THE LEARNING PROFESSIONAL

THE LEARNING FORWARD JOURNAL

Where technology can take us

April 2024, Vol. 45, No. 2

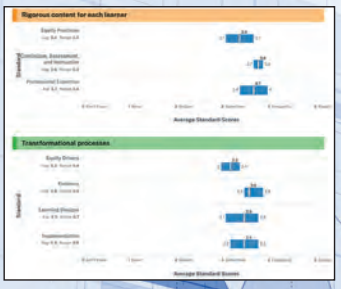
[NEW]

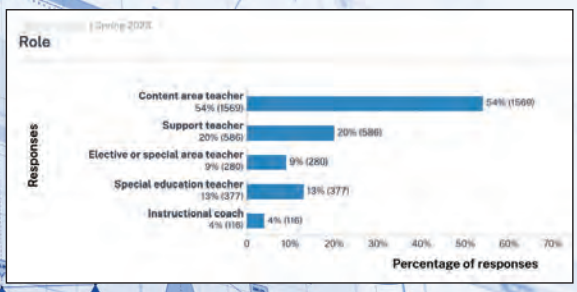
Standards Assessment Inventory

Learning Forward's Standards Assessment Inventory (SAI) is a valid and reliable survey administered to instructional staff that measures alignment of school and system practices to the Standards for Professional Learning.

The SAI provides crucial data on professional learning in your schools to help you identify needs, maximize resources, and focus on areas of greatest priority to improve teaching and students' success.

Survey responses from your instructional staff reveal the state of high-quality learning in your school, district, or system.





THE STANDARDS ASSESSMENT INVENTORY:

- Provides data on teachers' perceptions of the professional learning they experience in their schools.
- Reveals the degree of success or challenges systems face with professional learning practices and implementation in the system as a whole and in individual schools.
- Provides data on the quality of professional learning as defined by the Standards for Professional Learning, a system's alignment of professional learning to the standards, and the relationship of the standards to improvements in educator effectiveness and student achievement.
- Elicits extensive collegial conversations among teachers and administrators about the qualities of professional learning that produce results for students.
- Connects the Standards for Professional Learning (vision) with educator Action Guides, Innovation Configuration maps, and other planning and implementation tools.
- Helps schools focus on particular actions that contribute to higher-quality professional learning as guided by the questions on the inventory.

SAI PRICING:

One school	$500
Systems with fewer than 15 participating schools	$750 plus $70 per school
Systems with more than 15 participating schools	$1,000 plus $70 per school
State/provinces with 30% of all schools participating	$60 per school
States/provinces with less than 30% of all schools participating	$1,000 plus $70 per school
Regional service centers	$1,000 plus $70 per school

Projects that do not fit into the categories above will be priced on an individual basis. Price includes two administrations of the survey in one school year, detailed district and school reports available on the SAI website, additional resources and support materials, and a 45-minute data analysis consultation with Learning Forward.

For more information on the SAI, contact **Tom Manning**, senior vice president, professional services, Learning Forward, at **tom.manning@learningforward.org**.

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STANDARDS ASSESSMENT INVENTORY

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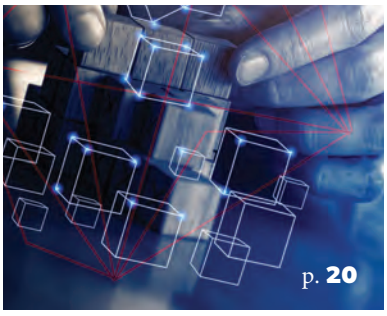
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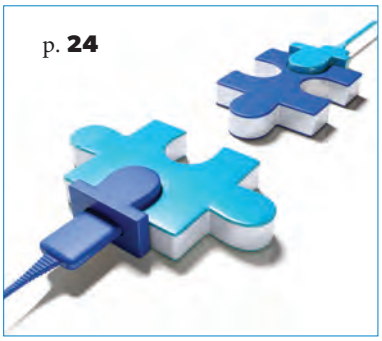

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ONLINE EXCLUSIVES learningforward.org/the-learning-professional

- **Developers partner with teachers to improve technology tools.**
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- **Video inquiry connects teachers across Alaska.**
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- **With peer observation, teacher support is right down the hall.**
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I SAY

April K. Vauss

Superintendent, Irvington Public Schools, New Jersey

"As administrators, we can't be afraid to get out on a ledge (with new technology). All that does is limit our scholars to what we already know and understand. We ask our students to be vulnerable and take risks every day. We can model that behavior by taking risks and learning to use new (technology) tools ourselves and relying on the partners and team members we have to hold our hands in the dark."

— Source: Vauss, A. (2024, March 7). How to direct a districtwide tech transformation on a budget. eSchool News. www.eschoolnews.com/it-leadership/2024/03/07/direct-a-district-tech-transformation-budget/

Your system does exactly what it is *designed* to do

Don't blame the system. It's doing the best it was designed to do. Over time, system policies, structures, and practices that worked in the past can slowly become outdated or disconnected from current needs and goals. As educational needs and best practices change over time, so must your system.

Don't keep fighting a system that isn't designed to get the results you need now. It won't get better. The sooner you inventory and adjust the parts of the system that no longer serve your needs, the sooner all your efforts will result in impact.

Learning Forward can support system improvement by partnering with you for strategic planning, comprehensive professional learning plan design, program evaluation, or implementation of Standards for Professional Learning. Take a strong step forward today to ensure systemwide intentionality that produces results.

Contact us to see how we can help.

For more information, contact Sharron Helmke, senior vice president, professional services, sharron.helmke@learningforward.org.

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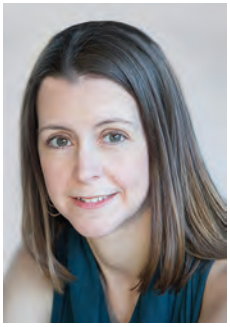
Scan the code to contact us for more information.



HERE WE GO

Suzanne Bouffard

PROFESSIONAL LEARNING CAN UNLOCK TECHNOLOGY'S POTENTIAL

With recent leaps in technology, it can seem like new technology tools will either solve all of education's problems or intensify them. But those kinds of extreme outcomes rarely come to pass, especially in ecosystems as complex as schools. The reality is far more nuanced, and that leaves educators with myriad questions, concerns, and emotions.

This issue of *The Learning Professional* digs into the interconnected and often contradictory benefits and challenges of technology integration in professional learning. The authors offer both a hopeful perspective and a practical one, highlighting the potential of the latest technology to improve educators' and students' learning while also acknowledging struggles and explaining how they are overcoming them.

At the heart of this issue is the recognition that meaningful professional learning about technology goes far beyond a workshop on how to log in to and manage the latest software.

At the heart of this issue is the recognition that meaningful professional learning about technology goes far beyond a workshop on how to log in to and manage the latest software. That kind of training can be a helpful starting point but, by itself, will not lead to better instruction and higher student achievement.

As the recently released National Educational Technology Plan explains, the digital divide among more and less advantaged schools and students is not just about internet connectivity and device availability. It is also about inequities in educators' capacity to use technology in active, critical thinking tasks that lead to better student outcomes, rather than passive assignment completion that may simplify logistics but doesn't benefit students. As Zac Chase, one of the plan's authors, explains in this issue (p. 24), those inequities are tied to inequitable access to professional learning time, resources, and support.

Learning professionals must address that inequity. As Liz Kolb and colleagues show (p. 40), many educators, including early career teachers, are underprepared to use today's technology, and as the At a Glance infographic illustrates (p. 81), educators have a wide range of questions and topics they want to learn more about.

Fortunately, many educators and organizations are rising to the challenge and facilitating learning about technology integration. For example, authors in this issue show how technology coaching can help teachers overcome their resistance and get the knowledge and skills they need and students deserve (p. 28, p. 44). Sustained, in-depth learning about technology integration that goes beyond large-scale workshops is making a difference for teaching and learning, as in a recent effort in Denver Public Schools in Colorado (p. 32).

One of the biggest technology topics on educators' minds is artificial intelligence. As generative AI evolves rapidly, its implications for professional learning, and for education in general, are just beginning to emerge. We turned to Justin Reich, of the Teaching Systems Lab at MIT, for insights and advice on whether, when, and how to incorporate AI into professional learning. In his Q&A (p. 36), his first recommendation is to start by understanding how the technology works. That is also an overarching theme of this issue: developing understanding — and building support for others to develop understanding — is the first step to ensuring technology is not just a gizmo or a gimmick and is more than a nice-to-have.

We hope this issue deepens your understanding, inspires your practice, and informs your leadership. Just as technology has an increasing presence in schools, it will continue to be an important topic of professional learning and this publication. As you navigate the rapidly evolving technology landscape, share with us your questions, concerns, hopes, and successes, and we'll all keep learning together. As Reich reminds us, "The best professional learning happens when educators come together … (and) that doesn't come from plugging a prompt into any technology tool." ■

Suzanne Bouffard (suzanne.bouffard@learningforward.org) is editor-in-chief of *The Learning Professional*.

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INSPIRE. EXPRESS. ADVOCATE.

VOICES

CHANGE FOR THE BETTER

Not all changes are improvements. But most changes present opportunities to do things better if we prioritize learning and growth. Our columnists share examples of how, in the realms of technology (p. 8), curriculum (p. 10), equity (p. 12), and more.

CALL TO ACTION

Frederick Brown

ADVANCES IN TECHNOLOGY HELP US DO MORE FOR STUDENTS

Our students' needs can't be compromised because of our reluctance to learn.

Recently I was speaking to my doctor about a minor surgical procedure I needed. During our conversation, she explained how new robotics technology would make my surgery much less painful and decrease the recovery period substantially. She admitted that when she first learned about the new technology, she was reluctant to use it because she had become so skilled in doing the surgery the "old way." She said, "My patients didn't complain too much, but if I'm being honest, they didn't actually know what they were missing."

As I reflected on that conversation, I found myself feeling thankful for two things. I am grateful that new technology is available to make my surgical experience smoother, and I am equally thankful that my doctor took the time to learn how it could improve her practice and meet her patients' needs. I imagine she engaged in her own learning, perhaps alongside her colleagues. She likely observed others using the new technology and then practiced it, perhaps with some type of coaching support. From what she told me, she has now developed enough comfort with the new technology that it has become standard practice for her.

In education, as in medicine, there have been many technologies that have improved lives, and many professionals have been skeptical of them at first. When I was a high school and college student, some people perceived scientific calculators as a threat. One of the biggest concerns was that students would stop learning how to do the math. When I was in college, word processors became mainstream, and there was concern that students would lose the ability to write. Later, when I was a teacher and then a principal, web browsers became common, causing some people to worry that students would lose the ability to do research and think critically.

Now, the perceived threat is artificial intelligence, and many educators and parents worry that students will use ChatGPT to write papers and do their homework. As we navigate this new reality, we should keep in mind that technological advances have occurred throughout our careers and lifetime, leading to many benefits. There are challenges, of course, but there were challenges with the old ways we did things, too.

How do we, as educators, proceed? One option is to stick to our old ways of doing things because they are comfortable for us, even when we know our stakeholders might benefit from new approaches. The other option is to be like my doctor and cautiously but openly assess how to integrate new technologies into our practice in an effort to more effectively support those we serve. We always have the choice to learn — and it's a good choice.

LOOK TO THE STANDARDS

The Standards for Professional Learning offer guidance on how to think about many aspects of learning to improve our practice, including adaptation to new technologies. Among the many

Frederick Brown (frederick.brown@learningforward.org) is president and CEO of Learning Forward.

relevant standards, the Professional Expertise standard reminds us of the importance of discipline-specific expertise — that is, the knowledge, skills, and practices essential for educators to succeed in their roles. This includes not only the *what* of content knowledge in a domain-specific area (such as math), but also the pedagogical knowledge that drives *how* we teach. Technology is often part of that equation, and more so every year, as new tools — most recently AI — work their way into education.

The Curriculum, Assessment, and Instruction standard is highly relevant as well. Increasingly, curriculum materials are digital, assessments are computerized, and instruction incorporates technology tools. The standard articulates how job-embedded professional learning should incorporate the same tools that teachers will be using with students.

When I consider the importance of getting more comfortable and effective with integrating new technology into instructional practice, I also look to the Implementation standard. The rationale for the standard states, "Educators understand that meaningful change is a complex, multifaceted process that requires sustained effort over time, and they learn how to support and encourage ongoing individual and collective change" (Learning Forward, 2022, p. 50). It's helpful to remember that new technology, especially complex and transformative technologies like AI, take time to learn and implement. This underscores the importance of sustained, job-embedded professional learning. Single-session workshops are not an effective way to learn to integrate new technology.

STRENGTHEN YOUR EXPERTISE

As you read this issue of *The Learning Professional*, I encourage you not only to use the Standards for Professional Learning as your guide on this journey, but to take inspiration, as I do, from my doctor. Assess your learning needs around new technologies so you can strengthen your expertise to support students' needs. I urge you not to let nerves or entrenched habits delay your learning and use of the new technologies.

I would have been frustrated to learn, after my surgery, that my doctor was one of the last holdouts to use new technology, choosing instead to use a procedure that was not only outdated but also created a more negative experience for patients. Let's make sure our students don't wind up in that situation and find out years down the road — in college or the workforce — that their educators could have done more to prepare them for successful futures. Our students' needs can't be compromised because of our reluctance to learn.

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The selection and careful use of practical measures as part of a larger system of measures is critical for making improvement processes effective.

