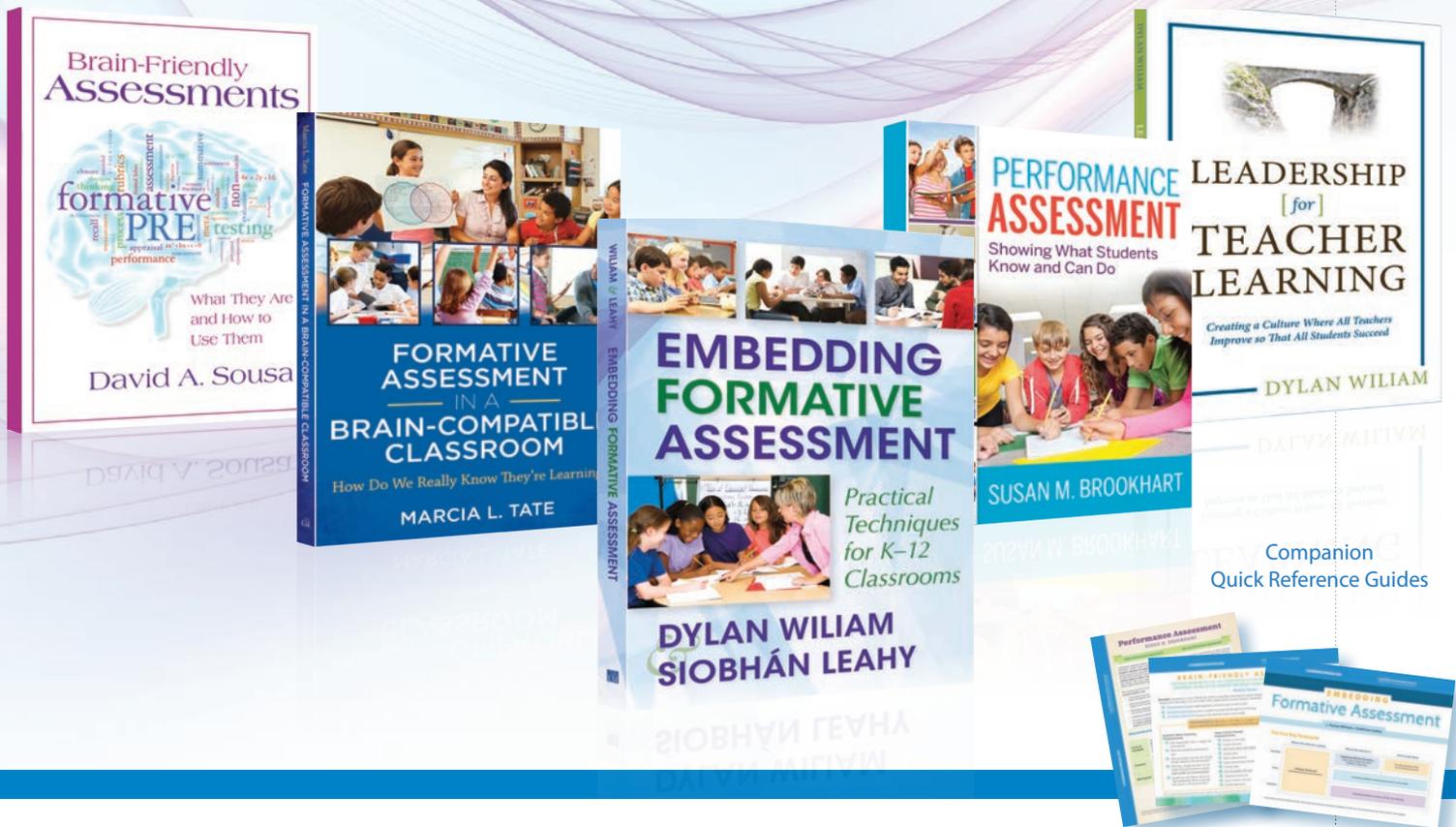
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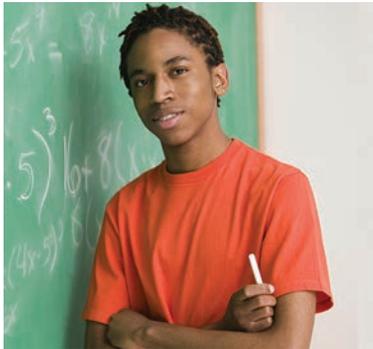
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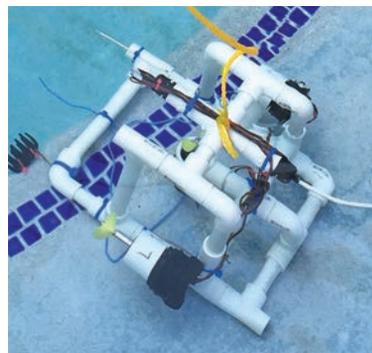
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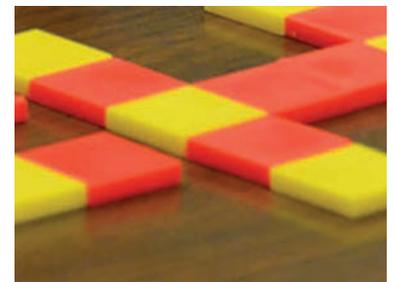


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I SAY

Jal Mehta

Associate professor, Harvard Graduate School of Education



On how the way we learn naturally should influence professional learning in education:

“You have to think that, at some point, the way in which people learn outside of school — with like-minded others, around topics they care about, with people of varying levels of expertise, in networks that reach out in all directions — will penetrate how both students and adults learn in schools.”

Find the full Q&A with Jal Mehta at www.learningforward.org/learningprofessional.

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THE PROFESSIONAL LEARNING ASSOCIATION



HERE WE GO Eric Celeste

Learning is at the heart in name, mission, and spirit

We know change is hard. Author Mary Shelley called it the most difficult of things: “Nothing is so painful to the human mind as a great and sudden change,” she wrote. We’re fully aware then that the change we have introduced with this issue — not only redesigning Learning Forward’s journal, but also changing the name from *JSD* to *The Learning Professional* — might give readers a case of the fantods. The change is not sudden, however. It was well-considered and purposeful, and we believe it is indicative of where we are as an organization and you are as a professional.

Why make these changes? We believe in systems of continuous improvement. For more than a year, we’ve been asking ourselves and our members how we can take a product we love and make it better. We settled on several goals, four of which readers will notice quickly:

A stronger emphasis on member and practitioner voices. This is most evident in our new Voices section, where we will cast a spotlight on a member doing great work in the field. This month, it’s principal Syeda Woods (p. 8).

More tools and advice that respond to reader questions and specific challenges. We will keep the Tools section of the journal — many of you told us it’s your favorite section — and

we’ve added an advice column called “Ask” to help practitioners with their real-world learning challenges (p. 12).

Greater flexibility to address timely topics. These changes are subtler, but we’re excited about them. One way this is manifest is simply in our topic choices. (See p. 65, where our Tool is centered on changes under the new federal Every Student Succeeds Act.) But we’ve reduced the number of theme articles — now found in the Focus section — so we



can include a wider variety of topics in our nonthematic feature-length articles, now found in our Ideas section.

An updated look and feel. Evidence of this smart, modern design can be found throughout the magazine. Be sure to look over the table of contents called “In this issue” on p. 1 to familiarize yourself with our new magazine.

Why change the name to *The Learning Professional*? While we appreciated that *JSD* (formerly *Journal of Staff Development*) spoke to our heritage, it no longer reflects our mission or the state of our profession. Learning is at the heart of our organization in name,

mission, and spirit. Learning is central to our vision — “excellent teaching and learning every day” — and the word “professional” speaks to the expertise and standard of excellence required of learning leaders.

As well, “professional” speaks to expanded nature of our mission and a recognition of the many roles members serve. We will always work to serve educators in a number of roles. We know that our members are not limited to just one title, whether coach, administrator, or principal. We also know that you will move through many career stages in your current and future roles, and we want to serve and celebrate you in each phase of your career path.

For the staff at *The Learning Professional* and at Learning Forward, please consider these changes a testament to the vital work you do and the children who benefit from it. We hope you see this change as we do: one that represents our great pride in professional learning, the educators who practice it, and the stories we share along the way.

Eric Celeste (eric.celeste@learningforward.org) is associate director of publications at Learning Forward. ■

THE LEARNING PROFESSIONAL

THE LEARNING FORWARD JOURNAL

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VOICES

“**We continued to raise expectations, and our kids began to meet that expectation. It changed the trajectory of the entire school and the mindset of the educators who stayed.**”

— Syeda Woods, *Member Spotlight*

p. **8**

HOW
CAN A NEW
INSTRUCTIONAL
COACH BUILD
RELATIONSHIPS WITH
MORE EXPERIENCED
PEERS?

p. **12**

MEMBER SPOTLIGHT

Syeda Woods

Position: 6th year as Principal at Fenwick Academy (New Jersey)

In education: 24 years

Learning Forward member since: 2013

Learning Forward origin story: My superintendent sent me an email and asked if I wanted to go to the Annual Conference in 2013. I said yes, I became a member, and I decided to fill out an application for the Learning Forward Academy. I told my superintendent I was accepted, and he said, "You know this is major, don't you?" and I said, "No, I have no clue."

How Learning Forward helped her: The academy used our problems of practice we had to steer our work. That was powerful, because it was not a program they had given us — they wanted us to present our issues and problems. I wanted to do this initiative to improve our kids' reading, and it helped tremendously. Everyone [in a cohort of 49] had the mindset that we could work together to overcome these challenges, and that was powerful.



Photo by TONI JACKSON

"I had pictures of our parents on the wall outside of the main office and had them send a positive message to their students here."

— Syeda Woods

When Syeda Woods became principal of John Fenwick Academy in Salem City (New Jersey) School District in 2010, she knew well the challenges she faced. She had spent nearly two decades in the district, first working as a middle school literacy teacher, then a vice principal at the middle school. She says too many in the district at all levels were focused on concerns not related to student achievement. Now entering her sixth year at the pre-K-to 2nd-grade school, she has overseen a steady increase in literacy scores — in large part, she says, because of high expectations and a focus on high-quality professional development that ties teacher learning to student outcomes.

How did you choose education as a career?

When I was in 3rd grade, my former principal used to go around to every classroom and say, "Good morning, boys and girls." She was absolutely beautiful, and she smelled good! When I was young, I said I wanted to be a principal. Through elementary school, and middle school, and high school, I had been mentored by some great educators in the city of Norton, New Jersey. Because of

their influence in my life, I wanted to be like them.

You've been in one school district for 24 years. What was different when you began?

When I first started, I saw more teachers becoming managers of education as opposed to learners of their own skill. There was a format that was placed before them as far as lessons, plans, curriculum. Everything was

spoon-fed. There was no collaboration going on. They followed a script.

What has changed?

Over time, I began to see that there were teachers, or educators, who were willing to change, become more creative. It was not always well-received immediately, because there were teachers who were in this for years, and they wanted to stay put in that same mentality. But as the district grew, as new educators have come in, as we've instituted more professional development, we've seen a change.

As a principal, what did you do to help foster a learning environment?

We worked on this culture, so that changed. I had to deal with low expectations because of students in poverty — educators who thought that what they were giving to our students was the best, but there were not high expectations. The administration that was here, teachers that were here my first year saying that the kids are not able to perform at a higher level, why do you think raising the expectations would cause them to do better? Everything that I read with research tells me that when you raise expectations, kids will meet it. It proved to be the case. In that first year, we went from 49% of 2nd-grade students responding on a Fountas & Pinnell reading levels to 58% doing so. From that moment on, we continued to raise expectations, and our kids began to meet that expectation. It changed the trajectory of the entire school and the mindset of the educators who stayed.

What professional learning were you able to put in place after that?

We've done learning rounds so teachers were able to see other practices with their colleagues and talk about what they saw and compare student work from class to class and grade

to grade. As well, I provided extra professional development time with their colleagues, extended it at least one time a week that they meet their colleagues for an additional 20 minutes. We incorporated the time because that was one of the things they told me — they didn't have time to discuss student work. So I extended and built the schedule so they could spend more time together collaborating about student work and made it possible that not only were they meeting with their grade levels, but at least twice a week they're meeting with other grade levels as well. That came from the teachers.

What can you do better, in terms of professional learning?

Accountability is key. To that end, we need to get better at measuring. How I can measure what is being learned during professional development, as well as how it's being applied in the classroom? We're doing

ABOUT THE LEARNING FORWARD ACADEMY

The Learning Forward Academy is a 2½-year learning experience that immerses members in a model of inquiry- and problem-based learning. Academy members work collaboratively to gain knowledge to solve significant student learning problems in their schools, districts, or organizations. The Learning Forward Academy seeks to understand individual members' needs and then assist them in meeting objectives through a collaborative learning environment and the support of experienced coaches. For more information, contact Kristin Buehrig at **972-421-0900** or **kristin.buehrig@learningforward.org** or visit **www.learningforward.org/learning-opportunities/academy**.

that this year. We're coming in with coaching in the classroom, taking better notes, and having the teachers complete surveys on certain skills that we're looking for. Then we survey how well the kids are doing with those skills so we can see what our need is, statistically, to the grade level, as well as if we're properly helping the teachers we're serving.

And the teachers believe it is helpful? They buy in?

What's amazing to me is that our teachers are really helping out now, because now they understand their voice matters, and I'm listening to them and meeting their needs. I'm in the community learning with them. During our grade-level meetings, our faculty meetings, and our inservice meetings, we're giving the teachers an opportunity to present what they've learned from each other, and they present to their colleagues the skills that they've learned, the strategies they've learned. They're drawing inspiration from each other.

You tell me attendance has been up markedly since you began these programs (over 90%), which suggests student buy-in. What has been the reaction from your parents?

Prior to my coming here, the parents did not trust the school system because they were educated in the same system. There was a level of trust that they had to regain. One of the things coming in as an administrator, I began to reach out to the parents with our parent university — I called it a "parent lane." It's where I had pictures of our parents on the wall outside of the main office and had them send a positive message to their students here. I wanted to welcome them into the community and, in doing so, they saw themselves as part of the community. They're included. They see we're in this together, and we're focused on their kids. ■



CALL TO ACTION

Stephanie Hirsh

A glimpse into Canada's practices helps us examine our own

Learning Forward recently commissioned and supported a study on the state of professional learning in Canada. You can read about the study as well as the reports and papers resulting from it on p. 20.

When first asked why Learning Forward invested in this study, I said we not only wanted to continue to deepen the field's understanding of what professional learning looks like worldwide, but also wanted to offer a gift to the Canadian members who would host our Annual Conference in December 2016.

And then, while we were at that conference, the latest results from the Programme for International Assessment (PISA) were released. The results from that international assessment show that students in Canada outperform students in most other nations.

Now there's no question about why we should look at what Canada is doing with its professional learning.

Canada figures prominently in another study. The school system in British Columbia was highlighted in *Beyond PD: Teacher Professional Learning in High-Performing Systems*, the 2016 report from the National Center on Education and the Economy that examines teacher professional learning in four high-performing systems and provides evidence that continuous professional learning deeply embedded into the framework of schools is fundamental to student success.

When we have data available from

LEARN MORE

- Learning Forward's reports and papers on professional learning in Canada are available at www.learningforward.org/publications/canada-study.
- Resources to help educators explore the findings in the *Beyond PD* study and consider implications for policy and practice are available at www.learningforward.org/publications/beyond-pd-resources.



such assessments and research studies, I wonder: What is happening with educators in those countries? How do they manage to help more students achieve higher outcomes than their colleagues in the U.S.? More importantly, what can we learn from it?

While there are fewer issues that rise to the level of federal interest in Canada than there are in the U.S., there are two that both nations prioritize. First and foremost is equity. In the U.S., we struggle with huge achievement gaps among various groups of students, including those with socioeconomic differences and those with racial differences. In Canada, educators face similar challenges.

The Canadians are also deeply committed to quality teaching for every child. Like the U.S., Canada invests in professional learning to ensure teachers have the support they need to help every child be successful.

So what steps can Learning Forward members — in the U.S. as well as beyond North America — take with the report? I invite you to consider the following actions.

1. **Read the report** to understand how a country so similar to the

U.S. approaches professional learning.

2. **Tag parts of the report** that you believe would generate important conversations with colleagues, decision makers and policymakers, and others. Offer to facilitate such a conversation.
3. **Write and disseminate or present** your own summary of the most relevant findings to your context, discuss what you will do next with these findings, and challenge others to determine what they can do as well.

There is no question that educators in different countries — and even in different states and cities — have unique contexts, and we can list many valid reasons why particular practices won't work in different places. Yet it is rare when we get such windows into teaching and learning practices that studies like this offer.

Stephanie Hirsh (stephanie.hirsh@learningforward.org) is executive director of Learning Forward. ■

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ASK

Michelle King

How do I coach peers who have more experience than I do?

Q I've recently become a high school instructional coach supporting teachers who used to be my peers, and some of them have significantly more teaching experience than I do. It is now my responsibility to facilitate a couple of weekly subject-oriented professional learning communities (PLCs), observe teachers within specific subject areas, and offer individual follow-up and support to teachers as they develop new lessons and implement a new curriculum program. I've already encountered some resistance that I perceive to be based on my experience relative to these teachers. What are some strategies for building my credibility with my former peers and creating supportive relationships so that we can all do well in our roles?

Transitioning into a new role that changes the relationship from peer to coach presents both challenges and opportunities. I experienced a similar situation when I accepted the responsibilities as a middle school mathematics department chair. Every member of my team had more experience than I did, and at least one had previously been a department chair. More context: I had been placed in this role not because my colleagues were unable to meet the expectations of the role, but rather because none of them were interested in the position. When I accepted the role, it was at the request and encouragement of my principal — partly because I had proven I was open to collaboration, but also because I had expressed an interest in leadership opportunities that focused on curriculum and instruction.

Despite the support from my principal, the challenges were obvious. I needed to establish, build, and maintain credibility and create supportive relationships. The way to do this as a

new instructional coach happens to be the same way you'd go about it no matter your experience level: You must listen, establish clear boundaries, and demonstrate integrity.

LISTEN.

As self-help author Bryant H. McGill has said, "One of the most sincere forms of respect is to actually listen to what another has to say." And as a new leader, it's crucial you listen to your teachers first. Making time to listen clearly demonstrates you care about their concerns. Listening provides the opportunity to really get to know a person. However, listening does not mean being silent. In my coaching training, we practiced listening with mind, body, and heart. This means attending to not only what people are saying, but also the expression on their face, the tone of their voice, and also intimating what is being said between the words. As we listen, we develop interpersonal relationships and demonstrate that each person matters.

Each issue, we ask a learning professional to answer your professional learning questions. This month's response comes from Michelle King, associate director of communities at Learning Forward.

Meaningful things are accomplished when people connect and work together.

ESTABLISH BOUNDARIES.

Setting and communicating boundaries shows mutual trust and affirms the value of each person in the coaching relationship. It's important to be supportive and responsive to needs, but also to avoid falling into the role of classroom assistant. Boundaries can be formal or informal. The purpose is to agree on the conditions of time, space, confidentiality, and goals. As the coach, be clear and consistent about the

**As we listen,
we develop
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person
matters.**



support you provide and when you are available.

DEMONSTRATE INTEGRITY.

To build credibility, you must be a person of your word. In other words, exhibit integrity. Do what you say you will do. Be on time to meetings. Keep your appointments. Admit and take responsibility for mistakes or miscommunications. Finally, maintain the confidentiality that is required

in coaching. There's nothing more frustrating or damaging to a person in a coaching relationship than realizing something shared with her coach in confidence — outside of necessary information owed to an administrator — is now common knowledge among peers.

Establishing credibility among peers and creating supportive relationships are vital to the coaching role. If we want to see transformation and meaningful

changes in education, an instructional coach must intentionally build purposeful and authentic connections with others. Being an effective instructional coach is not about winning friends and influencing people. Rather, it is about connecting with colleagues by listening well, branding yourself as a leader with clear boundaries, and demonstrating integrity. That is true no matter the number of years you've been an educator. ■

LEARNING PROFESSIONALS: WE WANT TO HEAR FROM YOU!

The "Ask" column is a way to open a dialogue with learning leaders about the issues you face daily. No topic is too broad or narrow. Whether you are struggling to establish a principal pipeline in a rural county or wondering how to find a literacy coach for your school, we'd like to discuss your concerns.

Send your questions to ask@learningforward.org. Take as many words as you need to explain your question(s) — understanding that we may edit them for length or clarity.

We look forward to hearing from you.



BEING FORWARD Scott Laurence

RECOGNIZE THE HARD WORK OF PROFESSIONALS

I am very honored to serve as the incoming board president of Learning Forward. It is a great honor, and I look forward to serving the organization faithfully over the course of the next year.

It is also an honor to write my first column in our new magazine, *The Learning Professional*. The magazine's new name and design replaces that of *JSD*, formerly known as *The Journal of Staff Development*, that has been one of our main communication tools for many years. (For a timeline of name changes throughout the journal's history, see "The evolution of *The Learning Professional*" on p. 71.)

I have had a long and broad professional history. I taught for more than 10 years at the high school level, was a site administrator for more than a

decade, and worked at the district level for yet another 10 years.

who eventually had the opportunity to play professional baseball. I have always cherished that time. I believe it made me a better teacher and administrator. The traits that make a successful professional athlete also make a successful student. I also believe those traits exemplify quality educators — who are themselves part of a valued, demanding profession. That's why they are professionals in every sense of the word.

From my experience, there is something special about professional athletes: the hard work, the dedication to continuous improvement, the collaboration, the accountability. Too often, educators are addressed in a way that doesn't emphasize the term "professional." In my years as a teacher,



outdated. Staff development represents an outmoded concept of the robust professional learning that we expect educators to experience daily. The new name of the journal, *The Learning Professional*, highlights the large number of people we reach and feature. All our members are involved in learning, no matter their role or function. They lead learning, model learning, and study learning for the benefit of all educators and students.

We looked at many different names and formats. We looked at how best to serve our members and grow our resources to fit the needs of our full community. We looked at how best to bring all our resources in line to best promote our goals and mission.

After many months and multiple discussions, we decided the name *The Learning Professional* aligns the journal with the entire organization. I feel the same sort of pride in helping launch the magazine as I did watching those ballplayers.

Scott Laurence is president of Learning Forward's board of trustees. ■

In my years as a teacher, principal, and superintendent, I saw the exact same traits in my colleagues as I did when I was playing and coaching future Major League Baseball players.

decade, and worked at the district level for yet another 10 years.

But education wasn't my first professional love. Growing up, I wanted to be a professional baseball player. After graduating high school, I was fortunate enough (and, to be fair, worked hard enough) to play baseball at Stanford University. After graduating, I combined teaching and collegiate coaching for the early part of my professional career. In the athletic portion of my work life, I could interact with many young men

principal, and superintendent, I saw the exact same traits in my colleagues as I did when I was playing and coaching future Major League Baseball players.