Nick Morgan (nick.morgan@learningforward.org) is a senior consultant for Learning Forward. Michelle Bowman (michelle.bowman@learningforward.org) is senior vice president, networks & continuous improvement at Learning Forward.

NETWORKS AT WORK

Nick Morgan and Michelle Bowman

PRACTICAL MEASURES TELL US IF CHANGE IS MAKING A DIFFERENCE

Change is hard. Whether baking bread or implementing a new high-quality curriculum, our first attempts at trying something new often don't turn out the way we envisioned. This is why continuous improvement initiatives have become popular — they help us learn to get better at getting better.

Learning Forward's work on continuous improvement has encompassed many subject areas and grade levels over the past decade. Our network initiatives use structured processes built on systems of measurement that track the evolution of change toward a desired end state. The selection and careful use of practical measures as part of a larger system of measures is critical for making improvement processes effective. The right measures help us learn whether changes are actually improvements and provide timely feedback on the trajectory of longer-term success or failure.

WHAT IS A PRACTICAL MEASURE, AND WHAT MAKES IT PRACTICAL?

The Evidence standard of the Standards for Professional Learning reminds us that we need a combination of relevant data and evidence to understand learning, improvement, and potential impacts of our work (Learning Forward, 2022). When we think of measurement and metrics, our minds often go to tools used for accountability and research. However, these tools have drawbacks, including high costs, time lags in returning data, and challenges generalizing findings to other settings.

Measuring for improvement with practical measures has a different focus: to help us better understand learning and whether change is an improvement. Practical measures help us learn from inquiry cycles, which in turn determine teams' next steps and future inquiry cycles. Measures are practical in that they are intended to be used with, by, and for the practitioners who are seeking improvement and to learn whether the changes that are introduced are, in fact, leading to improvement. By design, the measures are minimally burdensome so practitioners can collect data in a regular and timely manner by embedding them into existing workflows. Collective analysis and sensemaking occur in low-stakes environments (Brannegan & Takahashi, 2023; Carnegie Foundation for Improvement, 2024). Well-designed continuous improvement efforts and the practical measures they use include the voices of those delivering the services (teachers) and those participating in the services (students).

Examples of using practical measures can include:

- A simple formative assessment to examine whether a behavioral change or intended learning outcome has occurred at either the teacher or student level, such as the amount of time a teacher spends on a certain activity or the aggregate student results of a lesson cool-down.
- A measure that examines a process outcome that is believed to contribute to a desired learning outcome, such as the frequency of a certain kind of activity. An example might be a tally by student of the number of times a mathematics language routine is used during a set time period.
- Granular, quick, daily indications of progress using student exit tickets. Exit tickets can be flexible, including learning measures such as a written check for understanding, and gathering student opinions on a limited number of Likert-type scale items.

These measures are nonevaluative and pursued with school leaders' explicit understanding that learning cycles entail an acceptable amount of risk implicit in trying new things. The change being tested may not work as intended, but learning from failure is valuable, and practical

measures are important tools in that process.

Learning Forward's Curriculum-Based Professional Learning Network showcases practical measures in the field. The network is a collaboration among seven schools in three districts — Metro Nashville Public Schools in Tennessee, Montgomery County Public Schools in Maryland, and the School District of Philadelphia in Pennsylvania — supported by Learning Forward with funding from the Carnegie Corporation of New York. The overall aim of the network is to improve the use of high-quality mathematics curricula in middle schools, with a clear focus on equity. The practical measures in use capture aspects of teaching and learning in 6th- to 8th-grade math and algebra.

For example, two schools in Metro Nashville are testing the use of student annotation strategies in lesson warm-ups to grow mathematical language routines. This focus is based on the observation that students may be strong in computation but not in their ability to read, write, and reason with the principal symbol systems of mathematics. The practical measures track the frequency and quality of student annotation and will look for correlation to student formative assessment results.

The practical measure for frequency is a simple tally gathered by the classroom teacher based on visual observation of student work during the lesson warm-up. The quality dimension requires a simple rubric to move the conversation beyond "Is it happening?" to "How *well* is it happening?" Teachers or coaches can assess this data by aggregating the tally and looking at trends over time in a run chart. Is the trend going up? Which students are not participating, and why? Teachers can then determine adaptations on a lesson-by-lesson basis and seek signs of correlation with unit tests or formative assessments.

In schools in Montgomery County and Philadelphia, teachers are tracking the time spent on warm-up activities versus cool-down activities, as they address this question: How do you adjust pacing and content to maximize learning outcomes for a given lesson, especially if there is too much content for a short block? In these schools, educators are protecting cool-down time, when teachers give a formative assessment at the end of a lesson to determine if students understood the main concepts of that lesson. Practical measures include hand-held timers used by the teachers to check time used on a given activity. Based on the results, teachers are adjusting their instruction to ensure that the highest-value portions of a lesson are not missed. As teachers make changes and adjust their instruction, teams modify and change the measures to address the next challenges that unfold.

WHAT DOES USE OF PRACTICAL MEASURES LOOK LIKE?

Practical measures should reflect practice and be easy to gather and interpret. Teachers participating in the Curriculum-Based Professional Learning Network have found that collecting data with these measures is easier and less of a time burden than they expected; in fact, they find it can result in *less work* due to the overall gains from the improvement. Gains can be realized in many ways; in our networks, they include positive shifts in student engagement and performance on cool-downs, increased teacher use of lesson components, more efficient team meetings, reduction of reteaching, and greater opportunity for student differentiation.

Teams should analyze the data from practical measures collaboratively and make decisions together about how to move forward. Shared learning and decision-making, which reflect the Culture of Collaborative Inquiry and Implementation standards of the Standards for Professional Learning, are critical parts of the improvement process and typically take place in a professional learning community or similar teacher-based team structure, sometimes with the support and facilitation of an instructional coach.

External facilitators can also provide support. In the Curriculum-Based Professional Learning Network and others, Learning Forward supports the school and district teams with selecting and gathering practical measures and helps facilitate meetings where team members make decisions about scaling, adaptation, or abandonment. We also help network members learn from each other and spread the learning to educators facing similar challenges in other districts.

Learning to improve is more successful when it is a collaborative effort. The professional relationships and insights that are sparked can far outlast individual inquiry cycles and the life of a formal network.

RESOURCES ON PRACTICAL MEASURES

A repository of practical measures for 6th- to 9th-grade mathematics is available at **mpm.wested.org**. It was built through WestEd's Math Practical Measurement project as part of the Networks for School Improvement initiative, funded by the Bill & Melinda Gates Foundation.

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DISTRICT MEMBER SPOTLIGHT

Janet Crews, School District of Clayton County, Clayton, Missouri

MISSOURI DISTRICT WEAVES EQUITY STANDARDS INTO PROFESSIONAL LEARNING

I love how all three (frames of the Standards for Professional Learning) have an equity component because it's an equitable lens in every aspect of the work.

Visit our website for an extended version of this article.

"Drive" is one word Janet Crews uses to characterize the educators and students in the School District of Clayton in Missouri, where she works as an instructional coach and the coordinator of professional development. After 25 years in the district, Crews is very familiar with its values and culture. An enduring core value is a commitment to high-quality educator professional learning, which Crews fortifies with a Learning Forward district membership.

Crews' district is situated just west of the city of St. Louis, Missouri, serving about 2,500 students. It draws excellent teachers because of its high-performing reputation and the value placed on professional learning. Crews spoke with us about the district's professional learning initiatives and the resources she considers to be vital to her work.

What are some of your district's big-picture professional learning goals?

This year, all school professional learning goals are connected to each other and the district strategic plan: empowered learning, social-emotional learning, and equitable learning. We also have additional literacy and math goals. The professional learning is interdisciplinary, and we're all on the same page in a lot of ways, which is awesome.

How does your district use data to pursue your goals?

Our state asks us to do a needs assessment biannually, so we used the SAI (Standards Assessment Inventory) from Learning Forward. We were excited the SAI was included in the district membership, which was one of the reasons why we became district members. Our high school goes through an accreditation process, and we use SAI data to point to specific things that were celebrations since the last time (it was administered). I'll share the data and report results with the board to show big-picture places we've grown. We are eager to see the new SAI data, especially because there are so many new equity pieces built in. That's another data point that aligns with the equity work we've been doing.

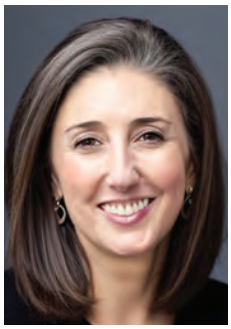
What are some of your equity work areas of focus?

Our most recent classroom walk-throughs focused on equity and have three areas: environment and classroom culture, what the teacher is doing to provide an inclusive experience, and how students are engaging with the teacher and one another. We have descriptors under each of those areas of what to look for because we've been doing professional learning related to all of those. (We want teachers to ask), What am I doing to know my kids so their identities are reflected in the text, the materials, and the examples I'm using? I love how all three (frames of the Standards for Professional Learning) have an equity component because it's an equitable lens in every aspect of the work.

How do you conduct classroom walk-throughs to gather data?

What we call blast walk-throughs happen everywhere on one day. They are a great tool, kind of like learning walks. We go into the classroom a month or two (after the professional

Continued on p. 17



Ayesha Farag

PRINCIPALS BENEFIT FROM PEER INSIGHT AND EXPERTISE

Principal supervisors can play an important role in promoting supportive peer networks that foster meaningful ongoing learning for school leaders.

Ayesha Farag (faraga@newton.k12.ma.us) is assistant superintendent for elementary education in Newton Public Schools in Massachusetts, a Learning Forward Foundation board ambassador, and a graduate of the Learning Forward Academy Class of 2021.

When I was a school principal, some of my most meaningful professional learning came through dialogue with other principals. I found the opportunity to share challenges, explore new ideas, grapple with problems of practice, and reflect on my leadership with trusted colleagues immensely helpful.

These valuable experiences motivated my doctoral research into the characteristics of peer dialogue that make it an effective form of professional learning for principals. I found that principals value relationships with other school leaders that are characterized by high levels of trust, reciprocity, and commitment to learning and growth. These relationships are a resource for developing principals' skills and knowledge to lead effectively and bolster their confidence and feelings of competence.

These lessons have proved valuable in my current role as a principal supervisor, in which I develop and facilitate systems and support that help principals continuously learn and grow. Because my goals include helping principals navigate the myriad challenges of their roles, breaking down feelings of isolation, and supporting their professional fulfillment, it is a priority for me to foster and sustain strong collegial relationships that promote ongoing peer dialogue among principals.

BENEFITS OF PRINCIPAL PEER DIALOGUE

In my research (Farag-Davis, 2013), I found that peer dialogue provides principals with two main types of support, which I refer to as *instructive* and *affective*. *Instructive support* involves sharing knowledge, resources, and information that help principals address specific leadership challenges. *Affective support* focuses on principals' internal states and reactions, often taking the form of conversations centered on processing emotional reactions and experiences that enhance or recharge their confidence, motivation, and commitment to lead in the face of challenges.

These two types of support are mutually reinforcing. When principals receive instructive support from peers, they often end up feeling more confident and competent, and when they receive affective support, they often feel more able to reinvest in creative and productive problem-solving and navigate other demands of the role.

This support from peers helps principals expand their practice in three ways, which I refer to as *leadership inventory*, *leadership judgment*, and *leadership integrity*, which are represented in the table on p. 15.

IMPLICATIONS FOR PRINCIPAL SUPERVISORS

It can be difficult for principals to find regular opportunities for peer dialogue, given their busy schedules and physical distance from one another. Even when they do find such opportunities, their networks may not be broad or deep enough to challenge their thinking

AREAS OF PRINCIPAL PRACTICE

Leadership inventory	***What I know as a leader***	Principals' repertoire of ideas, strategies, information, and resources they use to address matters of leadership practice.
Leadership judgment	***How I operate as a leader***	Effective leadership requires school leaders to make astute and savvy decisions. Dialogue with peers helps principals consider multiple and varied perspectives and develop their professional reasoning and responses.
Leadership integrity	***Who I am as a leader***	Principals' systems of beliefs, values, and attitudes that shape their leadership and their confidence, will, and passion to lead with congruence to their inner convictions.

and consider new approaches to their work. Principal supervisors can play an important role in promoting supportive peer networks that foster meaningful ongoing learning for school leaders.

The following is a list of strategies principal supervisors may consider to encourage peer dialogue, offering opportunities for school leaders to share and consider new ideas and perspectives that promote critical reflection and strengthen their professional practice.

Consultancy protocol: A process and structure for principals to focus deeply and collaboratively on a specific dilemma or problem of practice, reflect, and explore possible courses of action.

Instructional walks: A structured way for principals to observe teaching and learning in each other's schools. By observing and reflecting with a supervisor or peers, principals can calibrate their instructional expectations and adjust their practice accordingly.

Principal peer observations: Organized opportunities for principals to observe each other in action — for example, leading a staff meeting or intervention team meeting. Principals can then provide feedback to one another and explore leadership strategies and approaches they could apply to their own practice.

Scenario-based discussions: Case studies or vignettes that engage groups or pairs of principals to examine and analyze complex situations, explore varied perspectives, and identify and evaluate possible courses of action. Together, principals can then consider what aspects of the scenario or action steps identified could be applied to their own schools.