That is why I am so excited with this reimagining of Learning Forward's journal. The board of trustees and the executive committee have been working on the new design and improvements of the journal for over 18 months. We thought it was important to make the changes for many reasons. The name and connotation of *JSD* has become

Examine. Study. Understand.

RESEARCH

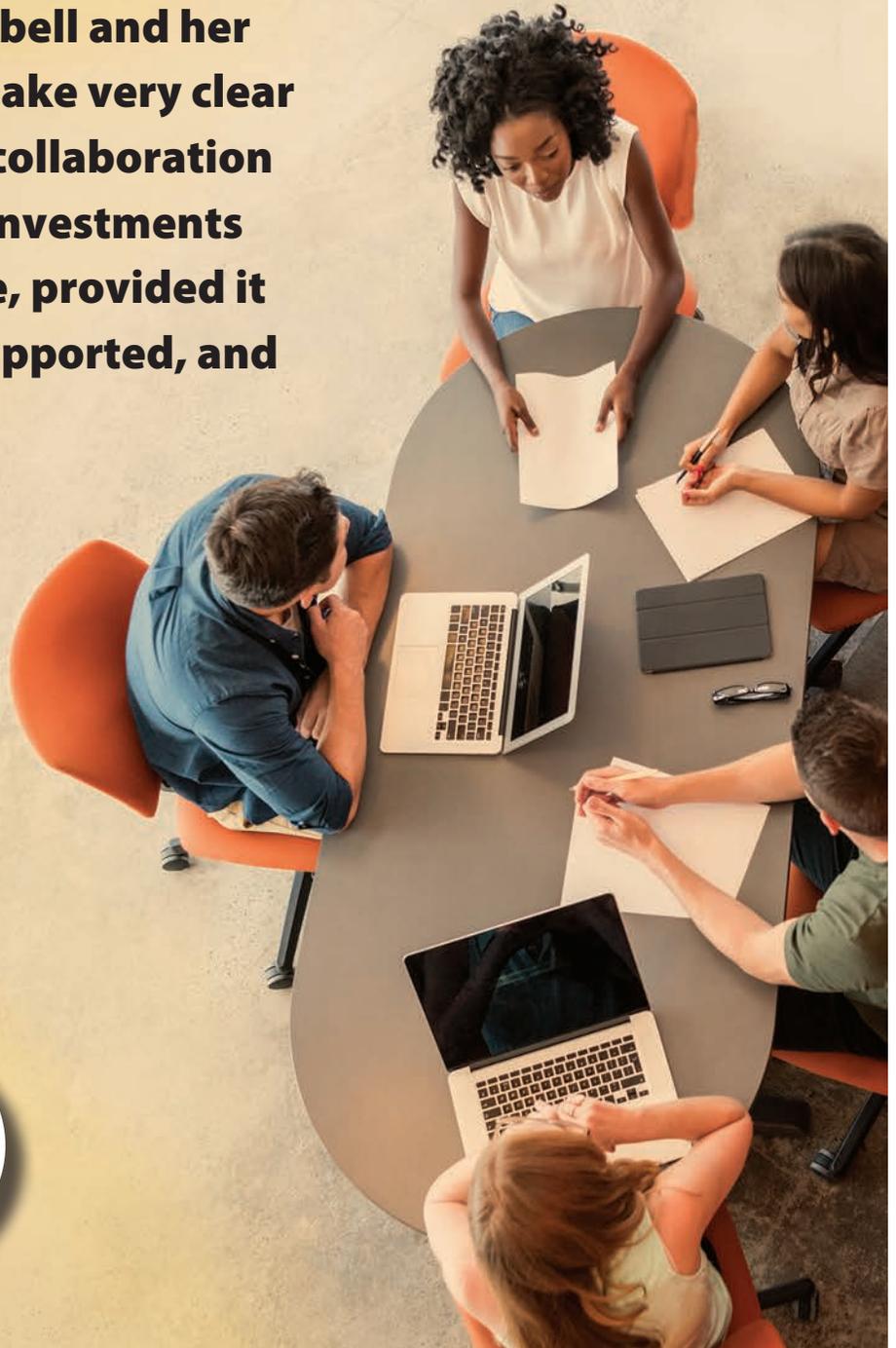
“ [Carol] Campbell and her colleagues make very clear that professional collaboration is one of the best investments a system can make, provided it is well-led, well-supported, and includes quality content.”

— Michael Fullan and Andy Hargreaves, responding to the study *The State of Educators' Professional Learning in Canada*, in *Bringing the Profession Back In*.

p. **20**

MISSOURI
PROGRAM'S
IMPACT ON MATH
STUDENTS AND
TEACHERS.

p. **16**





RESEARCH REVIEW

Joellen Killion

Missouri program highlights how standards make a difference

► AT A GLANCE

Intensive professional learning for teachers and principals who support and monitor professional learning positively impacts teacher classroom practice and student achievement in mathematics in rural Missouri middle schools.

► THE STUDY

Meyers, C., Molefe, A., Brandt, W.C., Zhou, B., & Dhillon, S. (2016). Impact results of the eMINTS professional development validation study. *Educational Evaluation and Policy Analysis*, 38(3), 455-476.

•
Joellen Killion (joellen.killion@learningforward.org) is senior advisor to Learning Forward. In each issue of *The Learning Professional*, Killion explores a recent research study to help practitioners understand the impact of particular professional learning practices on student outcomes.

► WHAT THE STUDY SAYS

Professional development designed to integrate key features of research-based professional learning has positive and significant effects on teacher practice and student achievement in mathematics when implemented in schools that meet specified technology-readiness criteria. Key features of research-based professional learning include intensive focus on content-specific and pedagogical practices aligned with new standards, sustained classroom-based and online support over multiple years, and professional learning for principals on monitoring and supporting teacher implementation of newly acquired practices.

STUDY DESCRIPTION

eMINTS (enhancing Missouri's Instructional Networked Teaching Strategies) is a decade-old professional development program that promotes inquiry-based instruction and learning, high-quality lesson design, community within classrooms among students and teachers, and technology-rich learning environments. This randomized trial evaluation study in 60 rural schools was designed to address limitations of previous evaluation studies and meet criteria of the national What Works Clearinghouse.

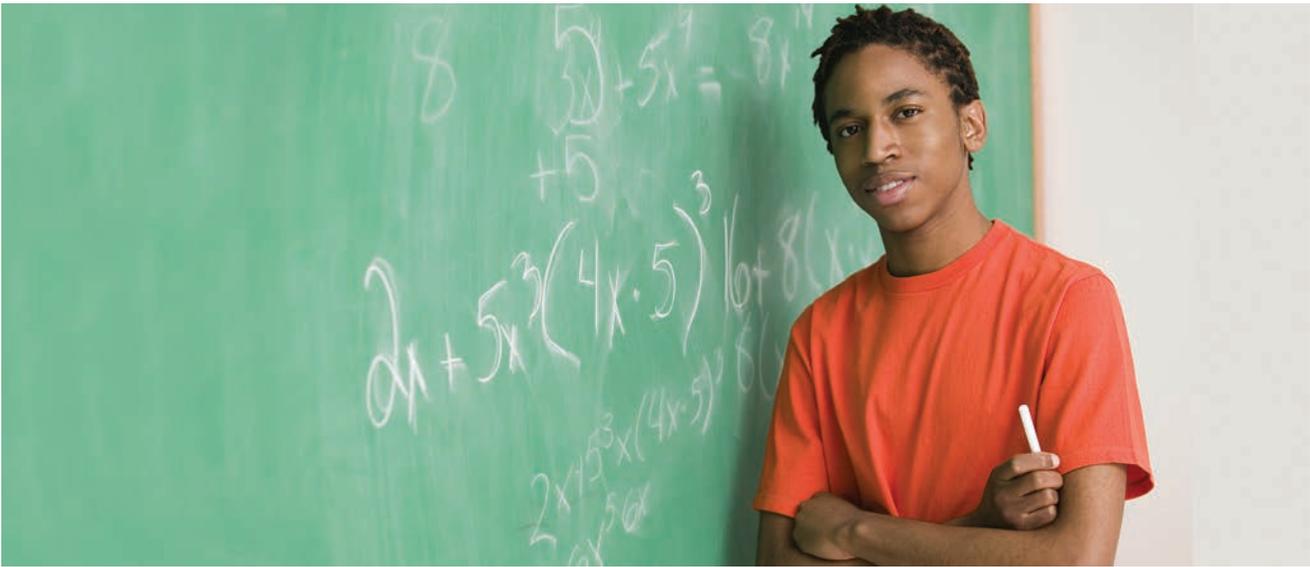
It measured the program's impact on 7th- and 8th-grade students and their teachers blocked into three

configurations of schools (pre-K-8 or K-8; 6-8 or 7-8; and 7-12) and three distinct groups: a treatment group receiving the two-year professional development program, a treatment group receiving an additional third year of professional development (Intel Teach), and the control group.

An eMINTS instructional specialist, assigned to a regional cluster of schools, provided the professional development to teachers, principals, and district or school technology coordinators. Training for teachers included 240 hours of face-to-face professional development spread over two years and 14 hours of coaching sessions and communities of practice among teachers.

Professional development was supplemented with written curricula and just-in-time learning through online courses for extended support. Training in the first year — 125 hours in 26 daylong or half-day sessions — focused on “constructivist pedagogy, community-building strategies, inquiry-based learning strategies, technology integration, and introducing authentic learning experiences into the classroom” (p. 458). The second year's training — 88 hours in 20 sessions — focused on “classroom management, website enhancement, assessment, interdisciplinary teaching and learning, and development of multimedia and online projects” (p. 458).

Principal professional development developed their understanding of



► **WHAT THIS MEANS FOR PRACTITIONERS**

The design, implementation, and evaluation of eMINTS exemplifies the potential of standards-based professional learning to strengthen teacher practice and student results. Each of Learning Forward’s Standards for Professional Learning (2011) is evident in the design and implementation of the program:

- **Learning Communities:** Teachers learned and applied professional learning within learning communities in schools whose culture focused on continuous improvement and collective responsibility for student success.
- **Leadership:** School and district leaders engaged in professional learning and had an active role in monitoring and supporting implementation.
- **Resources:** The program provided equipment and required technology resources necessary for program success, skilled staff, and time for teacher and principal professional learning.
- **Data:** The program’s evaluation used school, teacher, and student data from multiple sources throughout the study.
- **Learning Designs:** Participants experienced multiple learning

designs from face-to-face training in centralized locations, onsite support and coaching, and online courses to meet individual just-in-time learning needs.

- **Implementation:** Teachers received sustained learning and support, a minimum of two years, 240 hours, of face-to-face professional learning, with some receiving an additional year of support, nine to 10 coaching visits within their classrooms, and participation within communities of practice to address individual and collective classroom learning needs.
- **Outcomes:** The overall program goals focused on improving student achievement in mathematics by altering classroom practices of teachers to address new content standards. When all the Standards for Professional Learning are integrated into a program’s design and implementation, evaluations of programs are likely to achieve results similar to the positive and significant results eMINTS has achieved for over a decade.

REFERENCE

Learning Forward. (2011). *Standards for Professional Learning.* Oxford, OH: Author.

constructivist pedagogy and its application in the classroom and their capacity to use a program-aligned observation rubric for rating teacher performance. Principals worked with eMINTS consultants to support implementation and integrate eMINTS with other initiatives.

Technology coordinators learned how to support technology integration and equipment maintenance. Both principals and technology coordinators had specific responsibilities for supporting application of the four eMINTS components: inquiry-based learning; high-quality, standards-based

lesson design; community of learners; and technology integration.

QUESTIONS

Researchers sought to answer three overarching research questions in their evaluation:

1. What is the impact of the

- eMINTS Comprehensive Program + Intel Teach on 7th- and 8th-grade teachers' instructional practices?
2. What is the impact of the eMINTS Comprehensive Program and the eMINTS Comprehensive Program + Intel Teach on school mean 7th- and 8th-grade performance in mathematics, communication arts, and 21st-century skills?
 3. What is the impact of the eMINTS Comprehensive Program and the eMINTS Comprehensive Program + Intel Teach on school mean engagement of 7th- and 8th-grade students? (p. 460)

METHODOLOGY

Researchers, to address limitations of previous evaluations of eMINTS, applied a rigorous randomized trial design to an evaluation of the implementation of eMINTS in rural school systems in Missouri. The 60 schools recruited for the study were randomly assigned to one of three treatment groups: one that received the two-year eMINTS program; another one that received the two-year eMINTS program plus an additional year of professional development and support through Intel Teach; and the control group.

Statistical analyses of teacher, school, and student baseline characteristics demonstrated that the three groups were relatively similar with no statistically significant difference before the study began. The student population included 60% eligible for free or reduced-price lunch; 4% to 7% minorities; 1% to 2% English language learners; and 12% to 14% identified with disabilities. Schools randomly assigned to the control group participated in eMINTS following the conclusion of this study.

ANALYSIS

The research team used five data sources to measure the program's impact: a teacher survey that assessed their pedagogical beliefs and lesson planning and instructional practices; classroom observations conducted by certified observers using the Classroom Assessment Scoring System — Secondary (CLASS-S); student-engagement survey; Missouri Assessment Program's results in mathematics and communication arts; and 21st-Century Skills Assessment, a measure of students' skill in identified 21st-century skills. Analyses compared baseline data gathered in 2011 and post-implementation data collected in 2014.

RESULTS

Analysis of student outcomes applied a two-level hierarchical linear model using student scores nested within schools and regression adjusted for effects within schools weighted by the number of schools within each group. Both eMINTS and eMINTS + Intel Teach groups had positive and statistically significant effect on student mathematics achievement, yet no statistically significant effects between treatment groups and control group on student engagement, communication arts, or 21st-century skills. There were also no statistically significant differences between the two treatment groups.

Teacher survey results indicate a statistically significant effect in inquiry-based learning and high-quality lesson design between the treatment and control groups, with positive yet not statistically significant differences in community of learners. Analysis of data from classroom observations resulted in statistically significant positive effects for both treatment groups for community of learners, inquiry-based learning, and technology integration, with no significant differences between the treatment groups and the control group.

LIMITATIONS

This evaluation study sought to address limitations of previous studies. Earlier studies of eMINTS failed to meet the What Works Clearinghouse research standards for rigorous design and inclusion of schools representing multiple states or populations. This study's application of a randomized trial within rural middle schools directly addresses the limitations of nearly a decade of evaluation studies within elementary schools in urban and suburban settings. Previous evaluation studies, like this study, resulted in positive and statistically significant effects for teachers and students.

Because leadership is a crucial factor in supporting implementation of professional learning, eMINTS included training and expectations for principals and technology coordinators. This factor enhanced the principal's role in professional learning, a component missing from other randomized trial studies of professional learning. Principals, researchers conclude, have the ability to make decisions and changes to integrate eMINTS, maintain momentum and motivation, and handle conflicting policies and initiatives.

Researchers did not examine the relative influence of individual mediators or moderators or program foci (lesson planning, technology integration, community of learners, or inquiry-based learning). Knowing if specific foci or mediators had a greater effect than others or if the program's intensity could be abbreviated without impairing the effects would be of interest to professional learning decision makers and policymakers. Because this study included only rural middle schools, it is not possible to generalize results to other populations. ■

Standards Assessment Inventory

Assess the quality
of your system's
professional
learning.



- Determine your system's alignment to the Standards for Professional Learning;
- Collect valuable data on the quality of professional learning as defined by the standards;
- Discover teachers' perceptions of professional learning;
- Use the Standards Assessment Inventory as a starting point for transforming your professional learning system; and
- Leverage data from the Standards Assessment Inventory to guide the planning, facilitation, implementation, and evaluation of professional learning.

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THE PROFESSIONAL LEARNING ASSOCIATION



Links to three components of the report — the executive summary, the call to action, and the case study on British Columbia — can be found at

www.learningforward.org/publications/canada-study.

PROFESSIONAL LEARNING IN CANADA

LEARNING FORWARD RELEASES A LANDMARK STUDY AND CALL TO ACTION

Learning Forward recently released findings from a new study that fills a long-standing gap in existing Pan-Canadian research, identifying key components of effective professional learning based on findings from educators' experiences in Canada. Accompanying the study is a call to action by Michael Fullan and Andy Hargreaves making the case for a culture of collaborative professionalism for educators.

The study, *The State of Educators' Professional Learning in Canada*, is the work of a research team led by Carol Campbell, associate professor of leadership and educational change at the Ontario Institute for Studies in Education at the University of Toronto. The report examines the professional learning that educators experience in

the provinces and territories of Canada — recognized internationally as a high-performing education system. The study's purpose is to advance a priority focus on the elements of and conditions for effective professional learning in Canada and across the world.

"Our intent in doing the study was not to argue for a uniform approach to professional learning across Canada; rather, it is the opposite," Campbell says. "The purpose was to understand, value, appreciate, and respect the rich mosaic of educational experiences and diversity of approaches and outcomes from professional learning within and across Canada's provinces and territories."

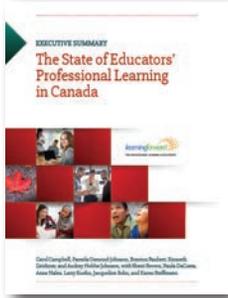
Here are highlights of each paper, as well as links to download PDF copies.



THE STATE OF EDUCATORS' PROFESSIONAL LEARNING IN CANADA:

EXECUTIVE SUMMARY

By Carol Campbell, Pamela Osmond-Johnson, Brenton Faubert, Kenneth Zeichner, and Audrey Hobbs-Johnson, with Sherri Brown, Paula DaCosta, Anne Hales, Larry Kuehn, Jacqueline Sohn, and Karen Steffensen



Several key findings emerged from the study, which includes a review of research literature and existing data, case studies, surveys, focus groups, and collaboration with a national advisory group. The study outlines features of effective professional learning based on a review of the research literature and finds that practices in Canada are broadly consistent with those

features. At the same time, the study identifies variations in the conception and implementation of those practices, offering opportunities for further exploration into local application of professional learning to advance next actions.

Findings include:

- Evidence, inquiry, and professional judgment are informing professional learning policies and practices.
- The priority area identified by teachers for developing their knowledge and practices is how to support diverse learners' needs.
- A focus on a broad range of students' and professionals' learning outcomes is important.
- The appropriate balance of system-directed and self-directed professional development for teachers is complex and contested.
- There is no "one-size-fits-all" approach to professional learning; teachers are engaging in multiple opportunities for professional learning and inquiry with differentiation for their professional needs.
- Collaborative learning experiences are highly valued and prevalent within and across schools and wider professional networks.
- Teachers value professional learning that is relevant and practical for their work; "job-embedded" should not mean school-based exclusively as opportunities to engage with external colleagues and learning opportunities matter also.
- Time for sustained, cumulative professional learning integrated within educators' work lives requires attention.
- Inequitable variations in access to funding for teachers' self-selected professional development are problematic.

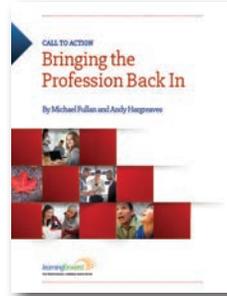
- System and school leaders have important roles in supporting professional learning for teachers and for themselves.

www.learningforward.org/docs/default-source/pdf/CanadaStudyExecSumm2016.pdf

BRINGING THE PROFESSION BACK IN:

CALL TO ACTION

By Michael Fullan and Andy Hargreaves



This essay by study advisors Michael Fullan, former dean of the Ontario Institute for Studies in Education at the University of Toronto, and Andy Hargreaves, Thomas More Brennan Chair in the Lynch School of Education at Boston College, leverages the study as a stimulus for offering a new approach to developing and deepening the teaching profession in Canada and elsewhere.

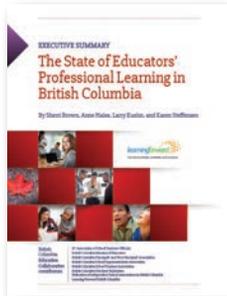
Fullan and Hargreaves argue that professional learning and development, carefully defined, is at the heart of an effective and continuously growing teaching profession. In turn, the authors say the best visions and versions of professional learning and development are rooted firmly in a system culture of collaborative professionalism that cultivates individual and collective efficacy.

www.learningforward.org/docs/default-source/pdf/BringingProfessionFullanHargreaves2016.pdf

THE STATE OF EDUCATORS' PROFESSIONAL LEARNING IN BRITISH COLUMBIA:

EXECUTIVE SUMMARY

By Sherri Brown, Anne Hales, Larry Kuehn, and Karen Steffensen



The heart of the British Columbia Case Study is a collection of reports that highlight key professional learning initiatives across a diverse range of educational organizations in the province. Collectively, the organizational case studies portray and critically examine the landscape of British Columbia's professional learning culture in all its geographical

and philosophical diversity, through its organizational strengths and tensions, and by highlighting promising practices and most pressing challenges.

www.learningforward.org/docs/default-source/pdf/bccaseexecsumm2016.pdf

ESSENTIALS

■ PERFORMANCE FACTORS

School Organizational Contexts, Teacher Turnover, and Student Achievement: Evidence From Panel Data

American Educational Research Journal, October 2016

Researchers from Brown and Harvard universities sought to determine whether strengthening organizational contexts in schools decreases teacher turnover and increases student achievement. Using data from the New



York City Department of Education's School Survey, they identified distinct dimensions of middle schools' organizational contexts

using teachers' responses to the annual School Survey and estimated the relationship between these measures, teacher turnover, and student achievement. They found that improvements in school leadership,

academic expectations, teacher relationships, and school safety are all independently associated with corresponding reductions in teacher turnover. Increases in school safety and academic expectations also correspond with student achievement gains.

<http://journals.sagepub.com/doi/full/10.3102/0002831216667478>

■ TEACHER PREP

Landscapes in Teacher Prep: Undergraduate Elementary Ed
National Council on Teacher Quality, December 2016

The National Council on Teacher Quality report examines

875 traditional undergraduate programs that prepare elementary school teachers and finds widely variable levels of quality. While programs showed positive signs of growth in teaching reading, selectivity, and content, many programs still have a long way to go in teaching elementary math, science, and other STEM content; raising their standards for admissions; establishing student teaching as a useful experience with structured feedback in key elements of classroom management; and becoming more selective about the qualifications of cooperating teachers who mentor student teachers.



www.nctq.org/teacherPrep/findings/landscapes.do

■ TENURE TROUBLES

Undue Process: Why Bad Teachers in Twenty-Five Diverse Districts Rarely Get Fired
Thomas B. Fordham Institute, December 2016

While studies show that teacher quality is the most important school-based determinant of student learning, significant barriers to dismissing ineffective teachers remain. Fordham researchers analyzed the difficulty of dismissing ineffective teachers in 25 diverse districts. Their findings show that, across the country, most districts and states continue to confer lifetime tenure on teachers, weak teachers still take years to dismiss if they achieve tenured status, and any attempt to dismiss an ineffective veteran teacher remains vulnerable to costly challenges at every stage in the process.

Consequently, in most districts and schools, dismissing an ineffective veteran teacher remains far harder than is healthy for children, schools, taxpayers — and the teaching profession itself.



<https://edexcellence.net/publications/undue-process>

■ INTEGRATING TECHNOLOGY

Advancing Educational Technology in Teacher Preparation: Policy Brief
U.S. Department of Education, December 2016

This policy brief identifies key challenges and solutions to the effective integration of technology in teacher preparation, provides guiding principles on how to move the field toward effective integration of technology in teacher preparation programs, and identifies areas of opportunity and collaboration for stakeholders across the field. The four guiding principles are:

- Focus on the active use of technology to enable learning and teaching;
- Build sustainable, program-wide systems of professional learning for higher education instructors;
- Ensure preservice teachers' experiences with educational technology are program-deep and program-wide; and
- Align efforts with research-based standards, frameworks, and credentials recognized across the field.



<http://tech.ed.gov/files/2016/12/Ed-Tech-in-Teacher-Preparation-Brief.pdf>

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FOCUS

PROFESSIONAL LEARNING FOR STEM

3 CONDITIONS FOR EFFECTIVE STEM

A Council of Chief State School Officers 2008 study of 25 professional development programs for math and science teachers in 14 states showed positive student outcomes if three conditions are met:

- 1** The programs focused on content in mathematics and science.
- 2** The programs included on-site follow-up in classrooms.
- 3** The teacher-contact time reached at least 50 hours.

Source: Council of Chief State School Officers. (2008). *Does teacher professional development have effects on teaching and learning? Analysis of evaluation findings from programs for mathematics and science teachers in 14 states.* Washington, DC: Author.

ROBOTICS BRING STEM
TO LIFE IN GUAM

p. **30**

A BOLD EXPERIMENT

TEACHERS TEAM WITH SCIENTISTS TO LEARN NEXT GENERATION SCIENCE STANDARDS

BY SHARON L. GILMAN AND MARTHA C. FOUT

The Next Generation Science Standards place an emphasis on the practices of science and engineering, where ensuring that students understand and experience how science works is as important as, or maybe more important than, memorizing facts. The idea is that, while some facts may change, the practices will always be applicable, and it is important for citizens to understand how scientists

arrive at their conclusions, in addition to what those conclusions are.

The standards' emphasis on the practices of science represents a culmination of the long-running understanding that people learn science by doing science. In the classroom, this has translated to inquiry-based lessons, where students design and conduct experiments, form explanations from evidence, evaluate and justify those explanations, and communicate their work.

The question is: What is the

best way for the teachers to learn the practices and see how they represent how science actually works, and what type of professional learning will best lead them to understand and embrace this approach?

This article describes a model for professional learning in which graduate students in science, technology, engineering, and mathematics (STEM) work with teachers in K-12 classrooms to introduce science research content and practices. It meets the requirements understood to work



“The vertical alignment from middle to freshman science was very enlightening and helped me see the overall picture of the students’ education.”



in quality professional learning, and it enhances relationships between teachers and practicing scientists. As a side benefit, the model also builds the communication skills of future scientists, something increasingly important in building a scientifically literate population.

HOW THE PROGRAM WORKED

In summer 2013, teachers at 18 middle and high schools in a Southeastern state were in the final year of a three-year professional learning program when they teamed with six graduate fellows participating in GK-12, a National Science Foundation-funded program that supports fellowships and training for graduate students in science, technology, engineering, and mathematics. The program’s goal is to improve the

SAMPLE DAILY WORKSHOP SCHEDULE		
TIME	ACTIVITY	FOCUS
Block 1	Pretest.	Developed by researcher, distributed by facilitator.
Block 2	<ol style="list-style-type: none"> 1. Distribute the framework (NRC, 2012) reading on the practice addressed today. 2. Distribute or post journal questions and allow time for personal writing or reflection. 3. Think-pair-share about journal entries. 	<i>Journal or discussion questions:</i> <ol style="list-style-type: none"> 1. What do students in my grade level or course need to know and be able to do when it comes to this practice? 2. How can I determine what students have learned in previous grades about this practice? 3. Should there be a scope and sequence to teaching this practice in my grade level? If so, what is that sequence for teaching? 4. How will I differentiate instruction for various groups of students? 5. What are some important points to remember about this practice?
Block 3	Relate practice to the research to be presented. (Facilitator is familiar enough with the research to develop these, or the researcher could offer questions for consideration.)	<i>Journal or discussion questions (examples)</i> <ol style="list-style-type: none"> 1. What types of animals do you believe are predators on turtle nests? 2. What factors do you believe protect turtle nests from predators?
Block 4	Research presentation by researcher. (May include data sets for classroom use.)	Allow questions from teachers throughout. Be sure researcher understands the focus on a particular practice, but others will come up, too.
Block 5	Group discussion about how this practice was used in the research.	<ol style="list-style-type: none"> 1. Compare notes with colleagues. 2. Follow-up questions (for example): What are the ways that knowledge of planning and carrying out investigations helps you master the content of this research?
Block 6	Post-test.	
Block 7	View Bozeman.com video on the practice.	This puts the practice back in the classroom.
Block 8	In school, grade, or course teams, examine own curriculum and find areas where this practice would fit well with the content.	As team members make connections and develop ideas, they draw a concept map or some other visual display on a white board for presentation.
Block 9	Presentations by teams for entire group.	Allows feedback and articulation across grade levels.

graduate fellows’ communication and teaching skills through interactions with teachers and students in K-12 schools while enriching STEM content and instruction for their K-12 partners.

The teachers and fellows, who were master’s students in an ecology-focused degree program, participated in two weeks of summer workshops as well as follow-up over the course of the academic year. The fellows presented the content portion of the workshops, based on their own research, and focused on the eight science practices in the Next

Generation Science Standards rather than on particular content standards.

During the workshops, teachers and fellows spent half the day on content and the other half on lesson development. They learned about the ecology being explored in the research and saw how the scientists used each practice. The teachers worked together in their school or content-area teams to incorporate the practices the graduate students addressed into their own lesson plans. The district uses the 5-E science instruction model, where

students are *engaged, explore*, work toward an *explanation* which may then be *elaborated* on, and *evaluation* occurs throughout (Trowbridge & Bybee, 1996), so lessons followed this format. Teachers then presented their ideas to the whole group at the end of the day, with time for discussion.

All lesson plans were posted on the social network Edmodo. This allowed teachers to communicate among themselves outside the workshop and through the academic year. In addition, they presented their lesson plans to

RESEARCH PROJECT PRESENTATION TOPICS AND THE PRACTICE ASSOCIATED WITH EACH			
PRESENTER	RESEARCH TOPIC	SCIENCE PRACTICE	FOCUS QUESTIONS
Fellow 1	Shark interactions in local estuarine habitats.	Analyzing and interpreting data.	What types of data could be collected about sharks? What are ways these types of data could be useful?
Fellow 2	Plant composition, nutrient levels, and abiotic factors in natural vs. human impacted salt marshes.	Asking questions.	What are some ways humans can impact salt marshes? Predict some of the effects of these impacts.
Fellow 3a	Population abundances of dolphins in three estuarine sites.	Using mathematics and computational thinking.	What data can be collected concerning population abundance of dolphins? How can these data be useful?
Fellow 3b	Are dolphins nonhuman persons?	Engagement in argument from evidence.	What animals do you believe to be the most intelligent? What criteria do you use to judge intelligence?
Fellow 4	Predation on diamondback terrapin nests.	Planning and carrying out investigations.	What types of animals do you believe are predacious on turtle nests? What factors do you believe protect turtle nests from predation?
Fellow 5	Spatial, thermal, and nesting ecology of diamondback terrapins.	Developing and using models.	What are important factors to the success of turtle nests? How can modeling help a scientist find out about the ideal environment for a turtle nest?
Fellow 6	Habitats as a predictor of marsh sparrow population abundance.	Constructing explanations.	What type of habitat do you believe a marsh sparrow needs? How do you think one would model “good” habitat for marsh sparrows?

teachers districtwide at the start of each academic year and to their common planning groups at their schools.

Two pre- and post-tests — one addressing specific content from the research presentations, and the other addressing more general understanding of the scientific practices — assessed content knowledge gains. The fellows developed the pre- and post-tests corresponding to their presentations, and the grant evaluator created the more general assessment of the practices using practice questions for the ACT tests.

To assess teachers’ views of the organizational support from their colleagues and school for science in general, we gave them open-ended surveys asking about the climate for science — whether they got adequate support, supplies, space, and time

in class, and time to collaborate. We asked if they got guidance, or perhaps too much guidance, and whether their administrators and colleagues appreciated the challenges of their job. Finally, we asked teachers to evaluate the overall workshop. We also asked the graduate student presenters about their experience working with the teachers.

WORKSHOP DESIGN

In a typical workshop session, teachers would read about the day’s scientific practice in *A Framework for K-12 Science Education* (NRC, 2012) Using a think-pair-share format, they considered journal questions related to the practice.

The graduate fellow presented his or her work and described how their project used the particular practice. The teachers

engaged in discussion with the fellow about how this practice was essential to the research and then watched an online video (www.bozemanscience.com/next-generation-science-standards) about the practice. They then had time to work with their school or content teams to look for lessons in their curriculum that could be done in the context of, or related to the context of, the particular practice. In some cases, the graduate students gave them data sets with which they could work.

Teachers used a whiteboard to sketch out their ideas, which they presented to the whole group for feedback, thoughts, and discussion. We were able to do seven of the eight practices directly but did not have enough days to include “Obtaining, evaluating, and communicating

information.” However, each fellow demonstrated this practice by communicating results to the teachers themselves.

DID IT WORK?

The graduate fellows presented research on the topics and practices as shown in the table on p. 27. Teachers showed significant gains in content knowledge and understanding of the practices on assessments based on the graduate student presentations. The mean number correct increased from 69% on the pretests to 83.4% on the post-tests. In addition, general assessments focused on the practices, experimental design, and data analysis, modeled after questions on the ACT tests. Teachers also made gains here, with mean correct rising from 58.8% on the pretest to 70% on the post-test.

Teacher feedback showed they viewed the presentations and the workshop overall quite favorably. There was no significant difference between the quantitative evaluations from the middle and high school teachers, and the qualitative comments suggest that the teachers both enjoyed the workshop and felt they gained understanding of content and practice. They liked working with the graduate students and particularly enjoyed the opportunity to collaborate with colleagues both within and across grade levels. Here are some of their comments:

- *“Liked the presentations of graduate work instead of lectures on content.”*
- *“Good and interesting content from the GK-12 students — relevant to our practices.”*
- *“Learning the eight practices was extremely useful and prepared me to implement these in my class as well as teach other teachers.”*
- *“I feel more comfortable about the new standards.”*
- *“I felt it was very useful to learn*

how all grades are connected. This will give me a renewed vigor to really hammer home some concepts.”

- *“The vertical alignment from middle to freshman science was very enlightening and helped me see the overall picture of the students’ education.”*

The graduate student presenters enjoyed sharing the joys and frustrations of doing science with the teachers. They also welcomed the opportunity to consider how one might effectively teach their particular science content and practice to K-12 students. Two comments sum up their views:

- *“In my workshop presentation on experimental design, I recalled one of my own humbling experiences in straying from the scientific method and the frustrating but educational opportunities that followed. Well-planned experimental design is the foundation of experimental science, and the workshop allowed me and the participating teachers to share our tales of both good and bad (i.e. educational) experimental design.”*
- *“The presentation of my research to teachers gave me a great opportunity to practice communicating to a new audience. It also challenged me to expand how I view my research, learning how to change angles in order to figure out ways it can be applied to concepts within K-12 curricula.”*

Our model met the requirements of quality professional learning as outlined above. Teachers learned content and worked toward keeping their lessons in the 5-E model embraced by the school district and emphasizing the practices in the Next Generation Science Standards. The facilitator, who was the district science learning specialist, clearly understood the model and the way it

Teachers noted that they had seen “real” scientific investigations and talked to “real” scientists, and, sure enough, those scientists used the practices.

should look in the classroom. Teachers worked together to create a model of how each particular practice would build student understanding.

In addition, teachers worked collaboratively in teams by grade, but they also said seeing what was being taught in other grades gave them a better sense of the continuity of their content. They were able to continue that collaborative work through the online professional community established on the Edmodo social network.

They introduced the lessons they developed to their colleagues in districtwide professional learning. They noted that they had seen “real” scientific investigations and talked to “real” scientists, and, sure enough, those scientists used the practices. According to Ball and Cohen’s (1999) practice-based theory of professional development, professional learning for teachers should include opportunities to practice and apply what students learn in a real-world context (Huffman, Thomas, & Lawrenz, 2003). The graduate student research presentations provided this real-world context.

OUTCOMES

For professional learning to result in gains in student outcomes, it is necessary for the teachers to feel

ownership and be supported at their school (Huffmann et al., 2003). A teacher can't work in isolation. This is why the teachers in this program reported back to their colleagues on what they had done.

But we also found in surveys that teachers said their schools were supportive of science in general. The fact that their own district learning specialist came up with the idea for the professional learning model emphasizing the Next Generation Science Standards practices gave teachers confidence that they would be supported when they introduced these to their classes.

We have not yet able to assess student learning outcomes based on this professional learning model because the science standards incorporating the practices of science just went into effect this year (2016-17). As this academic year ends, we plan to assess how

teachers are incorporating the practices into their lessons and whether the experience with the graduate students has had any influence on that. We also plan to track end-of-course exams and ACT scores of the students of these teachers to look for gains in content knowledge and critical thinking skills.

REFERENCES

Ball, D.L. & Cohen, D.K. (1999). Developing practice, developing practioners: Toward a practice-based theory of professional education. In G. Sykes & L. Darling-Hammond (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco, CA: Jossey Bass.

Huffman, D., Thomas, K., & Lawrenz, F. (2003). Relationship between professional development, teachers' instructional practices, and achievement of students in science

and mathematics. *School Science and Mathematics, 103*(8), 378-387.

National Research Council. (2012). *A framework for K-12 science education: Practices, crosscutting concepts, and core ideas*. Washington, DC: National Academies Press.

Trowbridge, L. & Bybee, R. (1996). *Secondary school science: Strategies for developing scientific literacy* (6th ed.). Englewood Cliffs, NJ: Prentice Hall.

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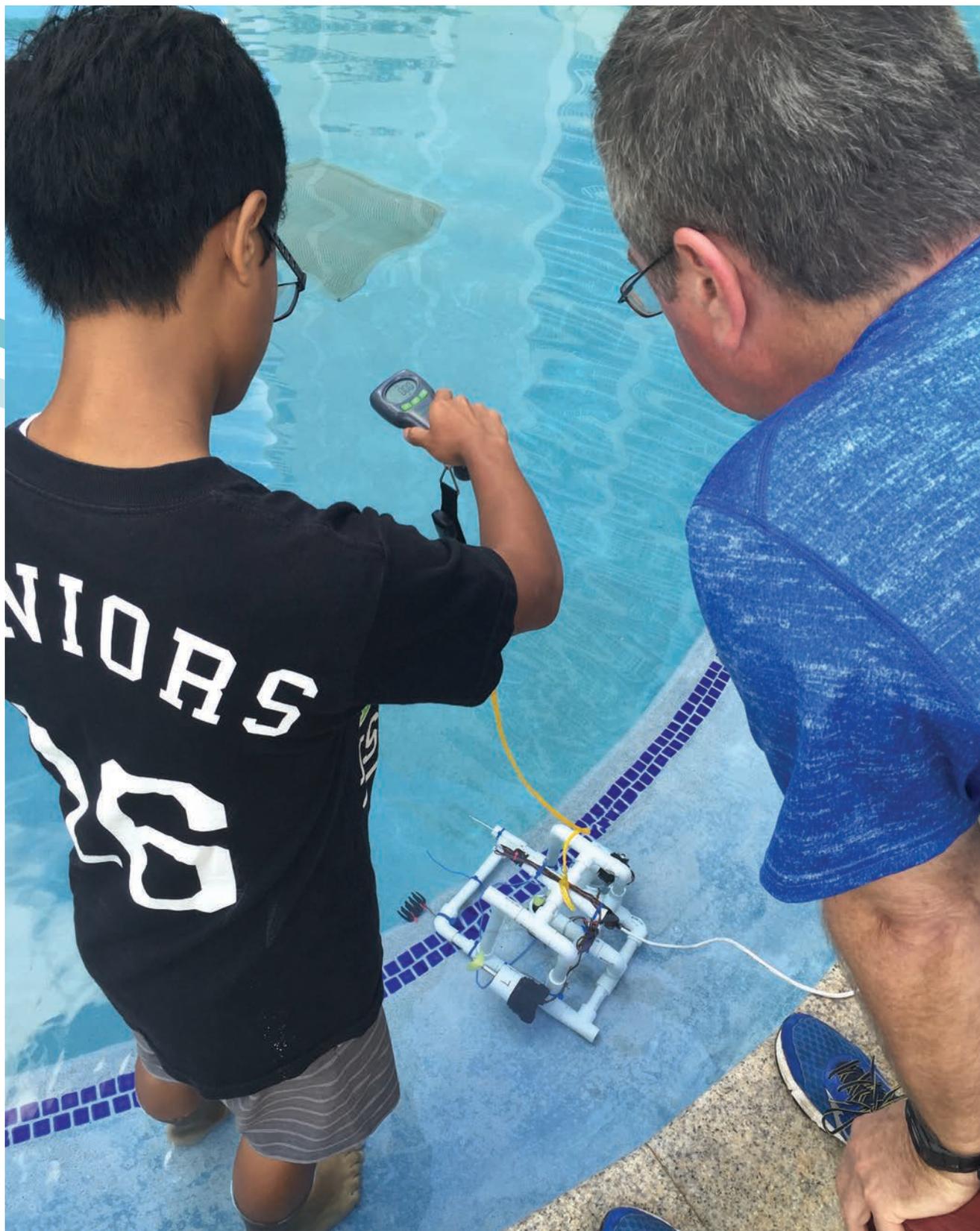
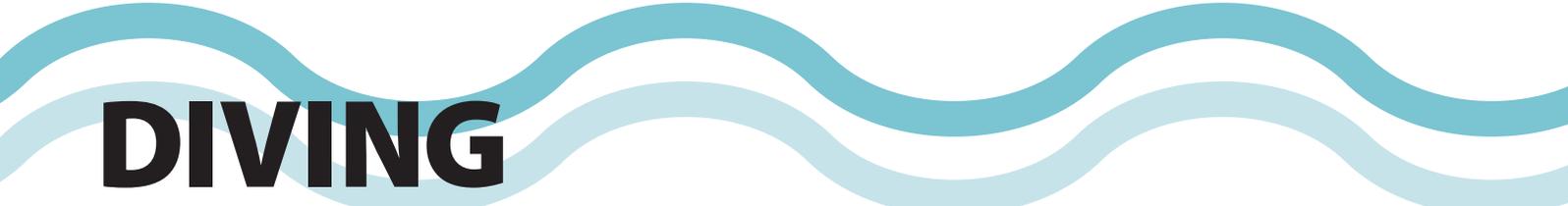


Photo by ANNE TWEED

A Guam High School student tests the buoyancy of his remotely operated vehicle with the assistance of retired engineer Jim McDonnell during the Marine Advanced Technology Education underwater robotics professional learning experience.



DIVING BENEATH THE SURFACE

UNDERWATER ROBOTICS
LESSONS BRING STEM TO LIFE
FOR TEACHERS IN GUAM

BY ANNE TWEED AND LAURA ARNDT

In spring 2014, education leaders from across Micronesia came together on the island of Guam to learn about underwater robotics and Marine Advanced Technology Education (MATE), a program based at Monterey Peninsula College in Monterey, California.

Participants listened intently as they learned about building and participating in competitions with Remotely Operating Vehicles (ROVs) outfitted with tools that could capture images underwater, collect water samples, and gather artifacts from the bottoms of swimming pools.

Underwater robotics may not seem that exciting to educators in

landlocked areas, but for this group, it sounded like a perfect way to build students' content knowledge in STEM (science, technology, engineering, and mathematics) and GreenSTEM (STEM focused on environmental sustainability) to learn skills that can be applied in the real world.

In Guam and across Micronesia — where students haven't had many opportunities to pursue STEM careers — underwater robotics engineers are often hired from off-island to maintain or repair underwater installations. Also, such engineers are in demand globally to work as underwater robotics technicians, mechanical ocean engineers, engineer scientists, and marine machinists and welders.

Encouraged by the potential of the marine technology program, and armed with the results of a needs-sensing survey that showed high interest in STEM education and careers across Micronesia, educators focused on two critical questions:

1. Will the marine technology curriculum and competition engage middle and high school students from Pacific Island nations and increase the number of students interested in pursuing STEM learning and careers?
2. Can STEM teaching and learning — and programs like MATE — be modified to effectively incorporate

GUAM STEM PLANNING FRAMEWORK		
PROCESS STEPS	ACTIVITIES	FINDINGS THAT INFORMED THE ONGOING PROCESS
1. Set the stage	<ul style="list-style-type: none"> a. Identify current thinking about STEM. b. Identify current STEM challenges. c. Define the purpose of the STEM initiative. 	This allowed the strategic planning team to take stock of what they believed about STEM and why it was important for them and their students. STEM to them was more than just an educational trend.
2. Develop understanding about STEM models in general.	<ul style="list-style-type: none"> a. Review research about STEM models and their effectiveness. b. Identify appropriateness of various STEM models for the context. 	Before deciding the approach to STEM, the team reviewed the effectiveness research associated with the following four models: integrated STEM; STEM magnet schools; STEM school-within-a-school; and out-of-school-time STEM programs.
3. Develop understanding about STEM programs in the context.	<ul style="list-style-type: none"> a. Develop or adapt questions to gather information about existing STEM programs in the context. b. Analyze data from the survey of existing STEM programs and summarize findings. 	This step was to gather data through a survey of existing STEM programs on Guam. Through their analysis, they determined which programs could be leveraged across the district and be sustainable.
4. Develop a definition of STEM for the context.	<ul style="list-style-type: none"> a. Draft an initial definition of STEM. b. Gather feedback from stakeholders. c. Revise the Guam STEM definition. 	It was important to develop a common definition of STEM for their context that was based on the models.
5. Develop a vision statement for STEM in the context.	<ul style="list-style-type: none"> a. Draft an initial vision statement. b. Gather feedback from stakeholders. c. Revise the vision statement. 	Without a clear vision, the proposed outcomes identified in the strategic plan wouldn't make sense.
6. Develop a set of goals to achieve the vision.	<ul style="list-style-type: none"> a. Draft an initial set of goals. b. Gather feedback from stakeholders. c. Revise the set of goals. 	The initial set of goals was revised many times based on feedback from the region. Ultimately, it was aligned to goals from the Guam Department of Education's State Strategic Plan and became part of a broader coherent effort.

indigenous learning and the cultural and natural environment of students, teachers, and the community?