Co-planned faculty meetings or staff professional learning sessions: Strategy for principals to collaborate with one another to plan faculty meetings or professional learning sessions so they can learn from and apply each other's expertise and past learning, and ask and address questions or challenges.

By taking an active role in providing structure, time, and support for principals to learn and engage with one another in purposeful ways, principal supervisors cultivate a culture of collaboration, connection, and professional growth that supports principal learning.

TAPPING INTO AN UNDERUSED RESOURCE

The phrase "professional learning" often brings to mind workshops, conferences, seminars, and classes. Although these events can be valuable sources of learning, research and experience have shown me that peer dialogue can be a meaningful and job-embedded resource for professional learning for principals. The insights and expertise of our colleagues are an often-untapped resource, one that can help us fulfill our collective responsibility to provide all children with high-quality, responsive, and joyful learning experiences. Principal supervisors can play a pivotal role in facilitating and nurturing these opportunities as a way to enrich principals' ongoing growth and capacity to address the challenges of school leadership.

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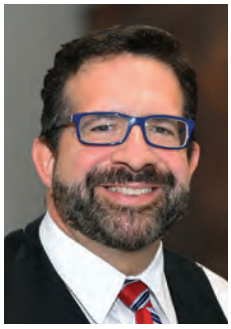

An effective early win is the bridge between the shared vision and achievement of that vision and often is a first step toward longer-term progress.

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Jody Spiro and Daniel Reyes-Guerra

TEAMS MAINTAIN MOMENTUM WITH EARLY WINS

The last Leadership Teams column, "Strong teams start with collective vision and early wins," described how it is helpful for teams to see early progress toward achievement of the members' vision. Early wins should be tangible, observable, evidence-based, and accomplished in just a few weeks. This helps create and maintain momentum. They should be a part of the set of milestones that are identified at the beginning of every change process and are an important component that creates and maintains momentum or accelerates progression.

We now dive deeper into early wins, with examples from teams in Gwinnett County, Georgia, and Broward County, Florida. As these examples show, an effective early win is the bridge between the shared vision and achievement of that vision and often is a first step toward longer-term progress.

PEER-TO-PEER LEARNING TO IMPROVE CURRICULUM

The *Leading Change Handbook* (Spiro, 2018) shared an example of a leadership team at a middle school in Gwinnett County that achieved an early win by helping teachers see how more collaboration could help them — and, more importantly, students — improve. Looking for new ways to fulfill their vision of improving student achievement, the principal and leadership team established a curriculum team of 16 teachers and four assistant principals to identify opportunities for change. Their initial analysis showed that teachers were not getting ongoing, constructive feedback to improve their practice, and the team identified this as a major obstacle in achieving the ambitious vision.

Early in the year, the curriculum team developed a process and a common protocol for faculty to visit each other's classrooms to observe teaching in action. Teachers then shared their observations and feedback with each other. This activity generated cross-curriculum discussion as teachers contributed and learned from their colleagues. Seeing the benefits of this collaboration, the teachers began to develop a new, collective understanding of effective instruction. They then became enthusiastic about ways to make instruction more rigorous, which could help on the path to achieving the larger vision of improving student achievement.

It is now several years later, and the work they did together is deeply ingrained in the school culture and is a driver of professional learning for teachers and improved instruction for students. The early win of learning from each other's classrooms helped set them on the path.

DEFINING ROLES TO IMPROVE EFFECTIVENESS

In November 2023, seven Florida school districts participated in a leadership team institute organized by Learning Forward and Florida Atlantic University. Over two days, teams met to strategize, assess their work so far, and plan next steps. As part of that, teams identified and planned early wins and potential barriers.

One Broward County team was focused on achieving instruction that was rigorous, relevant, and aligned with academic standards. But they recognized an area for improvement: There was no clear assignment or understanding of team members' roles, and this was keeping them from building on everyone's strengths and opportunities in ways that would provide greater instructional leadership.

The team's action steps included: Define individual strengths, exact roles, and responsibilities for each administrator; develop a set of actions to address instruction that emphasized relevancy to students and aligned with the state's curriculum standards; and convene a leadership team retreat to review changes to the teacher teams' lesson planning.

The last action item was the early win that would allow the team to address its instructional goal and give cause for celebration. The review served as an opportunity to learn from each other. This was a significant early win because it happened within weeks of the plan's initiation and marked a milestone in the change process. Importantly, implementing the new lesson planning to start off the new year reinforced the change process, reaffirmed the team's effectiveness, and set a tone for continued progress toward its goal. It should be noted that this early win could only happen if the first two action steps had been considered and completed.

A NEW STRUCTURE FOR TEAM COMMUNICATIONS

Another Broward County team participating in the institute focused on communication. The team had set a goal to engage the school community by building a sense of ownership because the team believed that this would lead to teacher and student motivation and achievement.

To reach this goal, the team determined a need to improve its communication by setting a schedule for meetings. Without a schedule, members were not always available, making it difficult to make decisions and take collective action. The team also increased accountability by including a time for members to share what they were doing to communicate with students, teachers, parents, and community members.

The team planned to assess, at the end of three months, the level of meeting attendance and school climate survey data. Improvements in one or both areas would constitute an early win, which could serve as a key step to improving the culture in ways that would enable the team to address school climate.

REFLECTION QUESTIONS

As you and your teams develop and implement steps to achieve your own early wins, consider the following questions:

- What is our shared vision for our team's effectiveness?
- What problem of practice do we need to address to achieve that vision and meet our school or district goals?
- What early win can help us demonstrate progress toward this vision within the next one to three months?
- How will our success or progress be measured and in what timeline?
- How will we use data from the early win to plan improvements to our team process?
- How will we communicate our findings to the larger school community?
- How will we capitalize on the momentum achieved by the early win to drive our team process forward?

An early win is not an end in itself but is an important step to make the vision tangible and to build buy-in and momentum. Once the early win has been achieved and celebrated, the team should analyze that experience for the lessons learned and include them in the longer-term strategy that takes them beyond the first phase of their work.

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DISTRICT MEMBER SPOTLIGHT / Janet Crews

Continued from p. 12

learning) to see if it's actually getting into practice. We say, OK, if we're looking at empowered learning, then what practices will we see? How do we collect that data? We collaboratively develop the tool and share it so teachers know what we're looking for.

Our professional learning is embedded in so many places it can be challenging to parse out. How do you look for disparate pieces but also the bigger philosophy? Each time we do it, the data informs us. What are we going to do the next time? It's a cyclical process. We look for celebrations, what we're wondering, and potential next steps. We communicate that to staff — all anonymously, as patterns and themes — to say here's what we saw. We're excited to be able to have this common experience. ■

CHANGEMAKERS:
WAYNE WALTERS

NOMINATED BY MELISSA PEARLMAN

Wayne Walters is superintendent of Pittsburgh Public Schools in Pennsylvania. In her nomination, colleague Melissa Pearlman notes Walters' efforts to elevate professional learning, focus on continuous improvement, and create a culture of inclusiveness and equity.

Superintendent Wayne Walters is celebrated by his colleague Melissa Pearlman for his "leadership, emphasis on ongoing and job-embedded learning, promotion of collaborative learning communities, and integration of data-driven practices, ultimately resulting in improved learning outcomes for students." Walters' dedication to Pittsburgh students and their families is reflected in the many roles he has held over 30 years in the district, including serving as the assistant superintendent of professional development. Pearlman, the district's assistant superintendent of school performance, cited Walters' commitment to support "significant initiatives to shape a forward-thinking landscape." Here are highlights from her nomination.

ON ELEVATING PROFESSIONAL LEARNING AND ALIGNING INITIATIVES:

"Dr. Walters led the effort to transform the district's professional learning programs by aligning the professional development programs with the (district's) broader educational goals. This work was designed to ensure that teachers' learning experiences directly contributed to student achievement, a fundamental principle of Learning Forward's Standards for Professional Learning.

"He worked to establish routines and practices that elevate the importance of professional learning throughout the district so that teachers, administrators, and other staff can access tailored learning experiences suited to their specific needs and responsibilities. He has instituted teacher feedback mechanisms so that teachers are empowered to participate in the design of professional learning programs tailored to their needs and the needs of their students."

ON PRIORITIZING CONTINUOUS IMPROVEMENT:

"Dr. Walters has led the district's efforts to assure a districtwide commitment to continuous improvement. He has instilled a culture of ongoing growth and learning among educators and school leaders, emphasizing the importance of staying updated with the latest teaching methodologies, educational trends, and technological advancements. His efforts are foundational to the district's efforts to create a thriving learning community where all constituents, students, teachers, families, and community are working together to respond to the evolving needs of our learners.

"By using data to inform decision-making, he supports teachers to make evidence-based adjustments to their instructional methods and assess the impact of their teaching strategies on student learning outcomes. This continuous improvement elevates improved teaching practices and student achievement.

"He also recognizes the value of collaborative learning, a crucial element of Learning Forward's standards. Through his efforts, teachers have opportunities to engage in meaningful discussions, share best practices, and collaborate on innovative projects. By fostering a sense of community and shared purpose, he creates a supportive environment where school leaders learn from one another, exchange ideas, and collectively enhance their teaching methods. This enriches educators' professional growth and enhances the overall quality of education in the district."

ON CREATING A CULTURE OF INCLUSIVENESS AND EQUITY:

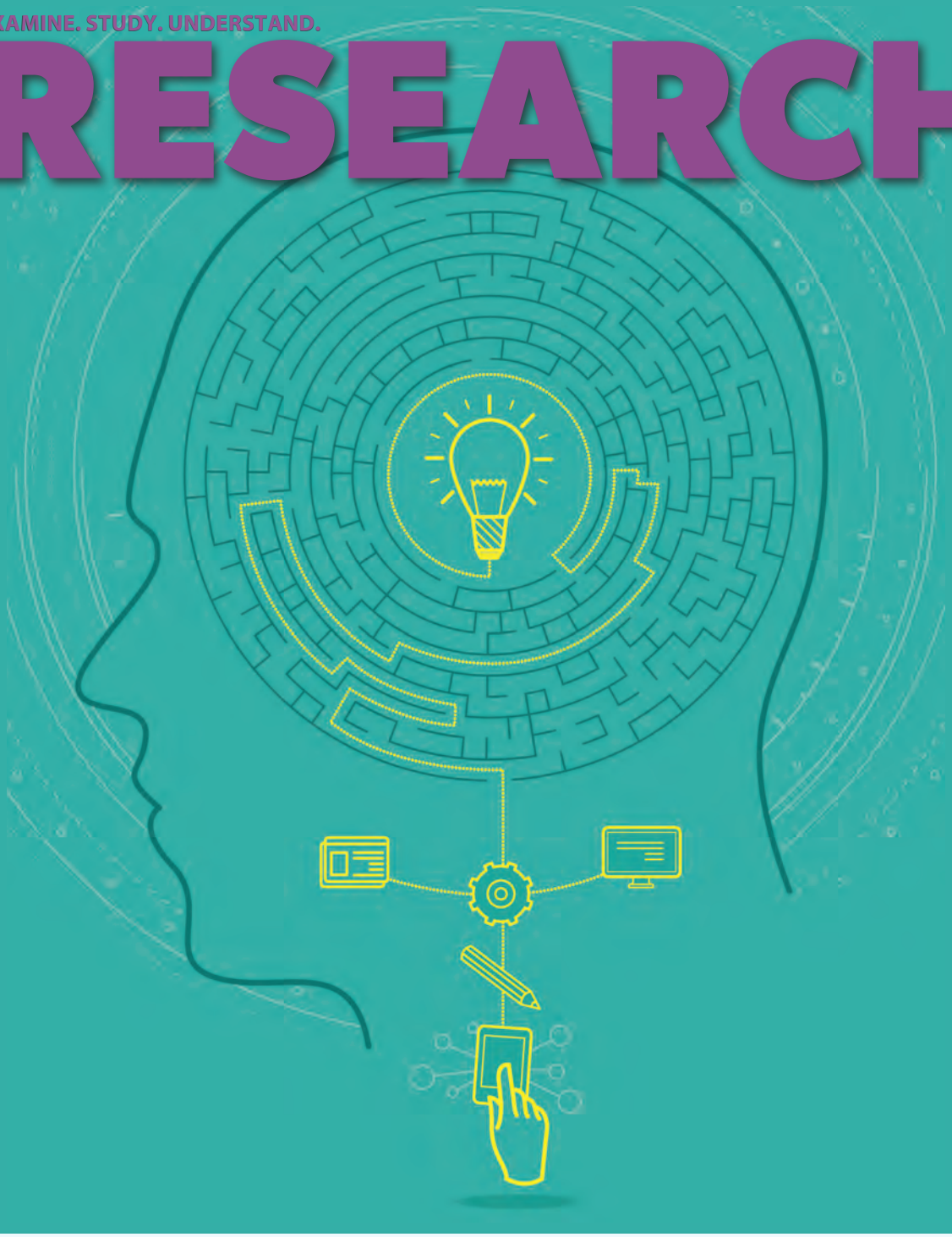
"Creating safe and welcoming schools has been a singular focus under Dr. Walters' leadership. His commitment to racial equity is well-documented at every phase of his career. That commitment is grounded not only in his belief that racial justice is a moral imperative but an essential strategy to ensure the success of the district, the community, and the nation. His many academic and culture-change initiatives emphasize the importance of creating a positive and inclusive environment for all students and staff. By fostering open dialogue and providing safe spaces for difficult conversations, he cultivates an environment where diverse perspectives are not only respected but also integral to the growth and development of the district.

"In addition to many other equity initiatives, he prioritizes professional learning on cultural competency and inclusive teaching practices, empowering educators to understand and meet the diverse needs of their students. This extends to school leaders and central office staff, fostering a shared understanding and commitment to promoting a culture of diversity, equity, and inclusion at all levels."

To nominate a changemaker, visit ***learningforward.org/changemakers.*** ■

EXAMINE. STUDY. UNDERSTAND.

RESEARCH



PROFESSIONAL LEARNING FOR AI

With the rapid development of generative artificial intelligence, research is essential to determine the possibilities and challenges of using it in education. A recent study provides encouraging evidence that professional learning can help teachers understand it and teach it (p. 20).

RESEARCH REVIEW

Elizabeth Foster

STUDY EXAMINES HOW TO INTEGRATE AI IN STEM CURRICULUM

This study pays special attention to how an AI curriculum for students can be integrated into existing STEM curriculum to address teacher and student access inequities.

For teachers to make the best use of technology, they need professional learning not only about applicable tools, but also about their potential uses and limitations as well as the integration of those tools into instruction and planning. A recent study by the Education Development Center provides a glimpse into ways well-designed and thoughtfully implemented professional learning can support educators' knowledge, skills, and effective use of artificial intelligence. This study pays special attention to how an AI curriculum for students can be integrated into an existing STEM curriculum to address teacher and student access inequities.

The researchers frame this study in response to teachers' and students' experiences in encountering barriers to the understanding and effective use of AI-enhanced learning. Because AI is an emerging field, classes that teach students how AI works are often supplemental to public K-12 education, and therefore cost money, which means many students cannot participate. Furthermore, AI has been predominantly taught in higher education mathematical and computational courses, meaning few teachers have deep knowledge of AI methods that they can use to teach students.

▶ THE STUDY

Lee, I. & Perret, B. (2022). Preparing high school teachers to integrate AI methods into STEM classrooms. *Proceedings of the AAAI Conference on Artificial Intelligence, 36*(11), 12783-12791.

▶ METHODOLOGY

This study documents integration of the curriculum AI Methods in Data Science into existing STEM high school classrooms in Massachusetts in an effort to shed light on how AI methods can be applied in STEM fields. The Education Development Center designed the curriculum and provided professional learning along with other partners. The curriculum is made up of five units: Data Analytics, Logic Systems, Machine Learning, Supervised Learning, and Transfer Learning. In each unit, five lessons progress through playful experiential learning, connecting to real-world issues and careers, an articulation of key concepts, hands-on interactive activities, and collaborative activities focused on generating and using AI models.

Nineteen middle and high school STEM teachers representing a variety of STEM disciplines participated in one-week pilot summer professional learning sessions about the curriculum — 10 in the first cohort and nine in the second. The professional learning took place over five days, lasting five hours each day. The sessions were designed to put teachers in the students' place so that teachers could experience and reflect on learning experiences and curriculum the way students do — developing their knowledge and experience with AI, experimenting with models, engaging in hands-on activities, accessing new knowledge individually, and sharing with peers. They also

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engaged in discussions of ethical issues related to AI, reflected on their learning and pedagogical strategies modeled in professional learning, discussed how the units could integrate into their STEM curricula, and developed formative assessments of student learning.

Part of the approach for implementing and integrating the curriculum was to change the way teachers and students think about AI. For instance, the purpose of allowing learners to inspect and modify code was to help learners understand that AI develops and adapts — it is not simply coding. Based on what the designers learned from experiences with related curricula, the curriculum also addresses issues of potential bias in AI. As a way of addressing the fact that students often can't articulate why they chose a particular AI method in their work, a goal of the curriculum was to support learners in their ability to discern and explain when to use different models and techniques.

▶ FINDINGS

To measure program impacts, researchers gathered data in several ways: Participating teachers turned in exit tickets after each learning day, completed an assessment before and after the professional learning to measure their AI content knowledge, and took a survey before and after that examined their attitudes, interest, and excitement regarding AI.

Daily exit ticket data showed more than 90% of teachers strongly agreed that the professional learning's goals were clear, the pacing was appropriate, and the sessions were worthwhile. Teachers felt their voices were heard and their questions were answered.

In addition, participants gained knowledge and skills, as demonstrated on pre- and post-assessments of AI content knowledge. To assess the ability of teachers to discern which AI methods or techniques to use and when, the pre- and post-assessment included six scenario-based questions. Each of these provided a data set and a question to be answered, requiring the respondent to pick the AI method that would be most appropriate for answering the question.

Small studies like this one contribute to the evidence base about effective professional learning because they can articulate the teacher-level experiences and outcomes in detail.

Teachers' baseline interest and excitement about the topic were high and rose moderately over the sessions. Although moderate, the greatest gain reflected teachers' interest in talking with other educators about what they learned, their perceptions of the relevance of AI, and response to the survey item, "I am excited to teach kids about Data Science and Machine Learning." After completing professional learning, the researchers noted, "teachers were less nervous and less worried about the impact of AI at exit than at baseline, but they were also less certain that AI would make the world a better place."

Finally, teachers expressed a desire for more examples of how to integrate the units into existing curriculum and support for using collaborative tools.

▶ IMPLICATIONS

Small studies like this one contribute to the evidence base about effective professional learning because they can articulate the teacher-level experiences and outcomes in detail. In particular, they can home in on learning designs.

The Standards for Professional Learning (Learning Forward, 2022) state that learning designs should have an evidence base and be aligned to the initiative's theory of action. In addition, the **Learning Designs** standard describes the importance of adapting "as learners' contexts or needs evolve" (Learning Forward, 2022), an element built into the professional learning program in this study. In addition to collecting data about teachers' experiences and ability to discern AI approaches, the researchers asked for specific feedback about the content and activities of each day and their relevance and usefulness. The authors describe this feedback as suggested improvements for the next time the session is held.

It is important to highlight the **Evidence** standard here as well. That standard states, "Professional learning results in equitable and excellent outcomes for all students when educators create expectations and build capacity for use of evidence, leverage evidence, data, and research from multiple sources to plan educator learning, and measure and report the impact of professional learning" (Learning Forward, 2022). This study contributes to the evidence base about AI-related professional learning, using research and prior professional learning experiences to design and implement educator learning, and collects and shares data about the results.

Based on teachers' input, the authors have identified potential improvements and adjustments to the professional learning course design. For one, participants said it would be helpful to have more examples of the AI units of study integrated into science classes. Educators also requested a broader framing of the material to situate the concepts in real-world contexts and applications.

Overall, the AI integration approach was well-received by the STEM teachers, who largely felt comfortable going forward to teach the units to high school students themselves. The study authors plan to respond to the feedback, build requested supporting activities, and follow up with participating teachers to see which lessons they implemented and to what effect.

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Learning Forward. (2022). *Standards for Professional Learning*. Author. ■

DATA POINTS

0.14 STANDARD DEVIATION IMPROVEMENT IN LITERACY

Research from the Annenberg Institute at Brown University provides insight into California's initiative to improve literacy instruction in its lowest-performing schools. The Early Literacy Support Block Grant program promotes pedagogy aligned to the science of reading. High-quality professional learning for teachers was largely provided by asynchronous, aligned courses on effective instructional practices, included regular sessions for literacy coaches, and offered real-time assistance. In two years, the program increased 3rd-grade English language arts achievement by 0.14 standard deviation. As a result of the work, small improvements in math achievement were also noted by the researchers.
bit.ly/3UY64Mq

90K HIGH SCHOOLERS WEIGH IN ON MATH EDUCATION

The YouthTruth Math Learning and Identity Project surveyed 90,000 youths on how to improve math education in the U.S. The three main findings: 1. Math in school is disconnected from students' practical needs. 2. Intrinsic motivation to learn math is dampened by uninteresting problems. 3. Teachers make a difference in the perception of math class. Students with strong math identities describe relationships with their teachers as an important source of their willingness to learn. They want teachers who present challenging assignments, create classroom environments that encourage questioning, and express interest in students' academic achievement as well as overall well-being. Surveyed students seek more interactive learning, relevant, engaging math materials that consistently connect to the real world, and financial literacy classes and applied math courses to align with their interests and future career goals.
bit.ly/3T8MNXl

3 CHARACTERISTICS OF EFFECTIVE MENTORSHIP

Stanford University's Hoover Institution published *A Nation At Risk +40*, a review of progress in U.S. public education that shares insights and analysis of 40 years of education reform since the 1983 report *A Nation at Risk*. A chapter on teacher pipelines points to the positive impacts of new teacher mentoring, drawing on a review of research, including meta-analyses. Findings include: Mentors help strengthen beginning teachers' commitment to the profession and increase their retention, enhance new teachers' instructional practices, and help improve student achievement. Selecting quality mentors is critical: those who demonstrate effective teaching, make their implicit processes explicit, and are well-prepared with adequate time to do the work.
bit.ly/49LDX7v

4 STATES REGAIN PREPANDEMIC ACHIEVEMENT LEVELS

An analysis of achievement test data from 8,000 school districts in 30 states shows that average student achievement improved between spring 2022 and spring 2023, with students recovering about one-third of the pandemic decrease in math and one-quarter of the loss in reading. Students in Illinois, Louisiana, and Mississippi exceeded prepandemic achievement levels in reading, and Alabama was the sole state to exceed prepandemic math scores. Across states, wealthier districts have led recovery, and in 2023, lower-income districts are even further behind where they were in 2019. Researchers from the Center for Education Policy Research at Harvard University and The Educational Opportunity Project at Stanford University published these and other findings in *The First Year of Pandemic Recovery: A District-Level Analysis*.
bit.ly/48sQllr

60 MORE LITERACY COACHES FOR GEORGIA

The Georgia Department of Education will place 60 full-time literacy coaches in the lowest-performing 5% of schools across the state, state superintendent Richard Woods announced. The state will use $10 million in federal funds for the program. Coaches will receive training in structured literacy and the science of reading. Georgia is also adopting the literacy coaching standards developed by the Florida Department of Education and will use the standards to train the Georgia coaches. Gov. Brian Kemp backed the plan in his budget. Woods said the moves are an effort to improve literacy outcomes for every student.
bit.ly/3T74vL0
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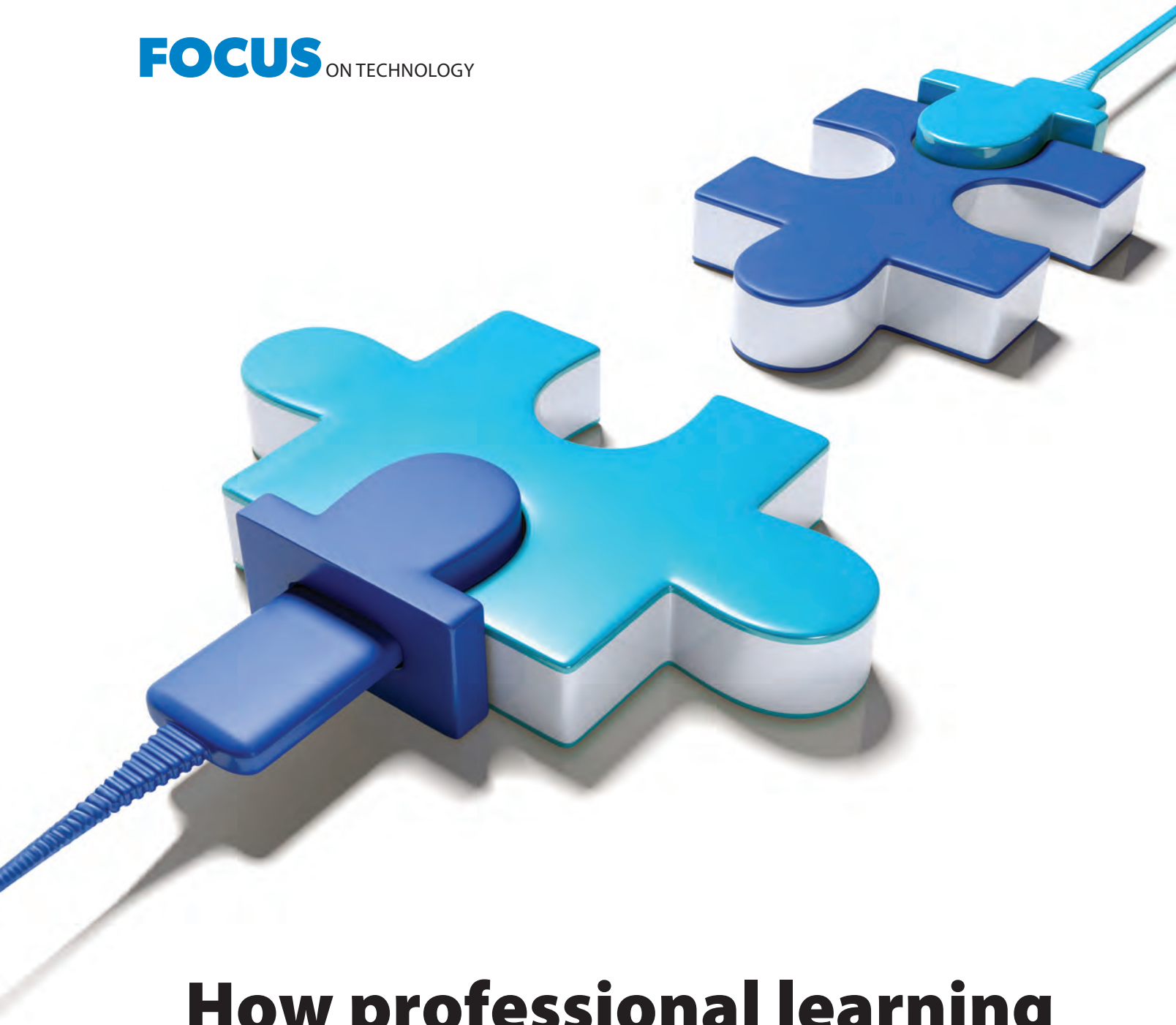
INFORM. ENGAGE. IMMERSE.