For Guam's Department of Education, the answers were yes. But in the weeks that followed, it became clear that, although teachers had already had several STEM trainings and the district had three STEM-designated schools, the Department of Education and teachers across the district still had questions: What exactly was STEM, how could it be implemented effectively, and what professional learning practices were needed to sustain a STEM initiative?

To get clarity, the Department

of Education knew it needed to be strategic about its approach, and so district leaders reached out to the MATE planning meeting facilitator from McREL International for support in developing a plan. That set into motion what would become a two-year project to plan, develop, and implement culturally responsive professional learning at the elementary, middle, and high school levels that would bring STEM to life for teachers across Guam and, ultimately, for their students.

TEACHERS TAKE OWNERSHIP

In Guam, most of the professional learning teachers and school leaders experience is packaged, meaning they

learn about a specific program — usually not culturally relevant — and how to implement it during a one- to three-day session. Often, once the session is over, teachers are expected to implement the new program without additional ongoing professional learning. The Guam STEM project took a different approach, using an inside-out model that put educators and their context at the center of the planning and decision making, with sustainability as the goal.

The planning framework shown in the table above and on p. 33 guided the work of the STEM strategic planning team. This nine-step, iterative process is one that they can use going forward to

GUAM STEM PLANNING FRAMEWORK, continued		
PROCESS STEPS	ACTIVITIES	FINDINGS THAT INFORMED THE ONGOING PROCESS
7. Develop a logic model for achieving the STEM goals.	<ul style="list-style-type: none"> a. Develop understanding of the elements of a logic model. b. Identify the strengths and challenges related to each of the goals. c. Identify the key challenge(s) related to each of the goals. d. Identify the root cause(s) of each of the key challenges. e. Identify short- and mid-term outcomes of addressing the root cause of each key challenge. f. Identify activities that will lead to achievement of the outcomes. g. Identify resources that will support achievement of the outcomes (considering the strengths and other resources). 	<p>The strategic planning team had not experienced creating a logic model and had to learn about inputs, outputs, and outcomes. It gave structure to the initiative so that their plan was not merely a list of activities but had clear, short-, mid- and long-term outcomes, with accompanying ways to measure progress.</p> <p>They used this as a dynamic document and sought feedback and public comment that involved everyone in the process.</p>
8. Develop an action plan for carrying out the activities in the logic model.	<ul style="list-style-type: none"> a. Develop understanding of the components of an action plan, if necessary. b. Create an action plan for each major activity; include timeline, person responsible, resources needed, success measures, and targets. 	<p>With the support of the superintendent, professional learning activities aligned to the goals have occurred throughout the strategic planning process.</p>
9. Evaluate the approved strategic plan and goal-based activities and develop a monitoring plan.	<ul style="list-style-type: none"> a. Develop understanding of a monitoring plan. b. Create a monitoring plan and use it to guide the data collection and evaluation of progress toward outcomes. c. Revise the implementation goals for the next year. 	<p>A monitoring plan with targets is guiding implementation efforts. The strategic planning team is now the implementation team focused on making the STEM efforts sustainable and available to everyone.</p>

create and implement a strategic plan for any improvement initiative.

What the team found most effective about this framework was that it allowed them to take ownership of the process, making decisions that lead to authentic and relevant STEM experiences for teachers and students. They were able to create a vision and goals that reflected their island perspective. They could connect local environmental issues to the STEM content and make clear connections to jobs. They had opportunities to revisit decisions and documents and revise as they saw fit.

LOCAL CONTEXT

Once the team identified its

STEM goals (step 6 in the table on p. 32), facilitators and district leaders began developing targeted professional learning experiences through a process of asking questions, talking about island-specific needs and challenges, and discussing culturally relevant options during ongoing conversations (steps 7f and 7g in the table above). What the facilitators called “initial listening sessions” helped bring to light the unique issues of the schools, local community, and natural environment in Guam. Questions included:

- What are you most proud of (in your schools, in your island communities, for your unique natural environment)?

- What are the most pressing concerns or problems?
 - If you could change one thing to improve your school, island communities, and natural environment, what would it be?
- Responses to these questions were starting points for building STEM professional learning, using the organizer shown on p. 34.

Educators at each level determined their priorities for professional learning (see the table on p. 35). Elementary teachers wanted to strengthen their content knowledge and STEM instructional skills, so their first step was to select a prepared curriculum that

addressed desired grade-level content through best science practices, the engineering design process, and the Next Generation Science Standards. Then they integrated STEM activities that addressed island issues and problems, making the professional learning authentic and culturally relevant.

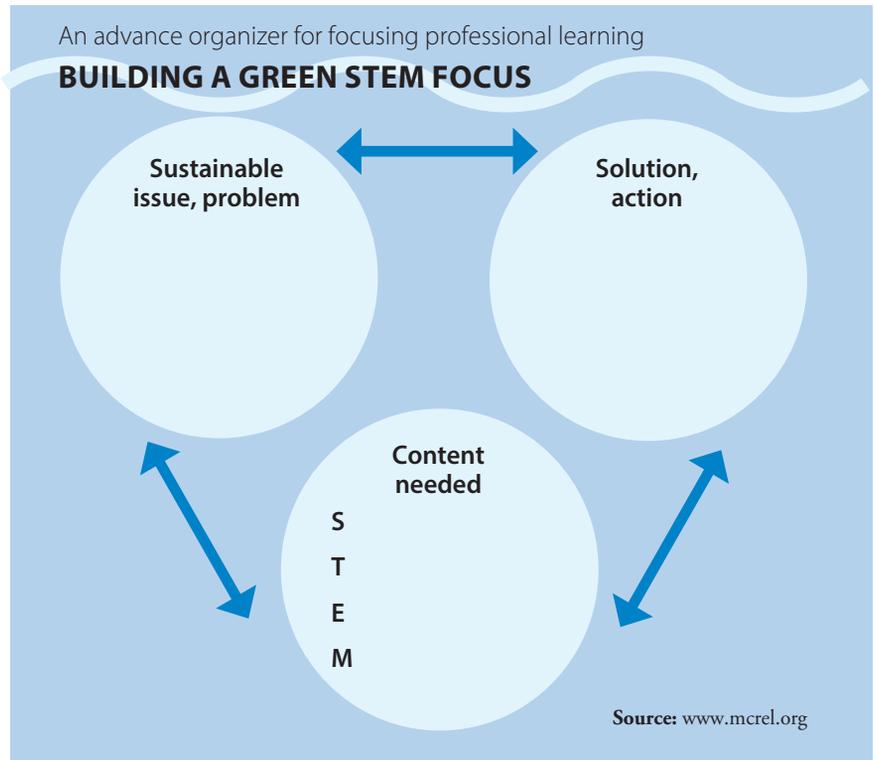
The middle school educators focused on a sustainability issue specific to Guam. When asked for their biggest island concern, the response was, “We have very little locally grown fresh foods, so it is harder for kids and families to make healthy choices.” Teachers suggested the solution of student-designed aquaponics systems that create a mutually beneficial relationship between edible plants grown in water (hydroponics) and aquatic animals raised in an enclosed container (aquaculture). An additional goal was to purchase all materials on island. Finally, they chose activities that addressed the science content needed to build and use aquaponics systems, grow edible plants, and raise local tilapia.

The high school professional learning focus began with the goal of building and using underwater robots, or ROVs. Teachers easily generated a lengthy list of inland and coastal water issues and problems that could be investigated with student-designed ROVs. Though some of the content would depend on the issues selected to investigate, construction of ROVs is steeped in engineering design and physical science concepts.

TEACHERS AS LEARNERS

A key part of the professional learning design at all grade levels was having teachers experience what their students will experience, thus giving them a model for how to introduce the steps of a GreenSTEM instructional approach in their classrooms (for more on this approach, see Arndt, 2016).

In addition, while designing and



The Guam STEM project used an inside-out model that put educators and their context at the center of the planning and decision making.

redesigning solutions to their questions, teachers experienced an intentional shift in control, from the facilitators to them — which models the shift they are encouraged to make with their own students. Participants experienced the joys and struggles of authentic science and engineering — trying design ideas that did not work, making mistakes, collaborating on new ideas, and celebrating aha moments and successes. Teams of teachers gathered new ideas

online and consulted with other teams. When they ran into roadblocks, they brainstormed new solutions. It became their responsibility to tell the facilitator what additional materials or expert support they needed.

Providing choices and allowing participants to take full control of their actions created a culture of co-learning that is a feature of the ideal STEM classroom. Initially, some teachers expressed anxiety and frustration with this shift of roles, but as they moved through the process, they began to own their learning, and their self-esteem and enthusiasm grew. The learner’s thinking shifted from “The facilitator (or teacher) will tell me the correct answer” to “I have the ability to figure this out myself by trying again and by getting help from peers, community stakeholders, and experts.”

The shift in the facilitator’s or teacher’s role to that of coach, mentor, and networker opens opportunities for relationship building between teachers and other stakeholders in the

BUILDING PROFESSIONAL LEARNING EXPERIENCES			
	Elementary school	Middle school	High school
Sustainable issue or problem	Skin and eye damage from sun in their tropical location.	Need more locally grown fresh food to improve students' health choices.	Overfishing and the need for marine life surveys and monitoring the health of the coral reefs surrounding the island.
Solution to issue or problem	Use ultraviolet-sensitive beads to test the most effective clothing and glasses for protecting the body.	Build aquaponics systems to raise local tilapia and grow edible vegetables and fruits.	Build marine robotics systems to use in the island's fresh and coastal marine waters.
Content needed to understand issue and design solution	Teach light concepts that include the electromagnetic spectrum of light.	Teach life science, chemistry, and physics concepts needed to understand the issue and successfully grow food.	Teach chemistry, physics, and life science needed to build and use the ROV and to understand the issues.

community. For example, the middle school teachers had video chats with a California teacher who not only designed but also taught using the aquaponics system brought to Guam. The executive chef of a Guam hotel made repeated visits to the sessions, eagerly offering his support to work with teachers on preparing dishes with the food they grew.

A retired engineer with a long history of building and using ROVs with teachers and students came to co-facilitate the training. A local scuba diving master and solar energy expert gave presentations directly related to the work being done. Relationships with these stakeholders help support teachers and schools long after the professional learning ends.

NEXT STEPS AND LESSONS LEARNED

After each professional learning session, teachers left with materials and strategies to begin piloting the Guam STEM curriculum and projects with their own students. As implementation continues in the next school year, participants will receive follow-up coaching and share what they've learned by beginning to teach their colleagues about the STEM framework and process.

Schools are acquiring the necessary materials, technology, and curriculum

The key element in this project was not materials or technology but building relationships.

that will allow students to gather more accurate data, expand their investigation opportunities, and build more ROVs and aquaponics systems. The district plans to align the Guam STEM projects and its curricula to the Next Generation Science Standards; create an online management system that will house all Guam STEM professional learning support documents, lessons, and instructional materials; and provide chat rooms for sharing successes and collaborating to solve problems.

The Guam STEM project has not been without its challenges — even with careful planning, it was difficult and costly to ship STEM materials to a remote Pacific Island location — but having an innovative, teacher-centered professional learning format that intertwines STEM content, local culture and issues, and sustainable solutions should be challenging.

Overall, the key element in this project was not materials or technology. Rather, it was building relationships of mutual respect and understanding among the teachers, community, and natural environment. When facilitators

or teachers step off the “I am the expert” pedestal and onto the “I am part of your team” platform, everyone is acknowledged for the expertise and experience they bring to professional learning or the classroom — and then all that was thought to be a challenge becomes the bridge to success.

REFERENCE

Arndt, L. (2016). *GreenSTEM Model: Steps for an instructional approach [Blog post]*. Available at www.mcrel.org/greenstem-model-steps-for-instructional-approach.

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Photo by SHEILA HILLS

An Algebra 1 student explores equivalence of equations using colored tiles as a visual representation.

PROBLEM SOLVERS

MATHLAB'S DESIGN BRINGS PROFESSIONAL LEARNING INTO THE CLASSROOM

BY SARA MORALES AND TERRI SAINZ

Imagine teachers, administrators, and university mathematicians and staff learning together in a lab setting where students are excited about attending a weeklong summer math event because they are at the forefront of the experience.

Piloted in three New Mexico

classrooms during summer 2014, MathLab expanded into 17 lab settings over six locations during summer 2015 and was implemented again in 2016. The enthusiasm of all participants witnessed by the New Mexico Public Education Department has resulted in funding to support future events.

MathLab is an innovative learning

design from New Mexico State University’s Mathematically Connected Communities (MC²), a partnership of New Mexico educators that includes mathematicians, school leaders, researchers, and teachers. Aligned to Learning Forward’s Standards for Professional Learning (Learning Forward, 2011), MathLab began as an idea to shift from traditional one-shot professional development to ongoing professional learning situated in K-12 mathematics classrooms.

Student lab classrooms are videostreamed live to observation rooms, where teacher participants discuss, reflect, and collaborate on how students learn mathematics, effective pedagogical practices, and math content for teaching.

Teacher participants are also able to interact with and interview students to experience firsthand their challenges and success. In addition, school and district leaders can support and learn alongside teachers. This collaboration results in a learning community committed to continuous improvement, collective responsibility, and goal alignment, which are the key elements of the Learning Communities standard in Learning Forward’s Standards for Professional Learning (Learning Forward, 2011).

As a way to revisit the teaching and learning, classroom lessons highlighting teacher and student strategies are videotaped and archived on the MC² YouTube channel at <http://mc2.nmsu.edu>.

MATHLAB GOALS

The MathLab learning community has established the following goals aligned with educator performance and student curriculum standards leading to effective teaching practices, supportive leadership, and improved student results — the key elements of the Outcomes standard in Learning Forward’s Standards for Professional Learning (Learning Forward, 2011):

Goal 1: To study effective pedagogy in mathematics by supporting classroom practice through elements of a standards-based learning environment:

- Norms;
- Classroom discourse;
- Collaborative learning; and
- Ongoing assessment.

Goal 2: To develop conceptual understanding of mathematics by:

- Engaging students in rich mathematical tasks to build conceptual grounding for mathematics aligned to their upcoming grade level; and
- Deepening teachers’ pedagogical and content knowledge in the context of teaching mathematics.

Goal 3: To support implementation at school sites including district and school administrators and teachers by providing follow-up opportunities:

- To develop a strategic plan for supporting changes in practice and learning structures for job-embedded, ongoing, site-based professional learning; and
- For teachers to engage in studying instructional practice in their classrooms (collaborative teaching and learning cycle).

Goal 4: To build a teacher leader cadre by:

- Building a network of teacher leaders who study and enhance their teaching practice while serving as leaders of professional learning at their school sites;
- Providing structure for teachers to enhance their leadership skills; and
- Partnering with practicing teachers who can inform the project of how to design effective professional learning experiences for improving teacher practice.

MATHLAB PLANNING CHECKLIST

- Select dates.
- Recruit teacher leaders and staff.
- Develop lesson plans.
- Secure facilities and contacts.
- Create and distribute flyers.
- Recruit and register students and participants.
- Contract videographers.
- Arrange student breakfast, teacher lunch.
- Arrange student transportation.
- Prepare binders (agenda, handouts).
- Create sign-ins, nametags, signage.
- Secure student incentives from businesses.
- Contact media.

WHAT MATHLAB LOOKS LIKE FOR TEACHERS

Each morning, teachers grouped in grade bands (K-3, 4-6, 7-Algebra 1) observe student learning in an adjacent 2nd, 3rd, 5th, or Algebra 1 classroom via live videostream. The student lesson is delivered by a team of two MC² teacher leaders who are masterful at building student-centered learning environments where children:

- Make conjectures about mathematical ideas;
- Explain their solution strategies; and
- Develop conceptual understanding.

In the afternoon, participants:

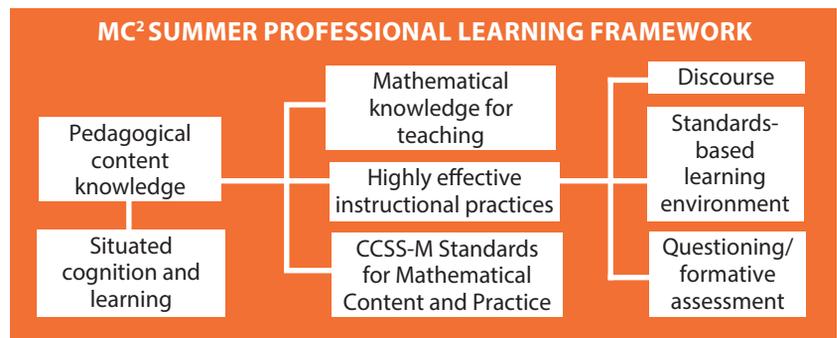
- Deepen their mathematical content knowledge by engaging in rich mathematical tasks;
- Consider lessons and instructional strategies that build conceptual understanding and foster a community of diverse students working collaboratively as young mathematicians; and
- Collaborate with peers and administrators to create an implementation plan for the upcoming school year.

WHAT MATHLAB LOOKS LIKE FOR ADMINISTRATORS

According to the Leadership standard of Learning Forward’s Standards for Professional Learning, 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 (Learning Forward, 2011). Principals have the power to make or break a school initiative. They set the tone, lead the vision, prioritize the focus, and create school cultures that promote a climate of learning and collaboration.

MathLab provides opportunities for administrators to undertake the study of mathematics and pedagogy to refine their leadership and management skills directly tied to improving mathematics teaching and learning. Administrators have time to work with participating MathLab teachers targeting these learning outcomes:

- Experience professional learning in an exemplary setting while studying highly effective mathematics teaching and learning;
- Know the characteristics of highly effective collaborative teacher professional learning;
- Observe teachers engaging in highly effective collaborative professional learning;
- Develop communication skills for co-creating highly effective collaborative environments focused on



- student learning; and
- Know the sequence for developing effective structures for highly effective collaborative learning groups at the school site.

FRAMEWORK

The overall plan for MathLab as part of summer professional learning integrates theories, research, and models of human learning to achieve its intended outcomes, in alignment with the Learning Designs standard of the Standards for Professional Learning (Learning Forward, 2011). It is framed by an understanding of the systemic change process. Among the change models that inform MathLab are the Concerns-Based Adoption Model (Holloway, 2003), the Kotter 8-Step Change Process (New Mexico Public Education Department, 2012), and Six Strategies for a Change (Bradley, Munger, & Hord, 2015).

Learning Forward and other research organizations have found that isolated teacher professional learning, even when highly rated by teachers, has little effect on changing classroom practice. Teacher quality has been consistently identified as the most important school-based factor in student achievement (Hightower et al., 2011).

MathLab is designed to increase student outcomes in mathematics by escalating teachers’ knowledge, skills, and dispositions, and then providing ongoing support for changing practice.

DeMonte (2013) recommends 14 hours of relevant professional learning opportunities if students’ learning is to be affected. MathLab provides 30 hours with the opportunity for an additional 30-plus follow-up hours. Organized opportunities for collaboration and assessment are part of an ongoing cycle of continuous improvement that requires teachers to study mathematics content, curriculum, pedagogy, and assessment (Dufour, Eaker, & Dufour, 2005). The MC² Summer Professional Learning Framework (see figure above) draws from these four areas for continuous improvement.

To download the complete framework, visit http://mc2.nmsu.edu/project/Research_Framework.html.

MATHLAB RESULTS AND IMPACT

MC² uses a variety of sources and types of data to plan, assess, and evaluate professional learning, which aligns with the Data standard of the Standards for Professional Learning (Learning Forward, 2011) and the Five Critical Levels of Professional Development Evaluation (Guskey, 2000). In summer 2015, 55 out of the 349 teachers who attended MathLab also participated in a weeklong math institute as a follow-up. During the math institute, teachers delved deeper in mathematics content to develop their knowledge of mathematics.

In fall 2015, two MC² researchers used a classroom observation protocol in eight districts to observe a random sample of 25 classrooms of teachers who attended both events. The sample included 464 students from grades K-Algebra 2 in regular, inclusion, and bilingual classrooms. The observation protocol is built on a foundation of math content, pedagogical knowledge, and student generative behavior that research suggests support deep student leaning of mathematics. MC² conducts research on observed changes in teaching practices and applies the findings to drive our professional development plan, in alignment with the Implementation standard of the Standards for Professional Learning (Learning Forward, 2011).

Fall 2015 and spring 2016 observation results indicate that **teachers** were most proficient in:

- Sharing and maintaining learning goals and targets with students;
- Supporting students making sense of mathematics by using student work and communication of ideas; and
- Asking questions about students' conceptual understanding.

In fall 2016, teachers also showed proficiency in asking questions focused on student conceptual understanding.

Fall 2015, spring 2016, and fall 2016 observation results indicate that **students** were most proficient in:

- Talking with each other about math; and
- Using appropriate math vocabulary.

The general level of implementation of a student-centered learning environment was measured on a Likert scale, rated from 0 (nonuse) to 4 (advanced). The results showed that classrooms of teachers who participated in both MathLab and math institute scored:

- Advanced/proficient/nearing proficient: 88%;
- Beginning steps: 12%; and



Photo by SHEILA HILLS

Elementary school students work on a collaborative task to generate classroom norms.

- Nonuse: 0%.

Researchers also conducted a plus/delta analysis. Examples include:

- Plus: Many teachers included Common Core State Standards Math Practices in student-friendly terms and revisited goals throughout lesson.
- Delta: Some goals were not fully developed or aligned to instruction.

Researchers included participant surveys and student interviews in compiling reports and shared the data with MC² staff responsible for planning and implementing MathLab. (The reports are available at <http://mc2.nmsu.edu>.)

WHAT HAPPENS AFTER MATHLAB

MathLab is part of a comprehensive professional learning system including support, implementation, and assessment as a continuous cycle. Effective professional learning requires an ongoing process for teachers to improve their instruction and for administrators to become better school leaders (Mizell, 2010). Recommendations take into account:

- Thoughtful planning;
- Teachers applying new knowledge and skills; and
- Follow-up and feedback.

BEFORE THE SCHOOL YEAR

As a follow-up to MathLab, a subset of the participating teachers and administrators attend a weeklong math institute where they, alongside mathematicians, delve deeper into mathematical content knowledge for teaching Common Core math standards.

DURING THE SCHOOL YEAR

Teachers receive ongoing support through the following:

- Collaborative teaching and learning cycle is a collaborative, nonevaluative, three-hour process in which teachers design lessons, observe and record student thinking, and debrief about student engagement, misconceptions, how the task developed student understanding, planning next steps for student learning, and reflection on teaching practices.
- Webinars provide online support communities designed to enhance teacher content knowledge, implement math practices, and develop effective instructional strategies. Webinars are archived at <http://mc2.nmsu.edu>, along with downloadable handouts of activities and strategies presented.