FOCUS

ON TECHNOLOGY

LEARN TO MAKE THE MOST OF TECHNOLOGY

Meaningful professional learning goes beyond how to use new technology to develop educators' knowledge about when and why to use it so that it makes a difference for student learning. Strategies like coaching (p. 32), teacher collaboration (p. 44), and teaching simulations (p. 48) go deep and help teachers improve their practices.



How professional learning can help close digital divides

BY ZAC CHASE

The nature of the digital divide in schools is changing. Once understood to be about gaps in access to computer and internet technology across demographic and geographic groups, the gap is now more complex. Schools still experience inequity in technology, but it is as much about educators' capacity and opportunity to apply technology in meaningful ways as it is about software licenses or internet speed.

To close those gaps and realize the potential of technology for all students, we need to reimagine professional learning about and with technology. That is one of the main recommendations of the new *National Educational Technology Plan: A Call to Action for Closing the Digital Access,*

Design, and Use Divides, which was published by the U.S. Department of Education in January 2024.

First published in 1996 in fulfillment of the 1994 Improving America's Schools Act, the National Educational Technology Plan has been updated every four to six years since, with the previous full revision taking place in 2016.

The 2024 version homes in on three distinct but related divides limiting educators' and students' abilities to benefit fully from technology. All three are tied to the instructional core (City et al., 2009), which describes how the relationship between the teacher, student, and content come to define instructional practice and tasks. The three divides are:

- **Digital use divide:** Inequitable implementation of meaningful instructional tasks supported by technology (that is, using technology to analyze, build, produce, and create, rather than using technology for passive assignment completion).
- **Digital design divide:** Inequitable access to time and support for professional learning for all educators to build their capacity to design learning experiences for all students using educational technology.
- **Digital access divide:** Inequitable access to connectivity, devices, and digital content, as well as instruction in digital health, safety, and citizenship skills.

The digital design divide, which is included for the first time in the 2024 version, addresses gaps "between and within those systems that provide every educator the time and support they need to build their capacity with digital tools and those that do not" (U.S. Department of Education Office of Educational Technology, 2024, p. 34). Calling out this divide makes explicit the need for high-quality professional learning on educational technology, and the plan includes recommendations and examples to realize that goal.

RE-ENVISION PROFESSIONAL LEARNING

The call for more and better professional learning is not new (Cuban, 2018; Watters, 2023; Reich, 2020; Papert & Solomon, 1971). Even the first iteration of the National Educational Technology Plan from 1996 pointed out the need to attend to professional learning, stating, "All teachers in the nation will have the training and support they need to help students learn using computers and the information superhighway." It continues, "Upgrading teacher training is key to integrating technology into the classroom and to increasing student learning" (U.S. Department of Education, 1996). But that vision has not been fully realized, and professional learning has not kept pace with the rapid evolution of learning technology.

The 2024 version recognizes that we need to re-envision and recommit to professional learning. Reimagining includes looking to the future and new approaches to professional learning that put everything on the table in designing the systems all educators need to provide all students with the learning experiences they deserve.

At the same time, it means helping all schools align their efforts with the Every Student Succeeds Act's definition of professional development as "... sustained (not stand-alone, 1-day, or short term workshops), intensive, collaborative, job-embedded, data-driven, and classroom-focused" and as encompassing "teachers, principals, other school leaders, specialized instructional support personnel, paraprofessionals, and, as applicable, early childhood educators" (Every Student Succeeds Act, 2015).

This future-facing thinking is in the work of Brigantine Public Schools in New Jersey and the process the district undertook to build a schedule providing teachers an additional planning period for common planning time, articulation meetings, and sharing or teaching new approaches to technology use for staff and students (U.S. Department of Education Office of Educational Technology, n.d.a).

It's the work of the Illinois State Board of Education's Learning Technology Center Instructional Technology Coach Program, which uses a cost-sharing model, allowing multiple districts in a similar geographic area of the state to share the costs of an instructional technology coach for a predetermined number of days throughout the school year (U.S. Department of Education Office of Educational Technology, n.d.b).

And it's in the work of Denver Public Schools in Colorado, where the district has heeded the research challenging the effectiveness of one-off professional learning and now requires teachers attending district professional learning workshops to commit to participating in a full professional coaching cycle to shift practice (U.S. Department of Education Office of Educational Technology, n.d.c). (Editor's note: See article on p. 32 of this issue for their story.)

FOUR RECOMMENDATIONS FOR CLOSING THE DIGITAL DESIGN DIVIDE

With nearly 14,000 school districts in the United States, it is impossible (and would be unhelpful) to prescribe programs and solutions as though one

size fits all. Meeting local needs means being sensitive to context and culture within districts and schools. With this contextual sensitivity in mind, the National Educational Technology Plan recommends four strategies for closing the digital design divide that education systems at multiple levels can apply and adapt to fit their needs.

Develop a "portrait of an educator" outlining the cognitive, personal, and interpersonal competencies educators should have to design learning experiences that help students develop the skills and attributes outlined in the portrait of a graduate.

In taking the time to draft a profile of an educator outlining the skills, habits, and expected capacities of educators, districts and schools begin to signal what is important within their systems while also giving language to the culture of learning they are working to build and creating goals for professional learning. A portrait of an educator that includes high-quality technology integration can help systems develop and communicate a mindset of technology as ubiquitous, necessary, and seamless, rather than an add-on or nice to have.

This would be a benefit in several ways, including hiring. Currently, a common question in educator interviews goes something like this: "Can you tell us about a time you successfully used technology to support learning?" But candidates' answers to such questions are inherently outdated because technology evolves so quickly. Using the portrait of an educator as a North Star, leaders can instead ask questions of potential hires that reflect their capacity to use and adapt with technology, such as: "Will you tell us about the last time something went wrong with technology in your classroom and how you dealt with it?" or "Can you tell us how you select technology tools for your classroom that meet all students' needs and create multiple means for students to show their learning?"

Beyond hiring, educator portraits can also help districts decide what to stop doing. By measuring current programs and practices against their goals for all educators, systems like Brigantine and Denver were able to identify what they could subtract to add more professional learning time and the resources they needed to help all teachers increase their capacity for better learning design.

Provide educators and administrators with professional learning that supports the development of digital literacy skills so that they can model these skills for students and the broader school community.

Simply put, it is no longer acceptable or responsible for professional educators to claim, "I'm not a tech person," when technology has become integral to communicating with parents and caregivers, crucial to meeting the needs of students with disabilities, interwoven in our collaborative tools, and inseparable from the future success of students (Bughin et al., 2018).

Understanding resistant educators' concerns can help those charged with organizing professional learning understand the needs of professional learners. Questions to consider include:

- How do we ensure educators of all backgrounds and experiences — including those who are reluctant to use technology — are co-designers of professional learning?
- What elements of professional learning regarding technology have been harmful or ineffective in the past?
- How do we set an expectation of progress and not perfection to keep the perfect from becoming the enemy of the good?
- How do we hold what is most valuable to learning as core to professional learning and avoid centering technology for its own sake?

Finding the answers to these questions represents an opportunity to invite those same people affected by them into the process of building better professional learning.

Develop processes for evaluating the potential effectiveness of digital tools before purchase, including the use of research and evidence.

Professional learning concerning technology tools can begin even before those tools have been purchased by setting clear standards of quality, effectiveness, and functionality for devices and digital resources. When educators know such standards exist and are invited into developing those standards as well as the evaluation process, cultures of trust can grow.

In systems without such collaborative evaluation approaches, tools can seemingly come and go at random, and educators may have no clear understanding of whether they are effective or pedagogically aligned. This revolving door of products and tools can make educators feel cynical about the value of professional learning about technology because they believe the tools will keep changing just as they have mastered the previous ones.

Design and sustain systems that support ongoing learning for new and veteran teachers and administrators, providing them with the time and space needed to design learning opportunities aligned with the Universal Design for Learning framework.

The principles and framework of Universal Design for Learning (CAST, 2018) are key to the 2024 National Educational Technology Plan, encouraging educators to design technology-rich learning environments where all students can succeed. At its core, Universal Design for Learning repositions the learning environment and experience as either enabling or disabling by design, rather than positioning the learner as inherently capable or incapable. Universal Design

for Learning encourages educators to incorporate design features that accommodate all students' needs and recognizes that an accommodation designed for certain needs can benefit everyone.

The Universal Design for Learning framework rests on three principles:

- Provide multiple means of engagement.
- Provide multiple means of representation.
- Provide multiple means of action and expression.

While application of the Universal Design for Learning framework as outlined by CAST, the organization that created it, can be achieved without the use of technology, educators have increased access to technology tools for putting these three principles into action. But doing so takes dedicated time and effort for educators' learning.

The plan includes a hypothetical example of Universal Design for Learning in action, which illustrates the level of skill a teacher needs to apply the principles to a unit about understanding ecological concepts associated with diversity and sustainability.

The teacher, Mrs. Ramirez, starts by identifying the unit's goal and considering the barriers that might emerge in the learning process. She then considers how multiple means of representation, engagement, action, and expression might overcome these barriers.

She leverages technology to ensure all her students can access and understand the content, some through an immersive 360-degree virtual tour of rainforests, others, including a blind student, listening to narrated podcasts about aquatic ecosystems, and some, including two students with learning differences, using interactive simulations that allow them to manipulate ecosystem variables.

Mrs. Ramirez goes on to use other tools for collaborative group projects, data collection and organization, and presentations and embraces diverse assessment methods so all students can demonstrate their understanding. She supports all students in learning the content while helping them develop digital literacy and citizenship skills.

The kind of design Mrs. Ramirez implemented does not happen by chance, and it doesn't happen overnight. It requires a thoughtful, comprehensive reimagining of instructional design, which considers all available learning tools and allows for all students to move toward the same learning goals along different trajectories and with different tools.

That takes in-depth, sustained professional learning, perhaps with coaching and professional learning communities that prompt teachers to self-assess, reflect, and continue to try new things. Principals and other leaders also need professional learning so they can support and evaluate the classroom appropriately.

The 2024 National Educational Technology Plan provides examples of districts and schools across the U.S. that have undertaken this reimagining of teaching and learning and the professional learning they have used to support it. The plan continues to refine our understanding of the meaning of equity in educational technology and how technology can transform learning for all students.

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Is tech intimidating your teachers? Try coaching

BY JULIANNE B. ROSS-KLEINMANN

The 21st century is an exciting time for integrating technology in schools. Technology can help educators close digital use, digital design, and accessibility gaps by allowing us to tailor educational experiences to meet every learner's needs (U.S. Department of Education Office of Educational Technology, 2024). It can also help us prepare students for future jobs that have not yet been defined by leveraging and building skills like engineering design, computer sciences, artificial intelligence, computational thinking, and more.

However, technology can feel intimidating and overwhelming to many educators. I know the feeling. Even though I am now a technology specialist who helps teachers plan

Julianne B. Ross-Kleinmann

TEACH: MY COACHING PHILOSOPHY

My coaching philosophy can be summarized with the word TEACH:

- T = Build **t**rust.
- E = Create **e**quity.
- A = **A**dvocate on students', teachers', and families' behalf.
- C = **C**ollaborate with everyone.
- H = Be **h**umble and infuse humor.

lessons and units that integrate the right technology tool to motivate their students while enhancing and extending students' knowledge, I was not always tech-savvy.

I remember once calling for tech support because my printer was not working. When help arrived, I was embarrassed to discover the simple fix to the problem: plugging in the printer.

Fortunately, the person who came to help me asked if I would like to meet regularly to learn about basic technology setup, troubleshooting, and navigation. She recognized that when technology does not work the first time, it can stall our academic goals for working with it, sometimes turning people off to using technology altogether. She gave me an opportunity to break that cycle.

After working with her for a short time, I was so excited about what I was learning that I shared it with the students and teachers in the building and tried to help make others equally excited and comfortable with technology.

That was the beginning of my path to becoming a technology coach. A technology coach is a role that provides essential support for teachers with technology integration in the classroom (Howard, 2019).

Technology coaches like me constantly confront questions like these: How do we support teachers who might not share our excitement for technology? How do we help them overcome their resistance or even outright hostility so they can use technology in ways that really make a difference for students?

I have learned that the answers have nothing to do with gadgets or gizmos, programs or products. Like other kinds of coaching, the secret lies in building relationships. By listening to a teacher, being flexible enough to prove that you listened, making them comfortable so that they can both talk and listen, and being responsive to their expressed needs, technology coaches can help teachers confront and address their technology challenges.

BUILDING TRUST

I remember starting a new role in 2014 as a technology coordinator, tasked with introducing elementary teachers and students to creative and fun ways to learn STEM and computer science skills.

On my first day, as I walked into a classroom, the teacher turned to me and said, "I hate technology!" Those words echoed loud and clear, not only in front of me but in front of the entire class. All those young, impressionable 1st and 2nd graders turned their eyes up toward me, the new technology teacher, some shouting "Yeah!" in agreement.

Feeling powerless, defeated, and angry, I wondered: Did everyone at my new school share this sentiment? And if they did, what caused them to feel this way? I believed that finding those answers would allow me to carve a new path forward for my school, one rich with an integrated technology curriculum. I approached the situation as a growth opportunity for me and all the teachers I was working with, and I started by building trust with the resistant teacher.

First, I found a partner who valued technology integration and was a trusted and valued member of the school community — a teacher I had met during the interview process. As

the high school science co-chair and a member of my interview committee, she had expressed her belief in the importance of introducing students as young as kindergarten to age-appropriate STEM and computer science skills.

When I approached her about collaborating, she readily agreed, and we worked together on a STEM lesson for a 3rd-grade class. The first lesson was a success, so we decided to collaborate on another, and then another. This led to co-teaching for the entire year and years to come.

The experience helped both of us, the school, and the whole district. As we worked together and our relationship grew stronger, so did my understanding of and connection to the school community. Teachers and students were more open because they trusted her, and gradually they came to trust me, too. Plus, students saw the strength of partnering because we modeled it constantly.

We strengthened each other's practice as well. As an elementary educator, I learned what students needed to know to build the foundation for their secondary science classes, while she discovered the ways 3rd-grade students could be pushed to grow and learn and how she could build on that.

But most importantly, our relationship helped us support one another to try new things. We collaborated on presentations for families, sharing what students were learning in class and how lessons could be replicated at home. We presented an online "STEM on a Shoestring" webinar for an international audience. Throughout the year, we were reflective about our practice and discussed ways to adjust our lessons. We shared books, articles, and ideas that alone we did not know.

As I grew into my role, I found more ways to build trust with teachers, including being flexible and responsive to their goals and expectations. In one situation, I was helping a teacher use an app where students could publish stories. I expected the final product to be fully digital: a published story on the app's website. I froze when the teacher asked me to print an anthology of the stories, with a copy for each student. I didn't have the funds for this.

Listening, remaining flexible, and finding a workaround helped me build trust with this teacher. As a result, we created a stronger relationship and went on to work on integrating additional learning tools in her class.

As I probed and listened, I learned that the teacher and her grade-level colleagues had been publishing students' stories in printed books for years, so they assumed our collaboration would result in a physical book, too. I expressed concern that this might not be possible, but after reflection and fear of disappointing the teacher, I did a workaround: I asked our new director of technology for funding to create two hardcover books for the class and two for the school library.

When I returned to the class and said I was sorry that I had misunderstood the end goal, and then offered what I thought might be an acceptable alternative, the teacher and students were elated.

Listening, remaining flexible, and finding a workaround helped me build trust with this teacher. As a result, we created a stronger relationship and went on to work on integrating additional learning tools in her class.

MY COACHING PHILOSOPHY

My experience as a technology specialist helped me develop my coaching philosophy and coaching techniques, which I based on the Adult Learning Theory of Andragogy (Knowles, 1984). It is designed to assist educators in the integration of technology, but it can be used in all kinds of instructional coaching. (See box on p. 29.)

Here are some ways I have helped teach technology using my coaching philosophy.

Build trust.

- I shortened the help desk's response time to 24-48 hours.
- I instituted a policy in which each ticket receives an instant response and acknowledgment of the request for help.
- I make myself visible and available by arriving early, attending meetings, and volunteering around campus.
- I co-teach and model entry-level applications that students can continue independently or with minimal assistance.

Create equity.

- I freely share my time with everyone so that everyone can move up in their levels of expertise.
- I work with all students and teachers, finding ways to adapt to all learners' needs, no matter their physical, emotional, or cognitive abilities.
- Through grants, I was able to replace outdated hardware and software so that all students have access to the same high-quality resources.
- I started after-school enrichment classes for students and workshops for teachers.

Advocate for students, teachers, and families.

- I replaced unreliable technology with reliable and secure Wi-Fi for the school building, ensured all tools functioned properly, and provided ongoing focused training to help students and staff overcome a learned hatred of technology that wasn't serving their needs.
- I advocated for middle school students to form after-school programs to teach coding to their peers.

- I spoke up for students who wanted to use Minecraft in school, thanks to students educating me about Minecraft and its benefits.

Collaborate with everyone.

- Educators and I co-authored and co-taught lessons. Sometimes I modeled lessons for them, and sometimes I was an extra hand in the classroom, even when the subject was not related to technology.
- I listened to my teachers' needs and concerns first, and then made plans with their needs in mind.
- I made it a habit to arrive early, clean up afterward, and ask how I could help again.

Be humble and infuse humor.

- Recognize that technology does not always work for everyone and be empathic to educators' challenges; virtually everyone calls for support and help at some point.
- Acknowledge that no one has all the answers, even a coach like me. I was honest with my teachers; they knew we would collaborate to find solutions.
- Research shows (Mayo Clinic, 2023) the short-term benefits of laughter include activating and relieving stress responses and soothing tension. Both help build relations and make learning possible. I enjoy sharing personal anecdotes, jokes, cartoons, and fun videos while working with students and teachers.

MAKING A MINDSET SHIFT

One of the most important outcomes of my approach is that it has nurtured a new mindset among teachers, which manifests when teachers ask themselves, a colleague, or me, "How can technology enhance this lesson?" This mindset shift helps educators provide equal access to all students to create, iterate, learn, communicate, and collaborate, using instructional technology, instead of being passive consumers of technology.

Overcoming resistance to change to get to that point is not easy, and it takes time. But the time and effort are worth it. I'm reminded of that whenever I hear a teacher who used to say "I hate technology" say things like, "Can I borrow devices for our back-to-school night so I can share with families how we are using technology in class?" or "Can you remind me the password for Vimeo so I can show another teacher how to embed videos onto their blog?"

Those moments are windows into teachers' growing openness to engage with technology, and that can make a real difference for students, not just now, but in their future careers and lives.

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Instruction improves when Denver teachers dive deep on technology

BY DREA AGUIRRE, LUKE MUND, AND BRITNEY HERMOSILLO

With the ever-expanding role of technology in schools, many teachers have participated in one-time, stand-alone workshops to learn how to use a new program, app, or other tool. While that may provide a helpful introduction to the basics and highlight inspirational examples of what the tool can do, it doesn't often translate into teachers applying the technology in valuable ways to improve student learning.

That's why Denver (Colorado) Public Schools' educational technology team decided to shift from large-scale workshops to more intensive coursework and coaching about technology integration. As a result of this shift, we are seeing measurable improvements in teachers' instructional practices and classroom environments.

We are also seeing encouraging

trends in educator retention and career advancement. The real beneficiaries of all those changes, however, are students.

MAKING THE SHIFT

In 2016, Denver voters approved a bond to fund several improvements to schools, including a program to grow a one-to-one computing initiative. Interested schools applied to receive a device for each student, along with coaching to help them use the devices.

In 2020, when the onset of the COVID-19 pandemic forced school building closures and devices became essential for every student, the whole district became one-to-one. That opened an opportunity for us to help our district shift from focusing on access to focusing on meaningful integration of technology.

To make this shift, we knew professional learning was essential. We moved from supporting a few pilot schools to large-group professional learning sessions for the entire district — for example, on how to navigate the Schoology information system and how to teach students to create graphic designs in Canva.

However, we quickly realized this approach wasn't enough. Teachers weren't implementing the strategies after the sessions. Even when we offered coaching, many teachers would attend an initial meeting, work on a lesson plan, but then get too busy to follow through or meet with their coach again.

To help our teachers dig deeper into technology strategies, we began offering a longer-term professional learning experience, with job-embedded coaching cycles, based on research showing that coaching is one of the most effective ways to achieve changes in instructional practices (Kraft et al., 2018). We have further incentivized this process by formatting this learning as a Professional Development Unit (PDU), which allows teachers to receive credit toward salary lane changes.

A PDU provides differentiated, action-oriented learning that has clear application to practice and is designed to help teachers acquire or improve skills focused on topics of student need, including closing the opportunity gap. Different from the district's mandated professional learning, PDUs are voluntary, 45-hour learning opportunities designed to help educators advance their professional practice.

Our team works with the district's professional learning team to ensure that all PDUs are equivalent to rigorous, graduate-level coursework. Teachers who complete a PDU receive credits that they can use not only toward license renewal, but also toward salary advancement, in accordance with the district's process for increasing salaries based on experience and education levels. A PDU counts for two or three credits toward an 18-credit threshold for a bump to the next salary level, which we refer to as "lane-changing."

In addition to participating in large-group learning, teachers engage in reading, planning, and especially coaching. At the end of the course, teachers engage in a group peer reflection. Those sessions are a powerful way for teachers to share, recognize growth, learn from each other, and celebrate success.

BENEFITS OF COACHING

Our team's PDU, STEAM Strategies to Ignite Learning (see box at right), includes two full coaching cycles in which teachers choose a strategy from the whole-group learning, integrate it into their instructional practice, and then engage with the coach in reflection on their implementation.

STEAM STRATEGIES TO IGNITE LEARNING PROFESSIONAL DEVELOPMENT UNIT

Course description:

This Professional Development Unit (PDU) offers an opportunity to explore impactful instructional methods using technology and tools to increase STEAM connections in your classroom. You'll learn to integrate communication, collaboration, creativity, and critical thinking (4C's) authentically into your lessons, fostering a positive, relevant, and rigorous classroom experience for all students.

Through collaboration with teachers districtwide, you'll discover strategies to implement the 4C's and promote meaningful student engagement. The PDU includes individualized, nonevaluative coaching and support from one of our instructional digital coaches.

Participants will delve into instructional strategies for each of the 4C's, emphasizing purposeful technology integration. Each participant will choose two C's for a deep dive, developing and implementing strategies supported by coaching and reflection. Implementation will be observed and/or recorded, with student work collected to ensure effectiveness. Participants will also share their deep dives with peers for feedback and review.

Course objective:

To support teachers to develop and implement instructional strategies that authentically integrate communication, collaboration, creativity, and critical thinking (4C's) into classroom practices, fostering a positive, relevant, and rigorous learning environment for all students.

The specific coaching approach is tailored to individual teachers' needs. Some teachers choose to co-plan lessons with the coach, some ask coaches to observe or co-teach, and others only want to debrief and reflect with the coach.

Because the PDU is designed to occur over the course of the school year, teachers can engage with coaches at any time during the year. This not only provides flexibility for teachers, but it helps coaches and teachers develop an ongoing relationship that leads to meaningful engagement, real learning, and strong implementation.

We find that having this relationship with a coach helps teachers keep on pace. Teachers have many things on their plates, so being accountable to someone helps them implement the strategies. Coaches also give them tangible, instrumental support because we can sit down with them to plan, share resources, and complete steps that might take them several hours on their own. Once they see the benefits of the first coaching cycle and hear their coaches' encouragement to keep learning and keep working toward the PDU credit, this helps them stay on track.

PIQUING TEACHERS' INTEREST

We have found that the connection between the PDU and the opportunity for increased pay is a major motivator for teachers. It contributes to teacher retention, both because it helps teachers advance within our district and because the credits are not transferrable to other districts.

This structure is particularly attractive to experienced teachers, and therefore helps fill a gap many districts see in later-career professional learning. Early career teachers have more content-focused professional learning they are mandated to attend, and they may feel overwhelmed by adding an additional 45-hour course to their already-busy schedules.

Still, teachers of all experience levels are busy and often stressed, so the PDU aims to accommodate that. We have made it very clear that dates are suggestions, not hard-and-fast deadlines. We also recognize that not all teachers will complete the PDU in the allotted time frame, and we encourage them to stay in touch with us and seek our coaching support when it works for them.

Word-of-mouth is the most powerful factor that drives teachers to participate. Initially, we found that many teachers were hesitant to embark on this work with us because they had had negative experiences with coaching approaches that were paired with evaluation. Our coaching is nonevaluative, which is an essential part of making teachers feel safe to take risks and try new things with instructional technology.

Over the last few years, we have seen participation increase, compared to before we implemented the full, coaching-centered model. After we revamped the structure, we saw an initial dip in participation, likely because teachers weren't accustomed to the scope of the commitment. But after one year, participating teachers shared their positive experiences with colleagues, and word-of-mouth has driven increased interest and higher participation numbers.

Each year that we've offered the PDUs, participation is typically 30 to 40 teachers. In the past, about 20 teachers per year would participate and complete the requirements, but we are seeing those numbers go up to 30 to 40 teachers per year.

HOW WE DOCUMENT AND MEASURE SUCCESS

It's important for us to collect data that shows whether our work is having an impact on instruction and student outcomes. At the same time, we want to make sure that we are not doing documentation just for documentation's sake. The documentation needs to be simple and straightforward for the people who are doing it.