Administrators receive ongoing support through:

- Leadership team sessions: Three half-days during school year; and
- Principal learning communities: Four half-days, designed regionally.

Teacher leaders cadre receive ongoing support from:

- Using a multitiered approach to develop, plan, implement, and present workshops;
- Working collaboratively to promote increased student learning; and
- Deepening math understanding for teaching, and then transferring learning to other educators.

In addition, **MC² staff** provide onsite, ongoing support in the following ways:

- School-based study of Common Core State Standards for math: Partner schools work within professional learning community time or during professional development days to:
 - o Study mathematical progressions of Common Core math standards; and
 - o Develop units of study for classrooms that align to and develop habits of mind called for in the Common Core math standards, putting teachers (not textbooks) into the driver's seat using professional knowledge regarding children's mathematics learning to implement rich math tasks that engage students and build conceptual understanding of standards.
- Two cycles (fall and spring) of observations:
 - o Researchers observe classrooms of MathLab participants as a process for informing the effectiveness using the observation protocol; and
 - o Researchers provide general feedback to MC² staff working with teachers regarding specific observable behaviors in classrooms and instructional changes.

MathLab is an example of the time, materials, and human investment teachers need to increase their pedagogical and

content knowledge for teaching mathematics. Effective implementation requires prioritizing, monitoring, and coordinating these resources for educator learning, as outlined in the Resources standard of the Standards for Professional Learning (Learning Forward, 2011).

Our primary purpose is strengthening the broader learning community to ultimately increase student outcomes in mathematics. Building capacity in teachers and administrators is key to sustaining support for implementation of professional learning for long-term change, as noted in the Implementation standards of the Standards for Professional Learning (Learning Forward, 2011).

REFERENCES

- Bradley, J., Munger, L., & Hord, S. (2015).** Activities vs. outcomes: The difference makes all the difference. *JSD*, 36(5), 48-58.
- DeMonte, J. (2013, July).** *High-quality professional development for teachers: Supporting teacher training to improve student learning*. Washington, DC: Center for American Progress.
- Dufour, R., Eaker, R., & Dufour, R. (2005).** *On common ground: The power of professional learning communities*. Bloomington, IN: Solution Tree.
- Guskey, T.R. (2000).** *Evaluating professional development*. Thousand Oaks, CA: Corwin.
- Hightower A., Delgado, R., Lloyd, S., Wittenstein, R., Sellers, K., & Swanson, C. (2011, December).** *Improving student learning by supporting quality teaching: Key issues, effective strategies*. Bethesda, MD: Editorial Projects in Education.
- Holloway, K. (2003, February/March).** A measure of concern: Research-based program aids innovation by addressing teacher concerns. *Tools for Schools*, 1-6.
- Learning Forward. (2011).** *Standards for Professional Learning*. Oxford, OH: Author.
- Mizell, H. (2010).** *Why professional development matters*. Oxford, OH: Learning Forward.
- New Mexico Public Education Department. (2012).** *New Mexico Common Core State Standards implementation plan*. Available at <http://newmexicocommoncore.org/pages/view/59/nmccss-implementation-plan/11>.
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Reach. Investigate. Discover.

IDEAS

“ The job of principal has always been a lonely one. But do principals need to feel quite so alone? That is the question school districts across the country are grappling with during a time when the expectations on these school leaders to improve student performance have never been higher.”

Source: Saltzman, A. (2016). *The power of principal supervisors: How two districts are remaking an old role.* New York, NY: The Wallace Foundation.

Training the trainers:

Learning to be a principal supervisor

p. **54**

HOW MUCH SUPPORT DO LEARNERS NEED?

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MOVING FROM

'STUDENTS CAN'T'

TO

'HOW STUDENTS CAN'

A LEARNING DESIGN
ANCHORED IN THE STANDARDS
FOR PROFESSIONAL LEARNING
PUTS THE FOCUS ON EQUITY



BY JANICE BRADLEY, ANDREA RORRER, ASHLEY MCKINNEY, AND CORI GROTH

What happens when a university-based education policy center uses the Standards for Professional Learning (Learning Forward, 2011) to design purposeful professional learning experiences for teachers, community members, principals, central office administrators, superintendents, and university faculty to re-engage in the meaning and creation of equitable and excellent educational opportunities throughout the system?

Practitioners and decision makers unite in thoughtful learning conversations that include multiple perspectives about how pursuing excellence requires deliberate attention to equitable practices. School staffs see a viable path toward change in how they think about and advance equity and excellence through shared language, dispositions, and mindsets about instructional practices that open pathways to learning for all students.

These pathways are enhanced through the use of a professional learning system that embodies a continuous

improvement cycle at both the individual and organizational level. Conversations occur before, during, and after the learning experience, followed by actions taking place at school sites and central offices that support educators' changing practices for increasing equity and access for all students.

This deliberate, powerful, professional learning happens when:

1. The designers of professional learning shift their own thinking from professional development that offers content and activities for a workshop to focusing on what knowledge, skills, and dispositions educators can learn to transform their thinking and practices over time (Killion, 2013).
2. The Standards for Professional Learning (Learning Forward, 2011) serve as part of the planning and learning scaffolding backbone.
3. Designers plan with the desired individual and systemic results in mind, including learning expectations and outcomes, outcomes to be observed, and the types of learning experiences needed for adults to change their dispositions about and practices for

- equity and excellence (Johnson, Perez, & Uline, 2013).
- The design team considers a research-based and organizationally systemic approach that fosters scalability and sustainability (Rorrer, Skrla, & Scheurich, 2008).

THE CONTEXT AND THE NEED

The Utah Education Policy Center’s mission is to bridge research, policy, and practice in Utah public schools and higher education. The center seeks to inform and influence educational policy to increase equity, excellence, access, and opportunities for all educators and students across the state. The center’s school support team creates the bridge of implementation to serve predominantly low-performing schools. The school support team offers a local school improvement process and support system to ensure that change and improvement occur in leadership, teaching, and learning.

When working with local schools and districts within our improvement system, we conduct extensive appraisals at school sites. Then, in collaboration with local educators, leadership teams identify school improvement needs, and we co-create school improvement plans, design structures and systems for ongoing standards-based professional learning, create support systems for successful implementation, and monitor progress.

While we note that developing human resource capacity is imperative in schools and districts, we frequently find that there is another element that needs further advancement. Along with increased knowledge and application of excellent and relevant instructional practices that allow every student access to mastery of content and state standards, we need to pay greater attention to substantive expansion of dispositions and mindsets from “students

can’t” to “how students can,” including how to apply this different disposition in the day-to-day work of an educator.

Our team regards professional learning as a foundational element, or anchor, of our work, including our

HOW THE THOUGHT LEADER EXPERIENCE ALIGNS WITH THE STANDARDS FOR PROFESSIONAL LEARNING

Like many, we are critical of the one-shot professional development workshops that seem to persist despite the preponderance of research evidence that points to the need for intensive, targeted, job-embedded professional learning opportunities.

Unlike the one-time event with little to no impact, the thought leader professional learning experience is designed using Learning Forward’s Standards for Professional Learning and results in changing dispositions. Specifically, we have focused on educators thinking differently about equity and excellence practices.

In the table below, we outline how we considered the standards in designing the thought leader professional learning experiences to change educator dispositions, knowledge, and skills.

STANDARD	ESSENTIAL QUESTIONS
Learning Communities	How can we create a structure to develop collective responsibility for changing equity practices? How can educators continually improve their equity practices?
Leadership	How can leaders develop their knowledge, skills, and dispositions for leading changes in equity practices? What support structures and systems are needed at the central office and school levels?
Resources	How can we coordinate resources to ensure that educators have opportunities for ongoing professional learning about equity?
Data	What data inform the need for a thought leader learning design? What data do we gather to determine what educators learned and changed?
Learning Designs	What is the intended outcome? How can educators be involved in the learning design selection? Does a thought leader design allow for all phases of the learning process — acquisition of knowledge to application and reflection? How will the design promote active engagement?
Implementation	What commitments can educators make to take action in their context? What support will be provided to implement the action? What kind of feedback loop will occur?
Outcomes	What results and changes do we envision if equity practices are implemented? What changes and results occurred after the thought leader experience?

comprehensive school improvement learning system support. In our approach, we believe that a key to changing or enhancing dispositions about excellence and equity comes from purposefully addressing the necessary leadership, instruction, learning, types of support, and processes for improvement that must occur.

To do this, we recognize that relationships, readiness for growth, and rigorous and relevant learning are required. Thus, our multifaceted experiences with and support of practitioners reflect the need to meet people where they are in their dispositions, knowledge, and practice and provide professional learning that makes the journey toward excellence and equity seem not only reasonable but also necessary and doable.

Our professional learning includes creating a space and time for practitioners to engage with research, including such experiences as a distinguished thought leader's research and applications of that research, facilitated targeted, focused, and sometimes "messy" conversations with state, district, school leaders, and whole school staffs about existing and effective equity practices, and explicit plans to execute leadership and instructional changes.

To capitalize on individual improvement efforts that can occur within each school site, a sequence of collaboratively designed learning experiences provides opportunities for school and district leaders and other educators to work toward similar goals while learning and working together. Through facilitated learning experiences, which often include nationally recognized leaders and researchers, school and district practitioners take part in a broader community conversation that explores challenges and frustrations as well as successes and opportunities for growth.

WHY PROFESSIONAL LEARNING AS AN ANCHOR?

Our school and district improvement support uses a systematic and agile approach to bridge research, policy, and practice. We use professional learning as an anchor to ensure that our processes are attentive to critical reflection and reflexivity — that is, developing professional identity necessary to transform an experience into something that shapes how one acts in his or her daily practice. While we are eager to work with schools and districts, we are averse to the idea of professional development that could not contribute to scalable or sustainable practice.

Thus, we plan professional learning that will address the systemic and variable needs of the schools and districts we work with. In part, this professional learning includes planning for proactive redundancy to build understanding, dispositions, and applied skills in equity and excellence. For instance, our school improvement work on-site reflects the Standards for Professional Learning, and the focus is on equity and excellence. We recognize the value of networking and engaging with other practitioners and nationally recognized thought leaders.

For this professional learning experience, we engage a thought leader in visits to schools to gain further context about our educational environment and then have an organized day that is portioned for district leaders, school leaders, and teachers. Using a *professional development* lens, our planning would have focused on the experiences educators would have. However, because we used a *professional learning* lens along with the Standards for Professional Learning, our focus was on what educators learned during the experience to allow them to think and act differently with regard to equitable practices for every student (Killion, 2013).

Given our experiential format, we wondered if anything different would result. If educators heard the message of creating high expectations, using instructional practices, and providing more rigor to achieve equity in opportunities and outcomes, would they change their dispositions and actions? Moreover, how could we develop a collective commitment and, therefore, greater impact long-term, given the multitier focus from the classroom level to the superintendency?

THOUGHT LEADER LEARNING DESIGN

The impetus for the thought leader learning design came from our collaboration with schools and districts to support their improvement process. As we worked with different schools and districts and across settings, we were struck with the need for, and importance of, generating a powerful and shared vision for student success that could replace the common excuses and explanations of why students couldn't succeed.

With the goal of educators changing their dispositions and practices about equity and excellence, we chose the thought leader learning design to bring people together across settings, levels, and from varied personal and professional backgrounds to create synergy, excitement, and collective commitment to making schools excellent and equitable for all students (Flower, Muoio, & Garris, 2013).

UNFOLDING EQUITY CONVERSATIONS

The center's work is grounded in equity and excellence. By nature and design, our school improvement support reflects this foundation. However, similar to our own evolution, we value the journey that must occur for dispositions to develop. This is embedded into our thought leader series.

IDEAS

Our initial efforts began by supplementing our school improvement support work with individual schools with a three-part series that included thought leaders external to the state. We included these thought leaders specifically because of the alignment between their research area or expertise and the assessments, school leadership and teaching needs, and progress in the schools at this point regarding school improvement and equity. The three-part series consisted of:

- **Stage 1.** The first thought leader grounded all attendees in mindsets about equity in the classroom and the schoolhouse. This national leader focused on the differences between equity and equality and the importance of building relationships to support growth.
- **Stage 2.** The second thought leader facilitated a conversation on what equitable and powerful Tier 1 instruction looks like in high-performing urban schools.
- **Stage 3.** The third thought leader focused on creating responsive learning environments and acting in equitable ways when considering school and student disciplinary responses and practices.

STRUCTURE

When designing the thought leader learning experience, we applied “learning theories, research, and models,” as suggested by the Learning Designs standard of the Standard for Professional Learning (Learning Forward, 2011). This required that we address:

- How can educators be actively engaged?
- How will the thought leader design provide modeling and strategies to apply in practice?
- What will be the ongoing support for changing

dispositions and educator practices?

These design questions resulted in a five-part plan for the professional learning experiences. These include preparing for the experience, leadership learning, generative conversations, reflections and implications for improvement, and facilitated responsiveness.

1. Preparing for the experience

We seek active participant participation to prepare for the thought leader experience. One week before, we send questions to school staff—including principals, coaches, and teachers—to think about and discuss in professional learning communities or staff meetings. Examples of questions include:

- What structures or systems in your building are working to provide access for all scholars to the learning? What structures or systems might not be working?
- What does an equitable learning environment look, sound, or feel like (in your classroom, in your school)?
- There is an opportunity to learn about instructional practices that are effective with all students. What are you curious to find out?

2. Leadership engagement

District-level leaders, administrative teams, and principals engage in a two-hour leadership session facilitated by the thought leader. During this session, the thought leader facilitates exercises to examine beliefs and practices, develop skills regarding individual and organizational expectations, and align strategic efforts on leadership practices, curriculum, instruction, assessment, and support systems.

We find that convening leaders from each level creates space for norms to develop that otherwise may not be

feasible. One participant’s reflection calls these sessions “engaging and purposeful. The session was important for us to know how to re-create the experience with district leaders and do a gap analysis with full district office.” Another participant added: “It’s time to take a hard look at the current systems we have in place that promote equitable instruction.” A third noted, “We’ve got to learn how to operationalize equity.”

3. Generative conversations

During the large-group session, the thought leader shares ideas from his or her research and experiences to generate ongoing conversations with participants. Each thought leader who shared is considered a national expert in the field—one whose research and experiences contributed to changing mindsets about equity and excellence and creating responsive learning environments for all students. The thought leaders addressed questions sent earlier to participants, and they used these questions to engage participants in interactive dialogue to deepen their learning through conversation.

4. Reflecting on learning and implications for improvement

After the 1½-hour large-group session with the thought leader, each school staff meets for one hour in a smaller room with a facilitator to reflect on staff members’ learning from the speaker and develops commitment to take one action leading to change. From this process, schools integrate new thinking into their action plans.

5. Facilitated responsiveness

The structure for support that links to the thought leaders’ messages includes purposeful facilitation of responsiveness during our team’s monthly technical assistance learning sessions, school support activities, and communications with administrators.

Moreover, school support team members integrate the messages from the thought leaders into conversations, planning, and reflection on committed actions from their team sessions. This way, the thought leaders' main messages remain explicit, visible, and connected to implementation.

Actions taken at the school site include:

- Creating new beliefs about students and their learning (e.g. all students are capable);
- Identifying both individual and school actions to take (mastery, not coverage; increase student discussion; increase consistency in collaborative planning and instruction; building stronger relationships with students; checking for student understanding);
- Aligning beliefs and next steps with their improvement action plans; and
- Engaging in lengthy conversations where existing beliefs were openly challenged from a thought leader with a national perspective who seemed to awaken them from deficit thinking.

How do we know that convening is a quality professional learning experience? Adhering to the Data standard of the Standards for Professional Learning, we gather feedback from participants regarding the quality of their experiences and the ways in which their participation leads to changes in school or district practices. In our second year of implementation of convening with thought leaders, we have gathered evidence from end-of-session feedback forms and on-site support, communications, and observations.

Evidence so far includes transformations in dispositions and actions, shifting language

"It was a pleasure to hear and learn from great role models in educational practices."

— A 5th-grade teacher

(student mastery, rigor, equity versus equality), references to key ideas (equitable instruction, high and clear expectations, building relational capacity) with greater frequency, and willingness to act differently based on conversations during professional learning communities and leadership team and school improvement sessions. Comments include:

- **From a behavior coach:** "That was the most worthwhile and powerful professional learning experience that I've ever had. I've shared with teachers how we keep ourselves grounded in the explicit trauma behaviors."
- **From an elementary principal:** "It's been amazing to have national-level speakers to be accessible to our staff and teachers and have it be relevant. They are coming in and showing teachers the why and how. That's had a huge influence on our teachers. It's so powerful to sit down and process what we've heard and answer questions together. The professional learning experience is not designed as a sit-and-get."
- **From a 5th-grade teacher:** "It was a pleasure to hear and learn from great role models in educational practices. I left feeling inspired and motivated to tackle hard things knowing they have done it with similar circumstances. Their enthusiasm for teaching and working with kids was infectious, and I gained a lot of positive insight."

Changing dispositions about equity is necessary and challenging. Through

a strategically designed thought leader learning experience using a professional learning lens, aligned to Learning Forward's Standards for Professional Learning, evidence indicates that participants are learning to think in a different way about equitable practices serving each and every student.

REFERENCES

Flower, N.R., Muoio, A., & Garris, R. (2013). *Gather: The art and science of effective convening*. New York, NY: The Rockefeller Foundation.

Johnson, J.F., Perez, L.F., & Uline, C.L. (2013). *Teaching practices from America's best urban schools*. New York, NY: Taylor & Francis.

Killion, J. (2013, May 22). *Professional development vs. professional learning* [Audio podcast]. Available at <http://mediaportal.education.ky.gov/educator-effectiveness/2013/05/professional-development-vs-professional-learning>.

Learning Forward. (2011). *Standards for Professional Learning*. Oxford, OH: Author.

Rorrer, A.K., Skrla, L., & Scheurich, J. (2008). Districts as institutional actors in educational reform. *Educational Administration Quarterly*, 44(3), 307-357.

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HOW MUCH SUPPORT IS ENOUGH?

3 TOOLS HELP US KNOW
WHEN TO STEP IN
AND WHEN TO BACK OFF

BY LESLIE PATTERSON AND CAROL WICKSTROM

How much support do my learners really need? How much independence can they handle? When do I step in? When do I back off? Those are the questions that effective literacy teachers ask. Those are also the questions that make for responsive professional development on pre-K-12 campuses.

Responsive professional development is about watching learners closely, interpreting observations to make nuanced decisions, and taking

action to support learners at particular moments. What might they be ready to do next? What instructional moves will best provide “just enough” support? In other words, what is our next wise action? Responsive teaching is, in fact, an ongoing cycle of inquiry, reflection, and action that might be called “Adaptive Action” (Eoyang & Holladay, 2013) — see the figure on p. 49.

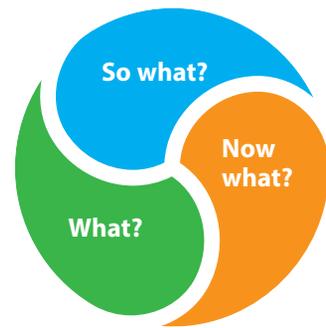
As teacher consultants with the North Star of Texas Writing Project — a local site of the National Writing Project (www.nwp.org) — we facilitate Adaptive Action with educators who are

working to set conditions for powerful literacy learning in grades pre-K-12. In National Writing Project, we know the power of responding to questions as they arise from our daily work, but we are also aware of the need to build some degree of coherence across classrooms, grade levels, and content areas. That poses a central challenge for professional learning leaders.

If, as professional developers, we provide too much structure — too many ready-made answers — we risk shutting learners down by stifling engagement and creative problem solving. On the other hand, if we



For more information about Adaptive Action, see www.hsdinstitute.org/resources/adaptive-action.html.



encourage individual teachers to go wherever their unique inquiries lead, we risk fragmentation into silos.

To support individuals while contributing to collective learning, we have to adapt to the complexity within each individual learner and the complexity of the whole school. We have studied the nature of complex systems and found three flexible tools that help us resolve these persistent questions about how much and what kind of support is most appropriate.

These tools are grounded in the study of complex learning systems (e.g. Davis & Sumara, 2006; Ricca, 2012). We have adapted these particular tools from the emerging field of human systems dynamics (Eoyang, 2002;

Eoyang & Holladay, 2013; Patterson, Holladay, & Eoyang, 2013). Briefly, the goal of human systems dynamics is to help people do three things:

- See the patterns in the complex systems where they live, work, and play;
- Make sense of those patterns; and
- Take action that will be responsive, adaptive, and generative — actions that will sustain the system into the future.

In fact, those three steps are the essence of Adaptive Action.

COMPLEX LEARNING

Complexity science is a family of

models, theories, perspectives, and methods grounded in many disciplines. We don't need to master the field; we can simply choose a few useful concepts and tools relevant to professional learning. We have found that this approach resonates with educators because it speaks to the realities in schools. These concepts and tools help educators deal with complex challenges that can otherwise seem overwhelming. With educators, we begin with an explanation of four characteristics of complex systems:

- Open to influence: Everything is subject to influences from both within and outside the system.
- Diverse across many dimensions: In schools, these dimensions

TOOL 1
THREE BIG QUESTIONS

1. Who are we? (What are we about? What is our work?)
2. What is important to us? (What differences make a difference to our work?)
3. How shall we work together? (What structures, meetings, documents, and tools shall we use together?)

include age, gender, culture, language, achievement levels, and others.

- Unpredictable: Each action has the potential to change the whole system in multiple ways.
- Interconnected: The image of a network is useful.

Clearly, these characteristics describe the networks in which our students put literacy to work every day — families, neighborhoods, peer groups, and their classroom communities. In addition, students engage in multiple, complex literacies — various languages, media, and discourses essential to success in school and life. All these involve complex adaptive systems — open, diverse networks in which the participants, materials, and environment interact in nonlinear, unpredictable ways (Patterson, Holladay, & Eoyang, 2013). Obviously, literacy teachers and campus and district leaders also navigate equally complex networks.

One-size-fits-all approaches simply do not fit the complex realities of classrooms. Like physical growth, language and literacy development (and teacher development) tend to progress in spurts, and, although we can point to developmental patterns over time,

TOOL 2
PATTERNS OF POWERFUL LITERACY LEARNING

Empathy and community	Collaborate to build a safe space where innovations and actions can occur.
* * *	* * *
Deep content learning	Work hard to learn about the world and our place in it.
* * *	* * *
Inquiry	Dare to question; embrace the unknown; search for answers.
* * *	* * *
Authenticity	Connect our learning with significant audiences, tasks, and purposes.
* * *	* * *
Modeling and apprenticeship	Teach and learn together.
* * *	* * *
Re-visioning	Imagine and create; look, think, and act. If at first you don't succeed, iterate and iterate again.
* * *	* * *
Dialogue	Speak, listen, read, and write with an open mind and heart.
* * *	* * *

individual progress is unpredictable. Responsive teachers adapt their plans as needed. As many teachers tell us, some individuals need more structure; some need less.

As we come to understand how complex systems work, we can more effectively see, understand, and influence the patterns in our learners. That's what Adaptive Action helps us do. We can decide when to step in to offer support and when to back off, facilitating independent learning when possible.

We have found three particular tools from this study of human systems dynamics that help us do that (Eoyang & Holladay, 2013; Patterson, Holladay, & Eoyang, 2013): Three Big Questions, Patterns of Powerful Literacy Learning, and Literacy Learning Landscape Diagram.

TOOLS TO BUILD COHERENCE

TOOL 1

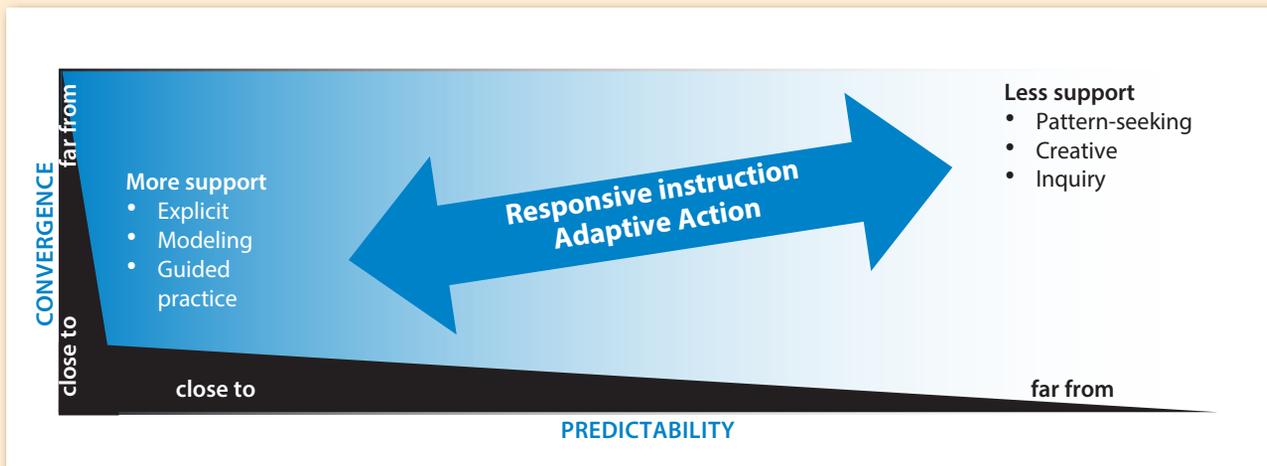
THREE BIG QUESTIONS

As we begin any professional learning project or summer writing institute, we ask participants to think with us about how our learning community will answer these three big questions:

- Who are we? (What are we about? What is our work?)
- What is important to us? (What differences make a difference to our work?)
- How shall we work together? (What structures, meetings, documents, and tools shall we use together?)

These questions provide springboards to conversations about our shared identity, shared beliefs, and

TOOL 3
LITERACY LEARNING LANDSCAPE DIAGRAM



shared practices — three conditions that combine to influence what happens in complex human systems (Eoyang, 2002). The point is not to come up with publishable answers to these questions (like mission statements and strategic plans) but to engage in honest conversation about these questions over time. Answers to these questions are fluid and serve until the group revisits and considers revisions.

For example, we used these questions in our work with English language arts teachers at Killough High School, a 9th- and 10th-grade center in Lewisville (Texas) ISD and a Title I campus with a large number of English learners. In June 2013, they invited us to lead a professional development workshop with them, focusing on ways to support student writers — particularly to help them refine how they prepare students for the state writing test.

Teacher consultants from our writing project led a one-day workshop in June, and we followed up with monthly meetings through the school year. At these meetings, we addressed their concerns, looking at student work and helping them plan responsive instruction. We recommended professional readings and demonstrated instructional strategies. In late fall,

some of these teachers also attended a districtwide workshop in which we demonstrated a lesson framework to use in their after-school intervention.

In a half-day interactive workshop in January 2014, we facilitated conversations about the Three Big Questions. These teachers enjoy a positive campus climate, but they are not immune to anxiety about test scores and were feeling panicky about the upcoming test. In that workshop, we used this tool to invite them to talk about their heartfelt literacy goals for their students.

The second question in particular — What is important to us? — gave them an opportunity to talk about the patterns emerging from their complex work. We asked them to list their students’ strengths and targets for growth. We pointed out that these were patterns that emerged in individuals and among groups of students. We then asked them to move from “what is” to “what might be” — to talk about the patterns they wanted to see in their students’ reading and writing.

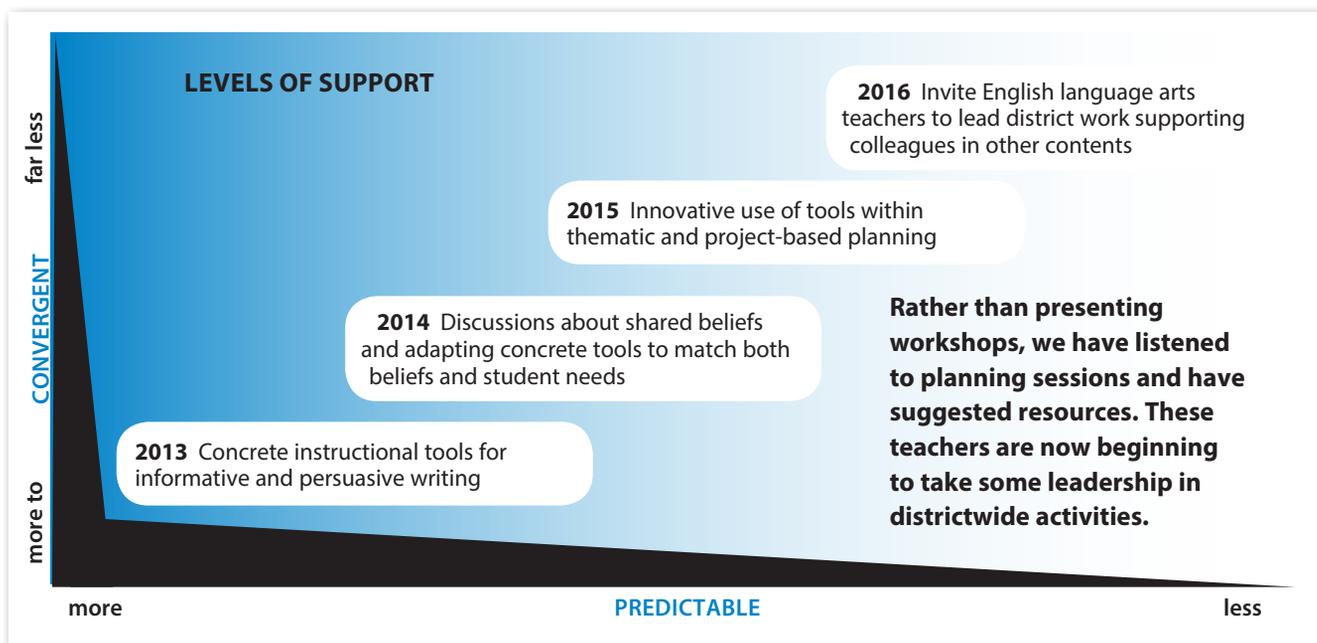
Besides higher test scores, of course, they wanted to see more confidence, more fluency, more enthusiastic engagement, more proficiency across multiple genres, and more critical

thinking. Those patterns clearly pointed to what mattered most to these teachers, and it was useful to foreground those goals as more important in the long term than performance on a single test.

TOOL 2
PATTERNS OF POWERFUL LITERACY LEARNING

Then we explored patterns in the research about literacy instruction. If we want to see powerful literacy among students, what patterns shall we create in our instruction? Based on our previous work (Patterson, Wickstrom, & Araujo, 2010), we have generated a list of Patterns of Powerful Literacy Learning (see p. 50), which is our second tool.

After a brief discussion of these patterns with the Killough teachers, we then posted seven chart papers with blank T-charts around the room — one for each of the patterns. In the left column of each T-chart, we asked teachers to write what teachers can do to generate that pattern. For example, for empathy, teachers might list: “Think about what will hook students” or “Use group projects to build community.” In the right column, teachers listed student behaviors: “Listen to one another” and



“Respect diverse viewpoints.”

Once teachers generated a number of concrete teacher and student behaviors for each pattern, they reviewed the charts, commenting and adding to each list. We then asked them to consider which of these patterns were most important to them. We recommend choosing only two or three to emphasize because complex systems are so interconnected that, if we begin amplifying one of these patterns, the others will shift as well. The Killough teachers chose authenticity, dialogue, and apprenticeship as their shared focus.

The third big question is “How shall we work together on what is most important to us?” These teachers had already implemented instructional strategies consistent with the patterns they wanted to amplify, like daily independent reading, writer’s notebooks (e.g. Buckner, 2005), and workshop approaches (e.g. Kittle, 2008).

To focus on the three priority patterns, however, they decided to look for more authentic audiences for student writing and to integrate more interactive tasks to encourage dialogue. They also planned to share their own

writing with students to strengthen the apprenticeship pattern. Those decisions, in turn, informed our subsequent work to support them.

Conversations about Three Big Questions and Patterns for Powerful Literacy Learning give teachers a degree of flexibility to make individual decisions without sacrificing coherence across the whole. Once we have used those two tools to set the conditions for flexible and coherent instructional decisions, we can attend to teachers’ individual needs with our third tool, the Literacy Learning Landscape Diagram.

TOOL 3

LITERACY LEARNING LANDSCAPE DIAGRAM

Somewhat similar to gradual release of responsibility (Pearson & Gallagher, 1983), the Literacy Learning Landscape Diagram (see p. 51) helps us visualize

These three tools have helped us make responsive decisions.

the kinds of support that learners might need by focusing on two dimensions of any particular teaching-learning challenge: the familiarity of the concept to be learned and whether it involves convergent or divergent thinking (adapted from Patterson, Holladay, & Eoyang, 2013; Patterson, Wickstrom, Roberts, Araujo, & Hoki, 2010).

When we judge that learners need more support, we choose predictable tasks and more convergent, less ambiguous ideas. For example, rather than introducing writing workshop — which is clearly divergent and unpredictable — we might move in to demonstrate a single lesson.

On the other hand, when teacher learners already have technical knowledge, we move out to invite individuals and groups to engage in classroom inquiry. In terms of the range of models for professional learning, we can think of the bottom left of the diagram as training. We can think of the top right as inquiry.

Typical approaches to professional development are sometimes ineffective because individuals may vary widely in terms of their current knowledge and needs. In that case, it’s difficult to

We know that a five-year plan seldom works, but these tools help us take the next wise action as we offer professional learning support.

build coherence across the whole. To be sustainable, professional development initiatives have to adapt to individuals' strengths and needs across time, and the Literacy Learning Landscape Diagram helps teachers and learners think about that.

Sometimes we outline a big landscape on the floor. We ask participants to stand in the area where they are most comfortable as a learner and explain why they chose that space. Then we ask them to move to the place where they are most comfortable as a teacher. We sometimes ask them to stand where they think their colleagues might feel most comfortable.

This activity generates fascinating conversations about individual differences and strategies to offer different levels of support (book studies, demonstration lessons, action research, etc.). These conversations inevitably move to a consideration of options for student support. We can then suggest ways to use this tool for decisions related to flexible grouping and text selection.

For example, direct instruction would fall in the lower left; independent reading and writer's workshop in the upper right. Which students need more support, and who is ready to explore a new genre? What might change as we introduce a new genre? Where are students most comfortable? When is it time to nudge them out of their comfort zones? It may vary with each student: One who needs a great deal of support in academic writing might be an explorer in digital contexts.

As we have continued to work with the Killough teachers, we have adjusted our support, and we have seen them

adjust their support of students. We began with demonstrations of model lessons and concrete recommendations. More recently, rather than presenting workshops, we have listened to their planning sessions and have suggested resources when appropriate. These teachers are now beginning to take some leadership in districtwide activities (see p. 52).

NOW WHAT?

These three tools have helped us make responsive decisions. We know that a five-year plan seldom works, but these tools help us take the next wise action as we offer professional learning support. They help us respond to individual strengths and needs while continuing to support collective learning.

With these tools, we can move in to build shared knowledge and skills when needed and move out to invite exploration and inquiry. These don't replace our other tools, but, when things get messy and unpredictable, we have come to depend on the power of these three tools to help us deal with the complexity on campuses where we work.

REFERENCES

Buckner, A. (2005). *Notebook know-how: Strategies for the writer's notebook*. Portland, ME: Stenhouse Publishers.

Davis, B. & Sumara, D. (2006). *Complexity and education: Inquiries into learning, teaching, and research*. Mahwah, NJ: Lawrence Erlbaum.

Eoyang, G.H. (2002). *Conditions for self-organizing in human systems* (Doctoral dissertation, Union Institute & University, Cincinnati, Ohio, 2002).

Eoyang, G.H. & Holladay, R. (2013). *Adaptive Action: Leveraging uncertainty in your organization*. Palo Alto, CA: Stanford University Press.

Kittle, P. (2008). *Write beside them: Risk, voice, and clarity in high school writing*. Portsmouth, NH: Heinemann.

Patterson, L., Holladay, R., & Eoyang, G. (2013). *Radical rules for schools: Adaptive Action for complex change*. Circle Pines, MN: Human Systems Dynamics Institute.

Patterson, L., Wickstrom, C. & Araujo, J. (2010, June). *Culturally mediated writing instruction for adolescent English language learners* (Final Report). Berkeley, CA: National Writing Project.

Patterson, L., Wickstrom, C., Roberts, J., Araujo, J., & Hoki, C. (2010). Deciding when to step in and when to back off. *The Tapestry Journal*, 2(1), 1-18.

Pearson, P.D. & Gallagher, M.C. (1983). The instruction of reading comprehension. *Contemporary Educational Psychology*, 8(3), 317-344.

Ricca, B. (2012). Beyond teaching methods: A complexity approach. *Complicity: An International Journal of Complexity and Education*, 9(2), 31-51.

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Photo by MICHAEL KOSTEL

Tulsa principal supervisor Kayla Robinson leads a principal portfolio meeting, where all principals in a supervisor's cluster of schools to come together for training and sharing under the guidance of their principal supervisor.

TRAINING the TRAINERS

BY AMY SALTZMAN

LEARNING TO
BE A PRINCIPAL
SUPERVISOR

While most principal supervisors are former principals themselves, few come

to the role with specific training in how to do the job effectively. For this reason, both the Washington, D.C., and Tulsa, Oklahoma, principal supervisor programs include a strong professional development component.

In D.C., principal supervisors meet every Tuesday to receive training on topics such as leadership development and coaching. Once a month, they also participate in school walk-throughs with each other to observe their colleagues in action and provide feedback. They are typically accompanied by one of two deputy chiefs responsible for supervising the principal supervisors. “The walk-throughs give me a sense of how well they are pushing a principal on a critical issue. Are they providing actionable feedback, or just saying, ‘Everything’s great,’ or, ‘You need to improve,’ but not being specific in what needs to happen?” says Amanda Alexander, deputy chief for elementary schools in D.C.

In the past, a lack of standards for

gauging principal supervisors’ work made it difficult to measure success. That changed in December 2015, when the Council of Chief State School Officers released the first-ever standards for principal supervisors crafted by a team of educators from across the nation. Developed with support from The Wallace Foundation, the standards provide a clear definition of what principal supervisors should know and be able to do, shifting the focus of the job from bureaucratic compliance to helping principals improve instruction (CCSSO, 2015).

The principal supervisors interviewed for this report all agreed that being a strong principal does not automatically translate into success as a

principal supervisor. And all considered ongoing training invaluable. “Overall, our team is exceptionally well-versed in instruction and pedagogy. But there are other areas, such as coaching, that warrant more attention,” says Alexander.

At a Tuesday professional development session in D.C., the principal supervisors began the day by discussing an assigned book, *Masterful Coaching*, by Robert Hargrove. They divided into small groups to share insights about the book and grapple with difficult problems, such as how best to manage underperforming principals.

The supervisors were also eager to discuss worrisome new testing data showing a continuing wide achievement gap between students of color and other students. Together, they pondered strategies to motivate principals to work more aggressively with teachers to significantly improve results. Several suggested that principals often rate teachers too high. “How do we empower our principals to have honest conversations with teachers about their performance?” wondered Harry Hughes, an elementary school principal supervisor in D.C.



This article is sponsored by The Wallace Foundation.

CULTIVATING FUTURE PRINCIPAL SUPERVISORS

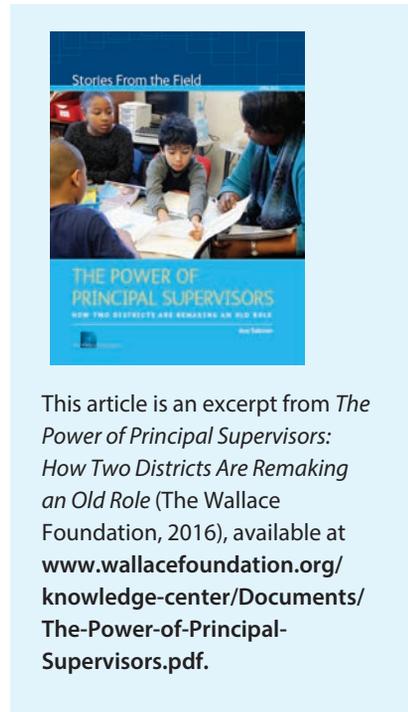
The hope is that consistent training, as well as support from other principal supervisors, will lead to greater stability in a position historically characterized by high turnover and unclear professional standards. A 2013 study by the Council of the Great City Schools found that educators in these positions lacked access to the instructionally focused professional development needed to help strengthen principals as instructional leaders. What's more, few had enough time to grow in the job. The study found that the average tenure for the position in urban districts was just three years (Corcoran, Casserly, Price-Baugh, Walston, Hall, & Simon, 2013).

Tulsa Public Schools hopes that by cultivating a pipeline of principals interested in becoming supervisors, it will be able to create a more seamless transition when turnover inevitably occurs. Seven Tulsa principals and two former principals who now hold central office positions are participating in the district's two-year Learning Leaders program. The program identifies high-performing principals and pays them stipends for successful completion of training covering topics such as

The hope is that consistent training, as well as support from other principal supervisors, will lead to greater stability.

coaching techniques and tools.

Principals who had been exceptionally strong teachers are often the best fit for the program. "Being able to work with a principal and provide effective coaching and mentoring really comes down to being an effective



This article is an excerpt from *The Power of Principal Supervisors: How Two Districts Are Remaking an Old Role* (The Wallace Foundation, 2016), available at www.wallacefoundation.org/knowledge-center/Documents/The-Power-of-Principal-Supervisors.pdf.

teacher," says Jennifer Gripado, who helped create and manage the Instructional Leadership Director program in Tulsa and is now a principal supervisor herself.

LEARNING FROM OTHER PRINCIPALS

Both the Tulsa and D.C. programs also provide a more formal structure for principals to learn from each

other. Monthly "principal portfolio" meetings in Tulsa, for example, allow all principals in a supervisor's cluster of schools to come together for training and sharing under the guidance of their principal supervisor. "My portfolio group is a real blessing for all of us.

We're a tight group, and we collaborate a lot," says Candace Stine, principal of Robertson Elementary in Tulsa.

A recent principal portfolio session at Robertson, led by principal supervisor Kayla Robinson, began with each principal discussing important successes during the past month. One principal talked about how a previously struggling 1st-grade teacher was "really taking off." Another discussed improvements in the "culture of the building." Robinson then had them break into smaller groups for classroom walk-throughs, instructing the principals to "look closely at what teachers and students are doing and what the level of learning is." After the visits, they regrouped and presented "immediate action steps" teachers could take to improve instruction. They also participated in role-playing exercises to practice effective ways to talk to teachers about weak elements in their instructional approach.

"I work really hard to bring the principals together to problem solve and support each other. They should never feel like they have to figure all of this out by themselves," says Robinson.

REFERENCES

- Corcoran, A., Casserly, M., Price-Baugh, R., Walston, D., Hall, R., & Simon, C. (2013, October). *Rethinking leadership: The changing role of principal supervisors*. Washington, DC: Council of the Great City Schools.
- Council of Chief State School Officers. (2015, December). *Model Principal Supervisor Professional Standards 2015*. Washington, DC: CCSSO.

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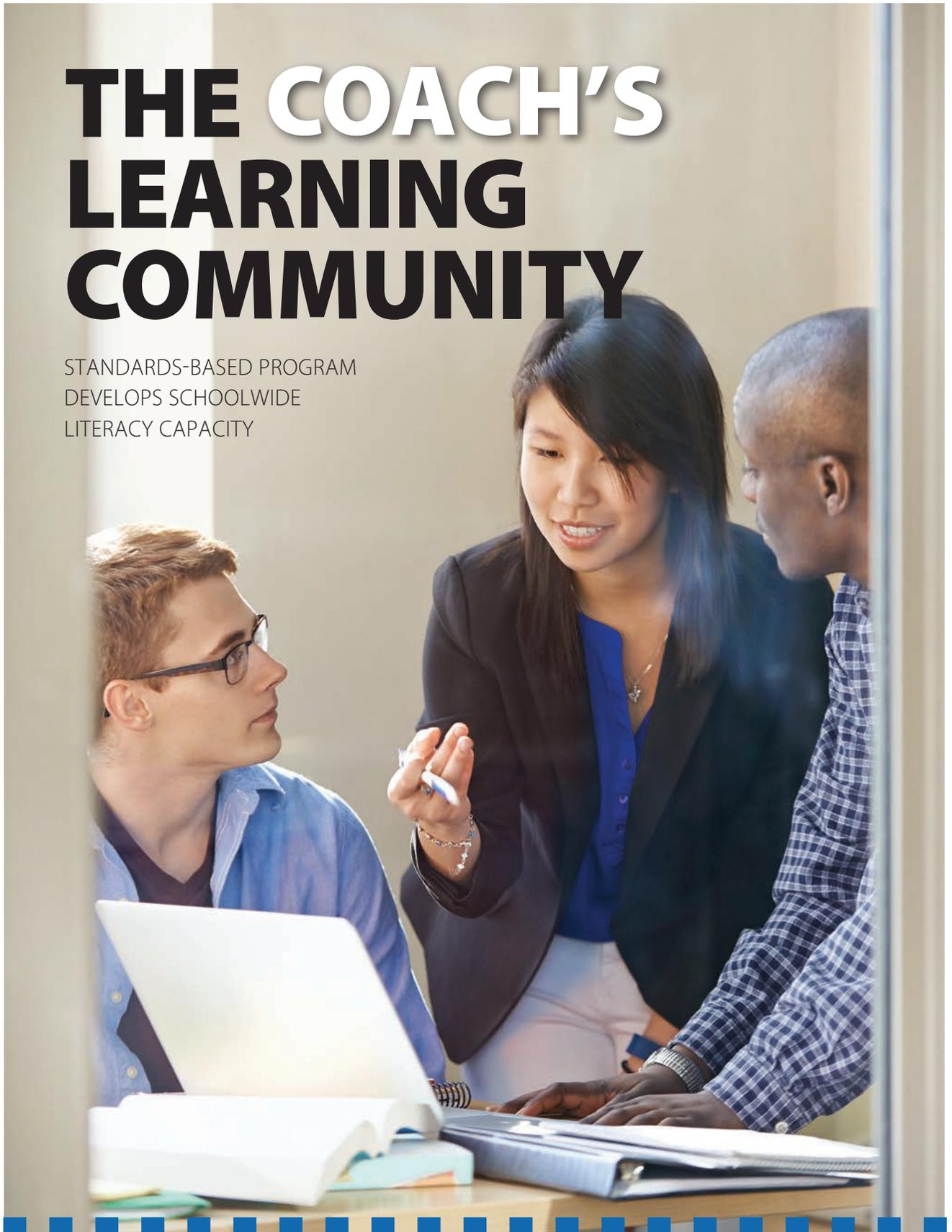


THE PROFESSIONAL LEARNING ASSOCIATION



THE COACH'S LEARNING COMMUNITY

STANDARDS-BASED PROGRAM
DEVELOPS SCHOOLWIDE
LITERACY CAPACITY



BY DIANE REITZ AND GENE E. HALL

The challenges inherent in increasing student literacy outcomes are well-documented, especially in underperforming schools. These

challenges are made greater in schools that have high turnover in staff and in those communities with high populations of English language learners and greater poverty.