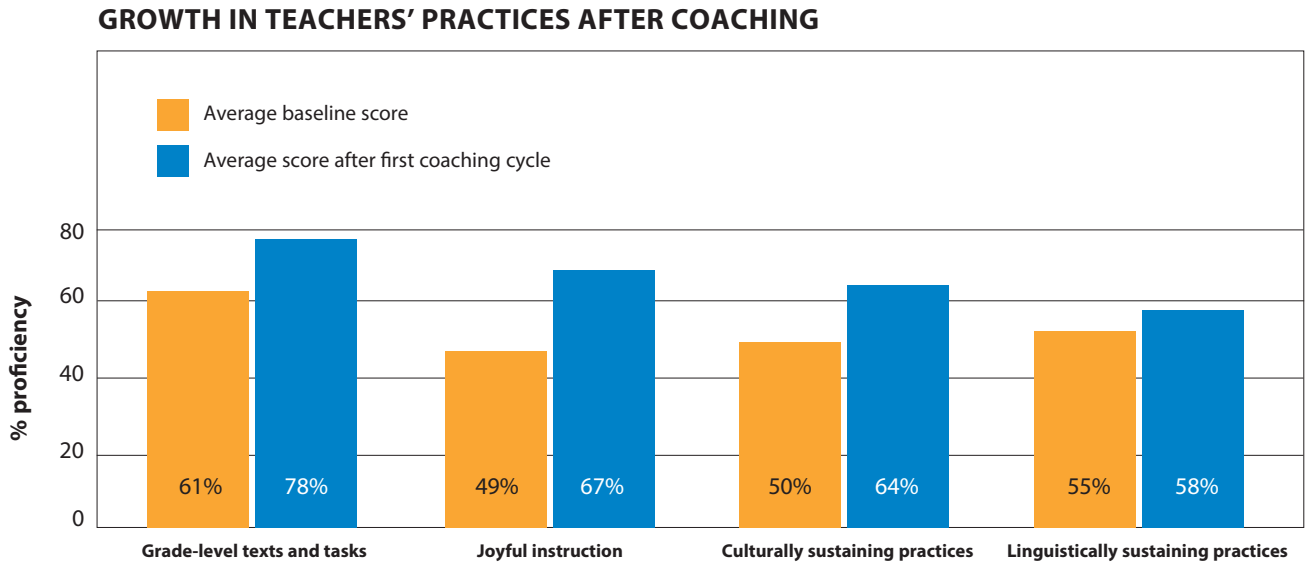
We try to balance the workload between teachers and coaches. When we engage in coaching observations, we take photos, save documents, and take notes. When we do reflections with teachers, we write down their thoughts. We share all of this with the teachers so they can learn from it and also use it as the basis of the documentation they're required to do. There is always room for improvement, so we continue refining the documentation templates to make them as clear as possible and give examples.

Before they engage with any of the material, teachers complete a preassessment of their skills and coaches complete a parallel assessment based on a classroom observation. We compare those reports to identify skills where teachers and coaches agree and disagree. We often find that teachers rate themselves more highly than coaches do because they are not yet familiar with the look-fors — in other words, they don't know what they don't know.

The discrepancy provides a valuable opening for conversation. For example, if a teacher rates herself as 15 out of 16 on a measure of creating joyful classroom spaces, but the coach only rates her an 8, they talk about the gap and how the teacher can focus her learning in the PDU to improve her ability to engage and inspire students.

Coaches then use the same tool — an instructional rounds walk-through tool created by Student Achievement Partners (2023) — for their observations during the coaching cycles, which allows them to see and document growth. After the first coaching cycle in school year 2023-24, average scores went from 9.36 to 11.61 on a 17-point scale. Teachers' scores increased on all four domains of instructional practice measured:

- Grade-level texts and tasks (ensuring instruction reflects the focus, coherence, and rigor required by college- and career-ready standards);
- Joyful instruction (ensuring instruction is designed to create a sense of belonging and



competence with content, and empowering students to exercise agency in their learning);
- Culturally sustaining practices (ensuring that instruction is designed to leverage the diverse backgrounds of students as assets and facilitate inquiry into relevant contexts); and
- Linguistically sustaining practices (ensuring instruction leverages the linguistic repertoires and backgrounds of students to support multilingualism and the simultaneous development of content knowledge and language).

Teachers improved their practices most on the first two areas, from 61% to 78% proficiency on grade-level texts and tasks and from 49% to 67% proficiency on joyful instruction. We will continue to measure changes in teacher practices after they complete their second coaching cycle.

HIGH-QUALITY INTEGRATION OF TECHNOLOGY

Throughout the coaching cycles, we are seeing more authentic, high-quality implementation of technology integration practices that are covered in the PDU. Teachers are doing more innovative things in their classrooms, like students using Canva to design, build, and present a news report on various types of extreme weather events. The active role of students in researching and presenting content has fostered a high level of ownership, resulting in increased engagement.

We also see a change in teachers' and administrators' understanding of and expectations for what students can do, especially young students. When educators see their peers using technology in ways they didn't know were possible, it motivates other educators to try it, too.

The number of teachers who have participated so far, about 90, represents a small percentage of the district's 7,400 teachers. As we've shifted to PDUs, we have had to shift our mindset from quantity to quality.

At the same time, we believe our efforts are having an impact beyond the teachers who have participated directly. As part of the reflection component of the coaching cycles, we encourage teachers to plan to share their learning and new strategies with their teams or in other departments. Teachers tell us this is helping get their colleagues excited about using new technology strategies.

In addition, we are seeing encouraging signs that participating teachers are staying in the district and even moving to leadership positions like assistant principal and principal, where they can magnify their impact to more teachers and more students and also become advocates for technology integration. Teachers tell us that tying the PDU credits to lane changes and eventual salary increases is a big part of this.

For our team, the shift from large-group presentations to more in-depth, year-long support was initially difficult. But after several years of PDU cohorts, we can see instructional shifts and feel confident the effort was worth it because we are investing in long-term improvements in the district's use of technology.

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WHAT EDUCATORS NEED TO KNOW ABOUT AI

Q&A WITH JUSTIN REICH

BY SUZANNE BOUFFARD

The emergence of text-generative artificial intelligence tools, like ChatGPT, presents both opportunities and challenges for schools. What do teachers and leaders need to know about these tools, and what role should they play in professional learning?

The Learning Professional discussed these issues with Justin Reich, a learning scientist whose work focuses on the future of learning in a networked world. Reich is director of the MIT Teaching Systems Lab, which engages teachers and leaders in collaborative learning about how to create and maintain active and student-centered

The rhetoric about AI is often disempowering or frightening. But in 10 minutes, you can help educators understand what the systems are actually doing, and when they see how it works, they tend to find it quite empowering.

learning experiences. He is the author of the books *Failure to Disrupt: Why Technology Alone Can't Transform Education* and *Iterate: The Secret to Innovation in Schools* and the host of the TeachLab Podcast. He is also an associate professor of comparative media studies/writing at MIT and a former high school history teacher.

When you speak to educators about AI, you take the time to explain how the technology works. Why is that important?

The rhetoric about AI is often disempowering or frightening. But in 10 minutes, you can help educators understand what the systems are actually doing, and when they see how it works, they tend to find it quite empowering.

To understand ChatGPT and similar tools, the most important word is "predict." What text-generative AI does is, given a sequence of words, it predicts what the next word would be. That prediction is based on huge amounts of text that developers have fed into the programs from around the Internet. These tools don't think, reason, or imagine. They don't have brains. Sometimes the tool anthropomorphizes itself — for example, saying, "I'm sorry" — but it does not think or feel.

When people understand that these systems have no capacity to understand, that they are just predicting sequences of words, it demystifies the technology and it also helps people understand how and when to use it and when not to.

If you were in charge of a district's professional learning, what else would you teach educators about AI?

Many educators have concerns about cheating, and we need to address that. But I frame this differently, in a way that I think is more useful: What do we do when students use AI to bypass cognition and learning? Cheating is like an accounting problem and an ethics problem. But bypassing cognition is a learning problem.

Before AI came along, educators had developed a series of tasks and exercises that provoked students to do useful cognition that led to learning. And now we have this machine that can do a bunch of that work for them. Bypassing that cognition is a problem.

But we have decades of technologies that help students bypass cognition, and we have learned to work with and around them. We have encyclopedias, calculators, Google Translate, Course Hero, and the list goes on. We have figured out when and how to incorporate them and also identified times when it is appropriate to wall them off. For example, math teachers have had tremendous success turning to students and saying, "We're not going to use calculators for this part because it's actually quite useful to memorize 3 times 7."

We need to learn and adapt with AI the way we have with those previous technologies. We're going to need to do a lot more observing of students engaging in activities that, in the past, we might have had them do at home, like writing essays. And we're going to need to rethink a lot of our assignments and activities, maybe even intentionally incorporating AI. Across the curriculum, we'll need to look at what we've been doing and ask ourselves: What is it that I've been asking people to do? What happens if they ask ChatGPT to do it? Is it going to generate the kind of thinking that I want them to do or bypass it?

Writing policies about cheating and plagiarism is important, but the most important thing is creating time and space to figure out what to do and how to modify our practices when AI allows students to bypass learning.

Many schools are currently banning students' use of AI or blocking access on campus. What do you think of this approach?

Every educational community I've ever been a part of has people who are energized by exploring new things. AI is a great new thing to explore, for students and educators. So I say, let them explore it.

Plus, when has banning a new technology ever been successful? Temporarily walling it off to engage in certain learning tasks is effective, but

outright bans rarely are. A ban is usually a great way to teach your students how to use VPNs and how to deceive you. In 2009, I wrote an Op-Ed calling internet filters knee-high fences because they trip up adults, but students just leap right over them.

What roles should text-generative AI play — or not play — in designing and implementing professional learning?

It's important to remember the process that leads to the design of good professional learning. The best professional learning happens when educators come together and agree on what they need to learn; find high-quality, existing curricular materials and learn to apply them effectively; work together in small groups to adapt the materials for their local context; and continue to refine, implement, and reflect. That doesn't come from plugging a prompt into any technology tool, whether ChatGPT or Instagram or Google.

That doesn't mean AI isn't useful at all. Computer scientists sometimes use a process they call rubber-ducking: talking through a problem with a rubber duck, because the act of thinking out loud helps generate solutions, even if you're not interacting with anyone else. So if you use ChatGPT as your "rubber duck plus," that can be helpful. But you have to sift through the responses and edit them and modify them so that you are the one ultimately driving the learning design.

A lot of people offering AI-powered professional learning advertise it as providing personalized learning based on the user's interests and deficits. But that's not an effective way to think about improving teaching and learning, which is a more orchestral process. Schools that improve collectively identify a few things everyone will work on that are focused enough to have a shared language and foundation but capacious enough for everyone to work on in the ways they need to. When we accept that the goal is for the entire school community to be working together on improvement, the use of tools like ChatGPT isn't clear.

You have said that you have equity concerns about AI tools. Why is that?

One way to think about different types of technology tools is to divide them into adoption technologies and arrival technologies. Most educational technology is in the adoption category — schools go through a planning process, they assess the products, and they purchase and implement them. But text-generative AI tools are an arrival technology, meaning you don't plan for them or purchase them — they just arrive at students' and educators' fingertips. You can access ChatGPT

from Microsoft's Bing search engine for free — it's as simple as that.

We often think about the equity implications of adoption technologies because some schools have more resources than others to buy the tools and invest in professional learning to support them. But arrival technologies cause inequities, too. I have been conducting interviews with teachers, and one of the things I see is that rich schools have the bandwidth to deal with AI tools and use them effectively. Poor schools have a million other things to deal with. Educators in underresourced schools tell me they would love to spend a day learning how to incorporate ChatGPT, but it's too far down their list of priorities and urgent issues.

We should be wary of the notion that these tools will automatically democratize education. Just because something is free doesn't mean it's going to be used effectively and equitably by all.

What advice do you have for educators about choosing when to use and when not to use AI?

It's important to remember that AI tools' performance is highly uneven across tasks, even across the same types of tasks. And no one really knows why. We don't even know why it works as well as it does. There is no computer scientist on earth who can tell you exactly why predicting the next word in a sequence will reliably come up with sensible prose or images.

This is a very different situation than with past technologies. When we invented internal combustion engines, we knew how they worked and that they would go about 8 mph. Sometimes they might go 7 or 9 mph, but they didn't go 120 mph in reverse. When you don't really know how a technology works, that's problematic for a lot of reasons. For example, it's a problem for novices who can't tell the difference between accurate responses and nonsense. It's also very difficult to regulate a technology when no one has a good explanation of how it works.

I also advise people to be skeptical of claims that AI tools and products are going to transform education by personalizing it. The idea is that kids are going to sit in front of their computers and learn by asking questions about math to a chatbot. But they're not, because talking to a computer is boring, just like reading a math textbook or watching a math video is boring. The reason students learn algebra is because they like their teachers and they care about learning with their peers. Kids (and adults) are really not very good about learning independently; they really need support from an instructor. We can do a lot online, but we learn best in relationships with other people.