Improving student learning in schools with these challenges requires more than simply changing textbooks, replacing staff, or offering more one-shot teacher workshops. There has to be a comprehensive approach that includes strategies to facilitate individual teacher learning, schoolwide implementation of effective literacy strategies, and investment in ongoing internal and external resources and supports.

Through a federal literacy grant, the Striving Readers Comprehensive Literacy Program aims to improve literacy achievement in pre-K-12 classrooms through implementing the use of full-time school-based literacy coaches. These coaches are assigned to the most struggling elementary, middle,

Even the most promising coach will need to develop new knowledge and skills to become an effective schoolwide literacy leader.

and high schools to assist in improving literacy instruction and, ultimately, student achievement. However, simply placing expert teachers in the role of school-based literacy coach is not likely to lead to success. Even the most promising coach will need to develop new knowledge and skills to become an effective schoolwide literacy leader.

We have developed professional learning for literacy coaches that is grounded in Learning Forward's Standards for Professional Learning (Learning Forward, 2011). Teachers selected to be literacy coaches already have a strong background in literacy instruction. They come to this role with well-established records of being highly effective teachers but don't know how to facilitate adult learning and be effective in working with all teachers and school administrators.

The coaches need professional

learning focused on developing their knowledge and skills related to understanding and facilitating change processes, learning models and theories about how organizations work, and developing techniques for coaching teachers. The process for developing these new areas of professional expertise is encompassed within a process of construction of a coaches' professional learning community.

In this professional learning program, each coach is assigned to a single school for one to two years. The professional learning includes all-day work sessions twice a month, book studies, homework exercises, leadership activities to be carried out at their schools, and ongoing, on-site coaching of the coaches with feedback.

DISTRICT AND SCHOOL CONTEXT

The setting for the program is

IDEAS

the Clark County School District in southern Nevada, a large urban district with a student enrollment of over 318,000 and extensive need for ongoing literacy support. Each school selected to receive a literacy coach has a large English language learners population, lower socioeconomic status, and persistently struggles in literacy achievement. These schools are nested within a feeder alignment pattern. In other words, the elementary schools feed to specific middle schools, and they in turn feed into a specific high school.

This strategy provides greater consistency in implementing the Striving Readers program goals: improving Tier I literacy instruction, implementing data-based decision-making teams, providing ongoing professional learning, using technology effectively, and providing intervention to struggling readers.

HOW THE PROGRAM WORKS

Although the coaches are knowledgeable in literacy instruction, they continue to receive ongoing professional learning in current literacy and coaching best practices. However, coaches also need another form of literacy to be highly effective: the literacy of understanding change.

They require new sets of knowledge and skills to become proficient in the coaching process, such as developing a schoolwide view and understanding how schools function as organizations. Coaches need to develop a big picture in understanding the principles of change and how this knowledge can be applied to their coaching of individual teachers and the whole school.

The literacy coaches program is organized around five major strategies:

1. Using Learning Forward's Standards for Professional Learning as the guide in designing, implementing, and evaluating the Striving Readers coaches program.
2. Study of the change process in schools using elements of the Concerns-Based Adoption Model (Hall & Hord, 2015);
3. Study of schools as organizations using the four "frames" of Bolman and Deal (2013);
4. Bimonthly all-day workshops; and
5. On-site coaching of the coaches by project staff.

1. Using Learning Forward's Standards for Professional Learning as the guide in designing, implementing, and evaluating the Striving Readers coaches program.

As we developed the coaches program, Learning Forward's Standards for Professional Learning shaped our vision for adult professional learning and have been seamlessly integrated into every aspect of the Striving Readers program expectations. The seven standards are mutually supportive and provide a standards-driven framework for the coaches' professional learning program.

We believe becoming a highly effective coach takes time (two to three years) and requires regular meetings and on-site supports. Continuous improvement begins with learning new knowledge and skills through collaboration. Coaches need to engage in open sharing, problem solving, planning, and reflective dialogue. With the standards guiding us, we implemented our own professional learning community (a PLC for coaches).

A professional learning community is based in learning about, and applying, tools from change models and research. Our PLC is committed to the idea that adult professional learning is the key. Coaches have opportunities for continuous improvement, collective responsibility for learning, and ongoing feedback. In addition, a close look at formative data guides their discussions and helps coaches implement data-

based decision-making at their schools.

2. Understanding change and facilitating the process.

An important new area of learning is developing understanding of the change process as individual teachers experience it. As noted in the change literature, a school is not changed until the teachers within the school have changed. Therefore, effective literacy coaches need to be able to facilitate change in individuals and also facilitate whole-school change. Learning about change entailed seminars, book studies, and homework assignments. Much of the content centered around selected elements of the Concerns-Based Adoption Model (Hall & Hord, 2015). This strategy supports the Learning Forward standards on Implementation, Data, and Leadership.

3. Understanding schools as organizations.

As important as change is for each teacher, the whole school is the primary unit for change (Hall & Hord, 2015). Another important area of learning for coaches is understanding schools as organizations. In this case, the frameworks and book study were based in the work of Bolman and Deal (2013).

4. Bimonthly work sessions.

Coaches met twice a month. One day focused on literacy professional learning, and the second was devoted to becoming an expert in learning and applying knowledge about change process and schools as organizations. The table on p. 61 provides a summary of topics.

5. On-site coaching of the coaches with feedback.

Following Learning Forward's Learning Designs standard, we applied the research-based model of theory,

PROFESSIONAL LEARNING FOR COACHES: TOPICS AND RESOURCES

YEAR 1: Entry and learning about change	
Topics and Learning Forward standards	Resources
<p><u>INITIAL PROFESSIONAL LEARNING THEMES:</u></p> <ul style="list-style-type: none"> • Developing relationships with teachers and administrators. • Learning how to be an effective coach and student-centered coaching. <p>Learning Forward standard: Learning Communities.</p>	<ul style="list-style-type: none"> • <i>Instructional Coaching: A Partnership Approach to Improving Instruction</i>, Jim Knight, 2007. • <i>Mindset: The New Psychology of Success</i>, Carol Dweck, 2010. • <i>Student-Centered Coaching</i>, Diane Sweeney, 2013.
<p><u>CONSTRUCTING AN UNDERSTANDING OF THE CHANGE PROCESS:</u></p> <ul style="list-style-type: none"> • The context for coaches implementing change. • Change principles, Stages of Concern, Levels of Use, strategies and interventions (one-legged interviews). <p>Learning Forward standards: Leadership, Implementation.</p>	<ul style="list-style-type: none"> • <i>Implementing Change: Patterns, Principles, and Potholes</i>, 4th ed., Hall & Hord, 2015.
<p><u>FORMING DATA-BASED DECISION-MAKING TEAMS.</u></p> <p>Learning Forward standard: Data.</p>	<ul style="list-style-type: none"> • <i>The Data Coach's Guide to Improving Learning for All Students</i>, Nancy Love, Katherine Stiles, Susan Mundry, and Kathryn DiRanna, Corwin Press, West Ed, 2008.
<ul style="list-style-type: none"> • Developing a schoolwide perspective: Viewing schools through four frames. • Systemic change in schools and districts. <p>Learning Forward standards: Leadership, Implementation.</p>	<ul style="list-style-type: none"> • <i>Reframing Organizations: Artistry, Choice, and Leadership</i>, Bolman & Deal, 2013. • <i>Implementing Change: Patterns, Principles, and Potholes</i>, 4th ed., Hall & Hord, 2015.
YEAR 2: Impacting the whole school	
Topics and Learning Forward standards	Resources
<p><u>BECOMING A LEADER AND WORKING WITH LEADERS:</u></p> <ul style="list-style-type: none"> • Change facilitator style, theory X and theory Y, other leadership models. <p>Learning Forward standard: Leadership.</p>	<ul style="list-style-type: none"> • <i>Reframing Organizations: Artistry, Choice, and Leadership</i>, Bolman & Deal, 2013. • <i>Implementing Change: Patterns, Principles, and Potholes</i>, 4th ed., Hall & Hord, 2015. • <i>Leadership: Theory and Practice</i>, 7th ed., Northouse, 2016.
<p><u>LITERACY BEST PRACTICES:</u></p> <ul style="list-style-type: none"> • Vocabulary instruction for second language learners, close reading. • Using data-based decision-making teams. • Incorporating technology into the literacy curriculum. <p>Learning Forward standard: Implementation.</p>	<ul style="list-style-type: none"> • <i>Academic Conversations: Classroom Talk That Fosters Critical Thinking and Content Understanding</i>, Jeff Zwiers and Marie Crawford, 2011. • <i>Text Dependent Questions, Grades K-5 and Grades 6-12. Pathways to Close and Critical Reading</i>, Douglas Fisher and Nancy Fry, 2015.
<p><u>LEADERSHIP, THE BIGGER PICTURE:</u></p> <ul style="list-style-type: none"> • Applying and developing grounded skill in using change process and organization constructs. • The larger view: district, state, and federal context. 	<ul style="list-style-type: none"> • On-site coaching by project staff. • <i>Reframing Organizations: Artistry, Choice, and Leadership</i>, Bolman & Deal, 2013.
<p><u>ALL SESSIONS:</u></p> <ul style="list-style-type: none"> • Debriefing of successes. • Reflections about challenges. • Reporting on experiences with applying constructs in their schools. • Critical discussions (learning from each other). 	<ul style="list-style-type: none"> • Striving Readers staff.
<ul style="list-style-type: none"> • Building sustainability within the school. • Developing an exit plan. <p>Learning Forward standard: Outcomes.</p>	<ul style="list-style-type: none"> • Striving Readers staff.

IDEAS

demonstration, practice, feedback, and coaching (Joyce & Showers, 2002) as we fashioned these adult learning sessions. Before on-site coaching of the coaches, we presented the research and provided definitions and rationale, followed by demonstration, practice, and simulated coaching and feedback.

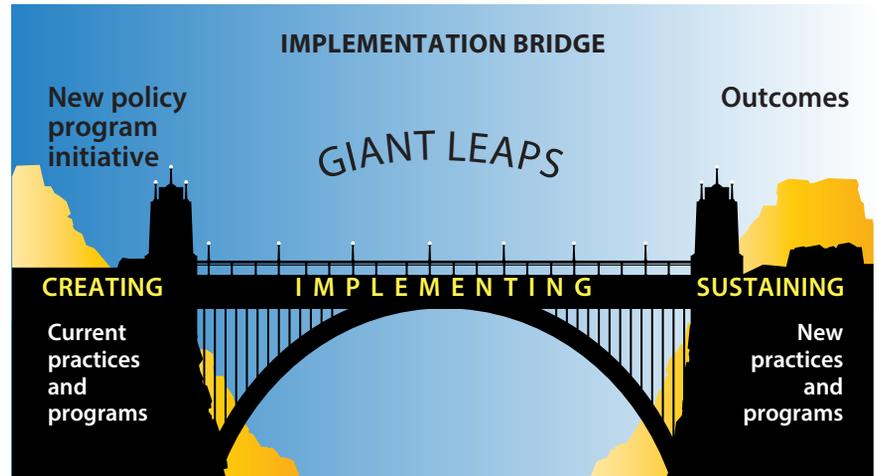
For example, we used the Stages of Concern process, a part of the Concerns-Based Adoption Model, to identify staff concerns. Based on the results, coaches learned to conduct a change intervention called the “one-legged interview” in working with teachers and principals. Project staff provided ongoing on-site follow-up for the coaches. Coaches discussed and shared feedback and application of the new skills during the bimonthly seminars.

TOOLS AND OUTCOMES

As we planned and implemented the professional learning for Striving Readers literacy coaches, we found that selected constructs and metaphors from change science could be applied in several ways. We used the same constructs that we were introducing to the coaches to plan, monitor, and evaluate implementation of the program. Two particularly useful tools were the Implementation Bridge and Stages of Concern.

IMPLEMENTATION BRIDGE

The metaphor of the Implementation Bridge (Hall, 1999; Hall & Hord, 2015) provides a visual way of understanding that change is a process, not an event. See illustration above. *Creating* new programs and practices does not automatically lead to their being used. In most cases, change is not a simple matter of leaping across a chasm. Change takes time and needs support. Just as bridges can be short or long, so can be the *implementing* phase. Only with implementation success will



there be the possibility of long-term *sustaining* of the new way.

This Implementation Bridge metaphor turned out to be useful in several ways with the literacy coaches. They are engaged in moving across a bridge as they learn and grow as coaches. The teachers in their schools are moving across bridges as they learn new literacy approaches, and each school as a whole has to complete the journey across an Implementation Bridge. Also, the professional learning program for the coaches has had its own Implementation Bridge as all coaches, schools, and teachers learn and apply new knowledge and skills.

STAGES OF CONCERN

One of the first change process constructs introduced to the coaches was Stages of Concern (Hall & Hord, 2015). We use this construct to illustrate aspects of the professional learning process for coaches. The Stages of Concern construct and data provided professional learning content for the coaches. The same construct was used for assessment of program progress and in evaluating implementation.

This research-verified construct describes the different feelings and perceptions that people have as they experience change processes. Seven Stages of Concern have been identified

that in combination comprise four major areas of concern:

- **Unconcerned** (*Stage 0*): There is little concern about the change and more concern about other things.
- **Self-concerns** (*Stage 1 Informational, Stage 2 Personal*): There is a need for more information about the change and worry about how making the change will affect someone personally.
- **Task concerns** (*Stage 3 Management*): Attention is on the time and tasks required to implement the change.
- **Impact concerns** (*Stage 4 Consequence, Stage 5 Collaboration, Stage 6 Refocusing*): The focus is on effects and consequences of use of the change on students or teachers.

Here are examples of concerns facing coaches and teachers in the program.

COACHES

Coaches began their first school year as a literacy coach with more intense self-concerns: “I am missing my class of students.” “I wonder if I can succeed as a coach?” As they became engaged in their new role (moving out on their own Implementation

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Bridge), task concerns became more intense: “There is so much to do!” “I can’t do everything that I see needing to be done.” Only as the second year of experience unfolds did they have more impact concerns: “I am seeing my teachers now apply more of the assessment strategies, and I am better at providing them with models that they see being effective.”

TEACHERS

At first, coaches could see that teachers had self-concerns about meeting and working with them: “How do I know that she is not evaluating me?” Coaches learned and practiced how to respond in ways that addressed teacher self-concerns.

Throughout, coaches have regularly assessed teachers’ Stages of Concern and used this information for making Concerns-Based interventions with individuals, teams, and across the whole school.

One outcome is that coaches now regularly think in terms of Stages of Concern and what it means for their actions, as well as for their own development.

IMPLEMENTATION PROGRESS

We also used data from the coaches’ Stages of Concern to adjust the professional development program and evaluate program implementation progress. The group showed changes in concerns from year one to year two, with fewer self-concerns and an increase in task concerns. This pattern suggests that there is positive growth in the first two years, but coaches will need more time and support to progress to having intense impact concerns.

An indicator of the program design’s success design is that Stage 5 Collaboration concerns were intense for both years. This demonstrates that the coaches were forming their own professional learning community.

NEW LITERACY FOR COACHES

Overall, our experience with developing a professional learning program for schoolwide literacy coaches has been instructive. Each of the coaches has learned new knowledge and skills. They have seen positive growth in many teachers and administrators. We have found Learning Forward’s Standards for Professional Learning to be a guiding framework for developing the coaches program.

The program contents about change process, organizations, and leadership are a new literacy for our coaches. Coaches now think in terms of Stages of Concern and what it means for their actions. And we have had plenty of aha moments along the way. For example, it takes time for coaches to learn new skills, and it takes time for teachers to become comfortable in working with the coaches. In a recent coach meeting, one coach said, “My second year as a coach is more solidified and defined. I am having more instructional conversations, and I am seen as an instructional leader at my school.”

Beverly Davison, a Clark County School District English language arts department chair, has seen the impact on teacher practice after working with a Striving Readers coach. “Those teachers were able to internalize the strategies and became better equipped to teach their students,” Davison said. “I noticed that the English language arts teachers were also sharing the engagement strategies with other teachers after they learned them.”

Laura Schwartz, a former Striving Readers literacy coach in Clark County, said she felt validated in her teaching and practice. “The opportunity to coach made an impact on student learning, but also how teachers think about teaching and their practice. Teachers appreciated our professional development in technology, foundational reading, writing, and

standards-based instruction. When the grant finished, I walked away as a coach and as a teacher knowing I made a positive impact on administration, teachers, and students. Having our own time for professional learning with the coaches was critical to the success of our coaching practices.”

REFERENCES

- Bolman, L. & Deal, T. (2013).** *Reframing organizations: Artistry, choice, and leadership*. San Francisco, CA: Jossey-Bass.
- Hall, G.E. (1999, Summer).** Using constructs and techniques from research to facilitate and assess implementation of an innovative mathematics curriculum. *Journal of Classroom Interaction, 34*(1), 1-8.
- Hall, G.E. & Hord, S.M. (2015).** *Implementing change: Patterns, principles, and potholes* (4th ed.). Upper Saddle River, NJ: Pearson.
- Joyce, B. & Showers, B. (2002).** *Student achievement through staff development* (3rd ed.). Alexandria, VA: ASCD.
- Learning Forward. (2011).** *Standards for Professional Learning*. Oxford, OH: Author.
- Northouse, P.G. (2016).** *Leadership: Theory and Practice* (7th ed.). Thousand Oaks, CA: Sage.
-
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Discuss. Collaborate. Facilitate.

TOOLS

**How
to cultivate
teacher
voice**

DID YOU KNOW ...

Learning Forward influenced the creation of an improved definition of professional learning in ESSA?

It's true. Learning Forward long advocated for a definition of professional development in federal policy that aligns with our Standards for Professional Learning. Use the tools in this section to help bring teacher voice to ESSA advocacy.

p. **66**

4

pages of blackline master tools to copy directly from the magazine while conserving school resources.

TOOLS

How to cultivate teacher voice

Years later, the story still makes us queasy. A group of teachers in a southern state (identities concealed to protect the innocent) were fighting for change to education legislation. They demanded a meeting with the state chair of the education committee, who left session to meet with them in the hallway. The teachers voiced their concern and told stories of public school systems that needed an overhaul.

The legislator listened intently. “Okay, I hear you,” he said. “But what exactly do you want me to do?”

The reply: “That’s your job to figure out.”

This scene — which still haunts the education policy veteran who recently told us the story — is one that often plays out across the nation, and it’s frustrating for all sides.

Let’s begin to rectify this by realizing some broad truths. Teachers want to work in systems that recognize

them as professionals with valuable insights. Yet almost any teacher you meet can tell you about the limited opportunity he or she has had providing input on policies, programs, or the implementation of any change that occurs in his or her school, district, state, or country. And, despite the number of teachers who are discouraged by and, in some cases, disenfranchised by current systems, little attention is paid to the importance of teacher agency. Teacher expertise and insights are valuable resources untapped by most districts and states.

That’s why, as we begin the implementation of new federal education laws with the Every

Student Succeeds Act (ESSA), teachers need to seek and create opportunities to use their teacher agency in advocating for relevant and effective professional learning. And as educators prepare to exercise agency around this or any policy issue, creating short documents that provide context and reasons for requests will benefit teachers and the decision makers they seek to inform. Just as important: Teachers should seek the input and support of their colleagues. Policy and decision makers are often swayed by a person’s ability to get consensus among their peers.

Too often, when teachers are given a forum to make their voices heard, they are unprepared to make clear, actionable requests from policymakers. The following tools are designed to help practitioners cultivate teacher voice and agency in policy decisions — to better prepare you for that three-minute conversation you may have with district or state policymakers and stakeholders.

KNOW YOUR 'ASK'

Policymakers are busy and have multiple people lobbying for their attention and action. You must be prepared to give clear, concise requests of specific actions that a legislator, executive, or stakeholder can take. Here are questions you can ask to help you prepare:

1. What is the specific outcome you want from the meeting or contact?
2. Based on your research of the issue, what can the policymaker do to help? What is beyond his or her scope?
3. What is the problem this specific action will solve? (The policymaker doesn’t have time to figure out the solution to the problem. Spell out all the options and the ramifications of each course of action.)
4. Have you researched and debated the opposition points to your stance to prepare key data and anecdotal support to your ask? (Policymakers will usually quiz you on this.)
5. If you don’t have a specific ask, what else can this person do? Example: Cultivate a relationship in hopes of future collaboration and support of an important issue or program.
6. Can the policymaker use you or your group as a resource when they need additional expertise or feedback on education-related issues? If so, make the case why this is in his or her best interests.

CONSIDER THESE QUESTIONS

It is crucial that you do not assume expertise on the issues and policy decisions you are advocating. Do your research — become an expert on all sides of an issue. Become a resource, not a divisive force. Here are some questions to consider when you begin this process.

- How can you keep your efforts to influence policy from becoming a drive-by event?
- How can you build relationships with policymakers?
 - Establish credibility over time.
 - Build rapport.
 - Offer solutions.
 - Show up and follow up.
- How can you incorporate your experience, stories, and firsthand knowledge about students into your interactions with policymakers?
- How might you push back respectfully?
 - Be selective.
 - Find common ground.
 - Ask a question.
- How should you prepare for the meeting?
 - Do your homework:
 - Where do policymakers stand?
 - What are their levers?
 - What will you ask them to do?
- How should you use your time during the meeting?
 - Spend more time on solutions than problems.
 - Ask questions to guide the discussion.
 - It's easier for policymakers to hear messages when people are united.
- Whom should you contact?
- What are some ways to get your message across?
 - Social media (Facebook, Twitter, YouTube, etc.)
 - Websites
 - Webinars
 - In-person forums

Source: Learning Forward & National Commission on Teaching & America's Future. (2016). *Agents for Learning toolkit: A guide to amplifying teacher voice and stakeholder engagement.* Oxford, OH: Author. Available at www.learningforward.org/docs/default-source/getinvolved/essa/teacheragency_essa_toolkit.pdf.

DEVISE AN ACTION PLAN

Careful planning is key to being an effective amplifier of teacher voice. Use this tool to help you devise an action plan regarding your policy advocacy, depending on the scenario and goal you are working toward.

Possible scenarios include (but are not limited to):

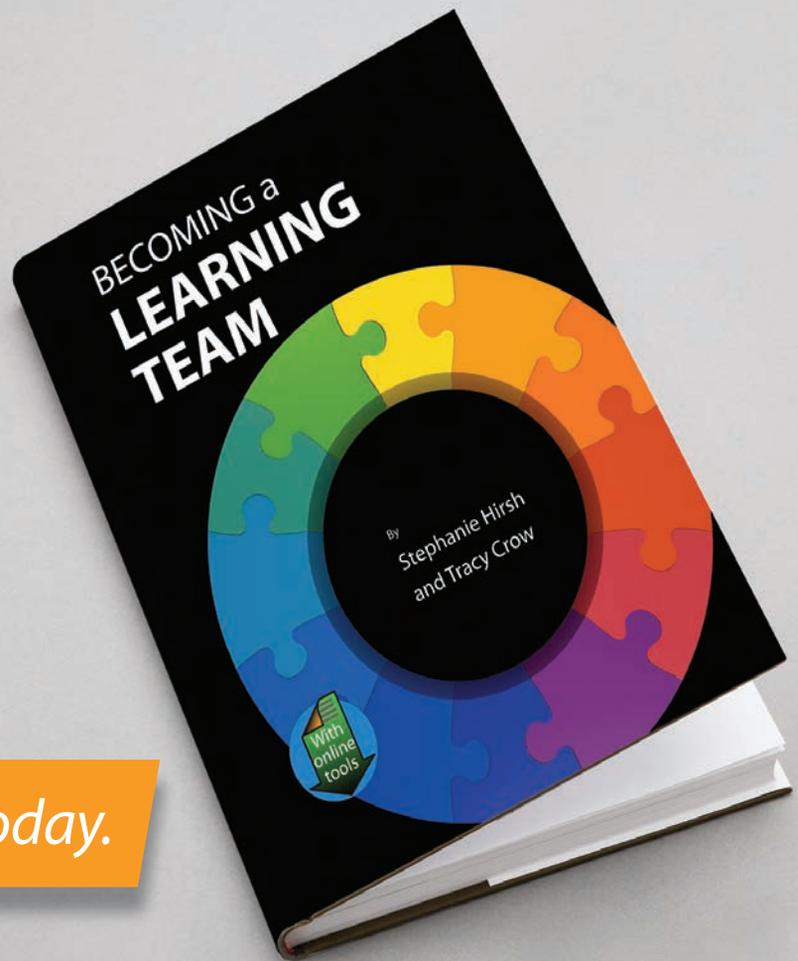
- Providing input on proposed regulations or proposed guidance released by the U.S. Department of Education;
- Speaking at local school board meetings (public comments often limited to three minutes or less) or state chief, commissioner, superintendent, or director’s town hall meetings;
- Participating in a regional or statewide committee;
- Participating or running a competition for school districts to provide input into the state plan;
- Testifying before a legislative committee or state board; or
- Contacting your congressional delegation.

SCENARIO					
GOAL			DESIRED COMPLETION DATE		
ACTION PLAN					
Task	Desired outcome	Responsible person(s)	Due date	Resources required	Notes/ next action

EXTERNAL PARTNER ROLES/CONTRIBUTIONS					
Request	Organization	Responsible party	Date needed	Outcome	Next action

Becoming a Learning Team puts the Standards for Professional Learning and a cycle of continuous improvement at the heart of collaborative learning.

Coming soon! Order today.



BECOMING a **LEARNING TEAM**

by *Stephanie Hirsh
and Tracy Crow*

Becoming a Learning Team guides teacher teams in creating a learning cycle that promotes collective responsibility, embeds professional learning in classrooms, and supports teachers when they need it most. Teams can use the tools and strategies to:

- Understand the value and importance of collaborative learning to improve teaching and learning;
- Launch a learning team in a learning team cycle as a way to be intentional about student results;
- Adapt a learning team cycle to fit their school calendars;
- Learn collectively and individually to select, apply, monitor, and adapt learning designs and strategies to address student needs; and
- Engage external support in sustaining learning teams.

This book builds on the ideas explored in companion publications *Becoming a Learning System* and *Becoming a Learning School*. Each chapter includes additional tools and vignettes of actual school-based learning teams to help teachers facilitate or lead learning team cycles as part of their daily routines.

B602, 160 pgs., **\$36.00** member, **\$45.00** nonmembers



Preorder today! Call 800-727-7288 or go online to www.learningforward.org/bookstore

PREPARE YOUR LASER TALK

A well-prepared two-minute laser talk or elevator speech is the tool to use during a chance or a planned encounter with a policymaker. Such short talks are intended to enable the speaker to deliver a compelling message in the time it would take to ride in an elevator from the bottom floor of a building to the top floor. A well-structured laser talk addresses a need, solution, and request.

Learning how to speak powerfully about our issues is one of the most important tools in an advocate’s tool kit. This format was created by Results, an organization devoted to eliminating world hunger, to enable its volunteers to create short and compelling talks that are the backbone of their work.

EPIC

- **Engage**
- **Problem**
- **Inform**
- **Call**

Laser talks can be used during chance encounters with policymakers at any level, during phone calls with legislators, and in meetings with newspaper editorial boards.

EPIC is an acronym to help remember the basics of creating a laser talk. The letters in EPIC stand for **engage**, state the **problem**, **inform** about the solution and give the **call** to action. Use this to structure your talk.

EPIC TASK	EXPLANATION	EXAMPLE
Engage your audience.	Get your listener’s attention with a dramatic fact or short statement. Keep this opening statement to one sentence if possible.	“I know you share my concern about improving the quality of teaching for all students.”
State the problem.	Present causes of the problem you introduced in the first section. How widespread or serious is the problem?	“Too few students experience great teaching every day, too few educators experience professional learning that has a powerful impact on teaching and student performance, and too few schools prioritize high levels of learning every day for both adults and students.”
Inform about solutions.	Inform the listener about a solution to the problem you just presented.	“We can change that if Congress passes Senate Bill 1979, which includes a change in the definition of professional learning in the law. This improved definition would ensure that teachers have time to work and learn with colleagues every day, that their learning is aligned with standards, and that their learning is built on a continuous cycle of improvement.”
Call to action.	Once you’ve engaged your listener, presented the problem and a solution, be specific about what you want the listener to do. This enables you to follow up to learn if he or she has taken this action. Present this action in the form of a yes-or-no question.	“Will you support Senate Bill 1979, which refines the definition of professional learning in the new law? Would you become a co-sponsor for that legislation?”

TELL US

Readers tell us that Learning Forward’s tools are copied hundreds of times — for years — and are used in schools and district offices every day. To encourage more copying, we are providing BLACKLINE MASTERS to help educators to make clear copies while conserving school resources. We avoided heavy black fonts to keep copies from smearing with some machines. Please let us know what else we can do to make the tools more useful.

Email eric.celeste@learningforward.org

Connect. Belong. Support.

UPDATES

THE EVOLUTION OF THE LEARNING PROFESSIONAL

1969

National Staff Development Council (NSDC) is founded.

1980

The first issue of semiannual *The Journal of Staff Development* is published.

1988

The Journal of Staff Development becomes a quarterly publication.

2003

The Journal of Staff Development changes its name to *JSD*.

2010

JSD becomes a bimonthly publication.

2010

NSDC changes its name to Learning Forward.

2017

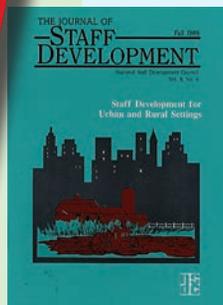
JSD changes its name to *The Learning Professional*.



1980, first issue



1988, summer



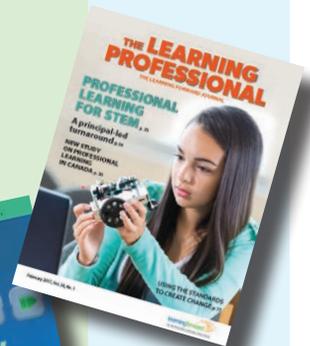
1988, fall



2003, spring



2010, February



2017, February

TWO NEW BOARD MEMBERS ELECTED

Valeria Brown of Winter Springs, Florida, and Sharon Contreras of Greensboro, North Carolina, have been elected to the Learning Forward Board of Trustees. Their terms began at the conclusion of the 2016 Annual Conference in Vancouver, British Columbia.

Scott Laurence is the new president of the board. John Eyolfson is immediate past president, and Alan Ingram is president-elect. All are returning board members, as are Steve Cardwell and E. Leigh Wall.



Laurence



Ingram

VALERIA BROWN is coordinator of Leadership Pathways for Seminole County Public Schools in Florida, where she supports the implementation of a comprehensive approach to building internal leadership capacity for teachers and administrators. Brown has been with the district since 2008 and has served as language arts and gifted education teacher at Jackson Heights Middle School, where she earned the title of 2013 Seminole County Teacher of the Year. She served as professional learning facilitator from 2013 to 2015, where she designed and facilitated over 200 district



Brown

and school-based professional learning experiences. Brown is also the founder and chair of the Seminole County Schools Diversity Council, where she leads a steering committee of 14 administrators and teacher leaders in recruiting and retaining teachers of color in Seminole County. Brown is a member of the 2017 Learning Forward Host Committee. She says that her vision is “one where educators on all levels seek Learning Forward as the standard-bearer for high-quality professional learning. I also believe that Learning Forward should be one of the first voices sought out when addressing the complex problems of adult learning.”

SHARON CONTRERAS is superintendent of schools for Guilford County Schools in Greensboro, North Carolina. She began her career as a high school English teacher before serving as principal, area superintendent, and assistant superintendent in Rockford, Illinois. She has also served as chief academic officer for the Clayton County Public Schools in Georgia and in the Providence Public Schools in Rhode Island. In 2011, Contreras became the first woman of color in New York to serve as superintendent in one of the state’s largest districts when she took over the



Contreras

Syracuse City School District. She was recently invited to participate in a White House convening on school discipline and briefed members of the U.S. Congress on implementing fair disciplinary practices in schools.

“As a longtime member of Learning Forward, I believe passionately in the power of professional learning to improve educational and life outcomes for all children,” she says. “As a veteran educator, principal, and district leader who has benefited greatly from the organization, my vision is that Learning Forward will become the nation’s recognized thought leader on creating more equitable and socially just classrooms, schools, and districts. As part of this vision, I believe in expanding Learning Forward’s sphere of influence beyond K-12 education to elected officials, think tanks, corporate leaders, and reporters who currently have an outsized influence on educational policy and practice.”

Learning Forward and NCTAF announce merger

Learning Forward and the National Commission on Teaching & America's Future (NCTAF) announced last month that they are joining forces to address the critical need to rethink and improve professional learning systems to support teaching and learning for all educators and students. The nonprofits will operate under the Learning Forward banner.

In recent years, the two organizations have collaborated to release reports, sponsor challenges,

conduct webinars, and co-host conferences and forums. This transition leverages the organizations' complementary strengths and shared vision for moving the work forward.

"Learning Forward and NCTAF have long been strong partners. We have an aligned mission and goals, and today's announcement marks a natural progression in our work together to combine staff, resources, and experience to advance our shared agenda," said Melinda George, former president of

NCTAF and now director of policy, advocacy, and partnerships at Learning Forward. "We are ready to advocate for systems that put great teaching and learning at the center of an exciting, forward-thinking education agenda."



Melinda George

Photo by KRISTIN BUEHRIG



Photo by KRISTIN BUEHRIG

DEADLINE APPROACHING FOR LEARNING FORWARD ACADEMY

The deadline to apply for a spot in the Learning Forward Academy Class of 2019 is March 15. (The Class of 2018 is pictured.)

Led by experts in the field, Learning Forward Academy is an extended and profound learning experience for individuals and teams that immerses members in a model of inquiry- and problem-based learning. Academy members work collaboratively to gain knowledge to solve significant student learning problems in their schools, districts, or organizations.

Tuition for the Learning Forward Academy is \$3,850 for the 2½-year program, which includes 12 learning days, telephone and web-based discussions, access to experienced coaches, registration for two Annual Conferences, a formal graduation upon completion, and a three-year membership in Learning Forward.

For more information or to apply, visit www.learningforward.org/learning-opportunities/academy/application.

FOCUS

PROFESSIONAL LEARNING FOR STEM

A bold experiment:

Teachers team with scientists to learn Next Generation Science Standards.

By Sharon L. Gilman and Martha C. Fout

Teachers at 18 middle and high schools in a southeastern state were in the final year of a three-year professional learning program when they teamed with six graduate fellows participating in GK-12, a National Science Foundation-funded program that supports fellowships and training for graduate students in science, technology, engineering, and mathematics. The program's goal is to improve the graduate fellows' communication and teaching skills through interactions with teachers and students in K-12 schools while enriching STEM content and instruction for their K-12 partners.

Diving beneath the surface:

Underwater robotics lessons bring STEM to life for teachers in Guam.

By Anne Tweed and Laura Arndt

In Guam and across Micronesia, students haven't had many opportunities to pursue STEM careers. Underwater robotics seemed like a perfect way to build students' content knowledge in STEM to learn skills that can be applied in the real world. Encouraged by the potential of a marine technology program, Guam's Department of Education set into motion what would become a two-year project to plan, develop, and implement culturally responsive professional learning that would bring STEM to life for teachers across Guam and, ultimately, for their students.

Problem solvers:

MathLab's design brings professional learning into the classroom.

By Sara Morales and Terri Sainz

Using a learning design created by New Mexico State University's Mathematically Connected Communities (MC²), student lab classrooms are videostreamed live to observation rooms, where teacher participants discuss, reflect, and collaborate on how students learn mathematics, effective pedagogical practices, and math content for teaching. Teacher participants interact with and interview students to experience firsthand their challenges and successes. In addition, school and district leaders can support and learn alongside teachers.

IDEAS

Moving from 'students can't' to 'how students can':

A learning design anchored in the Standards for Professional Learning puts the focus on equity.

By Janice Bradley, Andrea Rorrer, Ashley McKinney, and Cori Groth

The Utah Education Policy Center collaborated with local schools and districts to design standards-based professional learning to increase equity and access for all students. Through facilitated learning experiences, which often include nationally recognized leaders and researchers, school and district practitioners take part in a broader community conversation that explores challenges and frustrations as well as successes and opportunities for growth.

How much support is enough?

3 tools help us know when to step in and when to back off.

By Leslie Patterson and Carol Wickstrom

Responsive professional development is about watching learners closely, interpreting observations to make nuanced decisions, and taking action to support learners at particular moments. To support individuals while contributing to collective learning, we have to adapt to the complexity within each individual learner and the complexity of the whole school. Three flexible tools help resolve questions about how much and what kind of support is most appropriate.

Training the trainers:

Learning to be a principal supervisor.

By Amy Saltzman

While most principal supervisors are former principals themselves, few come to the role with specific training in how to do the job effectively. For this reason, both the Washington, D.C., and Tulsa, Oklahoma, principal supervisor programs include a strong professional development component. *This article is sponsored by The Wallace Foundation.*

The coach's learning community:

Standards-based program develops schoolwide literacy capacity.

By Diane Reitz and Gene E. Hall

The Striving Readers Comprehensive Literacy Program aims to improve literacy achievement in pre-K-12 classrooms through implementing the use of full-time school-based literacy coaches. To develop their knowledge and skills, coaches in Nevada's Clark County School District participate in a professional learning community grounded in Learning Forward's Standards for Professional Learning.



VOICES

MEMBER SPOTLIGHT

Syeda Woods, principal at Fenwick Academy in New Jersey.

ASK

How do I coach peers who have more experience than I do?

By Michelle King

Follow key steps to build credibility and create supportive relationships.

CALL TO ACTION

A glimpse into Canada's practices helps us examine our own.

By Stephanie Hirsh

Learning Forward's study on the state of professional learning in Canada offers insights for members in the U.S. and worldwide.

BEING FORWARD

Recognize the hard work of professionals.

By Scott Laurence

Professional athletes and quality educators share traits in common: hard work, dedication to continuous improvement, collaboration, and accountability.

RESEARCH

RESEARCH REVIEW

Missouri program highlights how standards make a difference.

By Joellen Killion

Intensive professional learning for teachers and principals who support and monitor professional learning positively impacts teacher classroom practice and student achievement in mathematics in rural Missouri middle schools.

Professional learning in Canada:

Learning Forward releases a landmark study and call to action.

Learning Forward's study identifies key components of effective professional learning based on findings from educators' experiences in Canada. A call to action by Michael Fullan and Andy Hargreaves makes the case for a culture of collaborative professionalism for educators.

WRITE FOR THE LEARNING PROFESSIONAL

- Themes are posted at www.learningforward.org/learningprofessional.
- Please send manuscripts and questions to Christy Colclasure (christy.colclasure@learningforward.org).
- Notes to assist authors in preparing a manuscript are at www.learningforward.org/learningprofessional.

SHARE YOUR STORY

Learning Forward is eager to read manuscripts from educators at every level in every position. If your work includes a focus on effective professional learning, we want to hear your story.

The Learning Professional

publishes a range of types of articles, including:

- First-person accounts of change efforts;
- Practitioner-focused articles about school- and district-level initiatives;
- Program descriptions and results from schools, districts, or external partners;
- How-tos from practitioners and thought leaders; and
- Protocols and tools with guidance on use and application.

To learn more about key topics and what reviewers look for in article submissions, visit www.learningforward.org/learningprofessional.

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 Learning Sciences International inside front cover
 Regent University 11

AT A GLANCE

Learning designs go beyond workshops

Even as more educators are experiencing job-embedded collaborative learning, the first thing many learners picture when they hear “PD Day” is a workshop.

Educator learning can encompass so much more! Explore the range of options below as you shape learning for specific outcomes.

	Engage in a cycle of inquiry with a team.		Participate in a Twitter chat.	Examine student data.	
	Conduct action research.	Do a classroom or school walk-through.		Plan lessons with colleagues.	
Shadow a student, teacher, or another professional.			Learn with the support of a coach.		Give presentations at conferences.
	Participate in lesson study.		Write an article about your work.		
	Video your own teaching.		Attend or lead webinars.		
	Advocate for your profession.				

Visit learningforward.org for information on all of these options and many more. The book *Powerful Designs for Professional Learning* will be a great start.

THROUGH THE LENS

OF LEARNING FORWARD'S STANDARDS FOR PROFESSIONAL LEARNING

LEARNING FORWARD'S STANDARDS FOR PROFESSIONAL LEARNING

Professional learning that increases educator effectiveness and results for all students ...

Learning Communities

... occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment.

Leadership

... requires skillful leaders who develop capacity, advocate, and create support systems for professional learning.

Resources

... requires prioritizing, monitoring, and coordinating resources for educator learning.

Data

... uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning.

Learning Designs

... integrates theories, research, and models of human learning to achieve its intended outcomes.

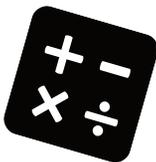
Implementation

... applies research on change and sustains support for implementation of professional learning for long-term change.

Outcomes

... aligns its outcomes with educator performance and student curriculum standards.

Many of the articles in this issue of *The Learning Professional* demonstrate Learning Forward's Standards for Professional Learning in action. Use this tool to deepen your own understanding of what standards implementation might look like and to explore implementation in various contexts. This issue, we highlight three examples.

STANDARD	IN ACTION	TO CONSIDER
LEADERSHIP	In our Member Spotlight, we learned that Principal Syeda Woods demanded a new culture of learning when she took over her New Jersey pre-K to 2nd grade school. To achieve this, she relied on research and better learning practices to improve student outcomes (p. 8).	 <ol style="list-style-type: none">1. In what ways did Woods create support systems for her changes?2. How did she advocate for professional learning?3. How did she develop capacity to continue improving on what they've done?
LEARNING DESIGNS	In "Moving from 'students can't' to 'how students can,'" the Utah Education Policy Center collaborated with local schools and districts to design standards-based professional learning to increase equity and access for all students (p. 42).	 <ol style="list-style-type: none">1. How did this design embody a continuous improvement cycle at the individual and organizational level?2. How did they make sure there was goal alignment within the system?
OUTCOMES	In "Problem solvers," an innovative "MathLab" concept changed a traditional one-shot professional development to ongoing professional learning situated in K-12 mathematics classrooms (p. 36).	 <ol style="list-style-type: none">1. How did the program's goals align with the Outcomes standard?2. How were these outcomes aligned with student curriculum?3. How did the outcomes align with educator performance?
FIND YOUR OWN!	There are many other examples of the standards in action throughout <i>The Learning Professional</i> . Find a story that you think exemplifies this and create your own questions.	 <p>Bonus question:</p> <p>Can you find other standards within your story that are relevant? Many data stories, for example, also deal with implementation.</p>

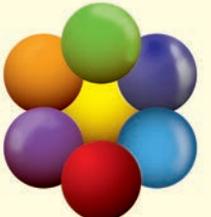
Learn more about Learning Forward's Standards for Professional Learning at www.learningforward.org/standards-for-professional-learning.

The Instructional Leader's Library

Instructional leaders need to have their finger on the pulse of all facets of the teaching, learning, and leading occurring in their districts and schools. This comprehensive collection provides a common language and concept system that makes rigorous state learning standards and teacher performance standards come alive! **This set of seven books is priced at only \$150, more than 30% off the regular price of \$234.65. This is a world-class bargain!** Each administrator and coach needs this set. Why not join the over 700,000 educators who have one or more of these books in their professional libraries? No coupon code needed. It is yours for the ASKing!

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- *Creating a Culture for Learning: Your Guide to PLCs and More*
- *Instruction for All Students*
- *Meeting the Needs of Diverse Learners*
- *Why Didn't I Learn This in College?*
- *The 21st Century Mentor's Handbook*
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