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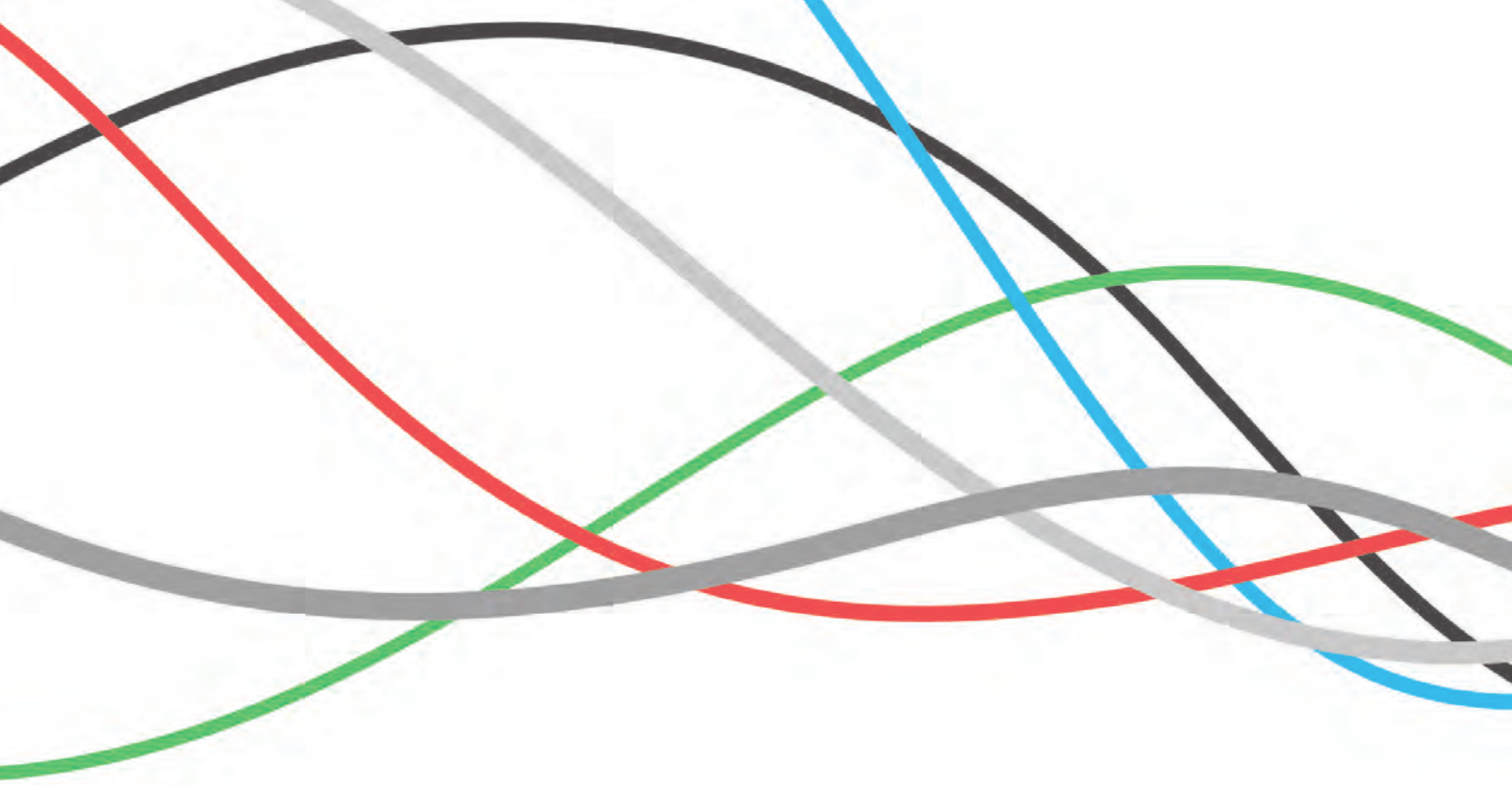
Are new teachers prepared to use education technology?

BY LIZ KOLB, KIERSTEN GREENE, AND CHRISTIE TERRY

Are we preparing new teachers for today's technology-rich schools? A multitude of surveys and reports examine the use of technology in K-12 classrooms from both the teacher and student perspective, but what drives those trends, and what role does teacher preparation play? We wanted to know if new teacher graduates are ready to effectively use the technology resources that are prevalent, and even necessary, in schools today.

To help us begin to understand the answer and determine if our question merits a large-scale investigation, we designed a small pilot survey that was distributed across the U.S. in 2019. We wanted to hear from early career teachers because they would have the



most recent experiences with teacher preparation. We defined early career teachers as K-12 classroom teachers who were less than five years out of their teacher preparation programs.

We also sent our survey to experienced teachers and administrators who work alongside new teachers every day. If we heard similar messages from all three groups, we would know that we were on the right track with our conclusions and plans for further study.

We hoped to get responses from about 200 participants, an appropriate number for a small pilot. We were pleasantly surprised when we far surpassed that number with a response of 276 administrators and technology professionals, 551 experienced teachers, and 48 early career teachers. While the survey was distributed nationwide, the majority of responses came from educators in Michigan, Missouri, Georgia, and New York. The respondents came from diverse community types: rural, town, suburban, and city.

In this article, we share the perspectives from the 48 early career educators on how well-prepared they felt to teach with technology tools going into their first years of teaching. The results from the administrators and experienced teachers can be found online at **tinyurl.com/y7sav257**

The data have important implications not only for teacher education programs, but also for K-12 schools. The findings can inform districts' new teacher induction efforts and professional learning. They can also highlight areas where higher education and K-12 should collaborate to maximize the support each is providing in the area of technology integration.

WHERE NOVICE TEACHERS FEEL PREPARED

In our quantitative questions, we found three areas where the majority of novice teachers felt prepared to use technology, all of which relate to selecting and using technology to support individual learners or learning goals.

Novice teachers felt prepared to select appropriate technology tools aligned to learning goals. An essential role of teachers using technology is to know how to align the tools to support the learning goals, and we found that over 65% of new teachers in our sample were confident about that. Still, almost a quarter did not feel well-prepared in this area.

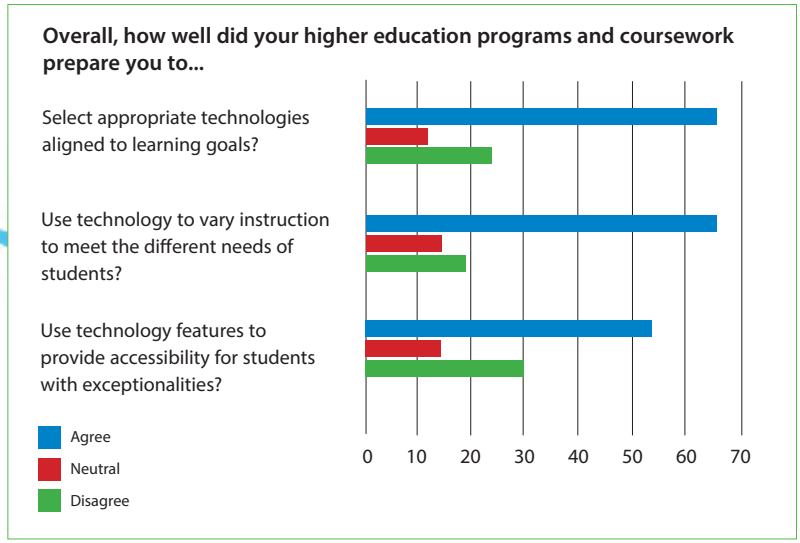
Almost two-thirds of novice teachers (65%) felt they were well-prepared to use technology to meet the different needs of their students. This is encouraging because differentiating instruction can be a challenge for classroom teachers, especially when trying to meet the various needs of many students, and technology tools are a promising tool for facilitating differentiation.

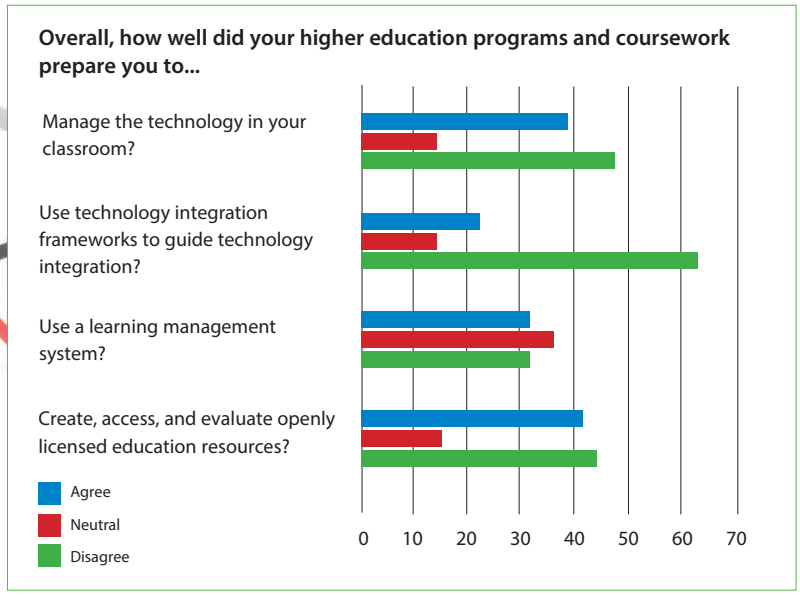
More than half of novice teachers (54%) felt confident using technology features to provide accessibility for students with exceptionalities. There are numerous technologies available to assist students who have IEPs and 504 plans, so it's important for teachers to know about these tools and how to use them. There is still work to do in this area, since 30% of our sample did not feel prepared to use these tools.

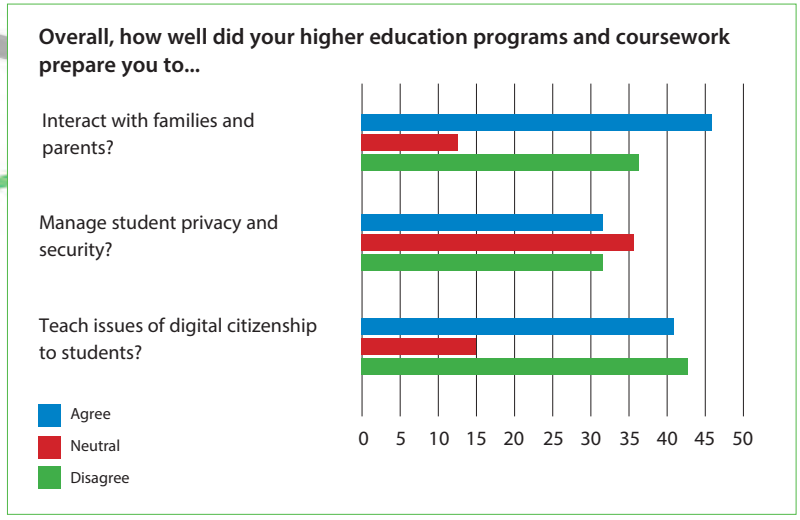
WHERE NOVICE TEACHERS ARE UNDERPREPARED

Novice teachers did not feel as well-prepared in several other aspects of integrating technology into teaching and learning. Most new teachers felt that they were underprepared to manage technology effectively during teaching and learning, with only 39% of early career teachers saying they

AREAS WHERE TEACHERS FEEL WELL-PREPARED







were well-prepared. This is notable because integrating technology is a vital skill for teachers to have.

In a finding that is perhaps related, only 22% said their preservice programs were effective in introducing education technology frameworks, such as TPACK, Triple E, SAMR, and TIM. These frameworks serve an important role in guiding teachers to use technology in ways that extend and deepen learning rather than for basic drill and memorization.

A little under a third of novice teachers felt well-prepared to use a learning management system, which is a common way of posting assignments, tracking grades, and communicating with students and families. Only 41% of novice teachers felt they were well-prepared to create, evaluate, and access open educational resources, which have been touted as an opportunity to provide more equitable access to teaching resources and curriculum (Ossiannilsson, 2019). And despite digital tools being the primary form of school-to-home communications, only 46% of novice teachers felt well-prepared to provide effective school-to-home communications with digital tools.

Also concerning, novice teachers said they need better preparation to address student data privacy and digital citizenship. Knowing how to keep students' educational records and personal information safe when using screens is a necessary skill. In most schools, teachers are using applications that collect protected student information. Yet only 39% of new teachers felt well-prepared to address and manage student data privacy in their classroom teaching with screens.

The Children's Internet Protection Act requires that all K-12 schools have a digital citizenship curriculum, and often, this is expected to be taught by classroom teachers. Yet, only 41% of the new teachers we surveyed felt well-prepared by their teacher education programs to model and teach principles of digital citizenship.

IMPLICATIONS FOR TEACHER LEARNING

Our pilot study indicates that while new teachers feel well-prepared to select technology tools to align with learning

goals and support differentiation, they feel unprepared or underprepared in many other areas that are essential to teaching with technology. This points to the concern that there is likely a disconnection between the ways that we are addressing education technology in teacher preparation and the reality of K-12 classrooms.

This has implications not only for teacher preparation programs, but also for the professional learning that supports new teachers, including coaching, mentoring, and induction. Both before and after they begin their first classroom positions, teachers need support to make sure that they are using technology in meaningful ways as well as meeting expectations about privacy and digital citizenship.

There may be a need to improve communication and coordination between K-12 systems and teacher preparation programs and alternative licensure programs so that all stakeholders understand what capacities teachers need to have and can coordinate a continuum of support to ensure opportunities for building those capacities. Such coordination can also bolster systems for ensuring students' safety and privacy.

If we are going to make strong recommendations that will lead to real changes in these areas, it is important that we better understand the issues, such as how or if preparation varies across the country, the areas of critical need, and the areas where preparation programs and K-12 are already providing strong support. To help build this knowledge base, we have developed a new survey to capture more deeply how well new teachers are prepared to integrate technology in their teaching. We ask that school administrators, education technology coaches, and teachers participate in this next version of our survey that is open for participation at **tinyurl.com/54taxpst**

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5 WAYS COACHES CAN SUPPORT TECHNOLOGY INTEGRATION

BY D'ANDRE WEAVER AND KASHA HAYES

Like most tools, educational technology is only successful when people know how to use it well. Yet in a survey of schools across the U.S., half reported that the steep learning curve for teachers' use of technology is a moderate or large challenge (Gray & Lewis, 2021). Providing the right support on technology integration to educators is therefore critical to make the most of technology resources, including artificial intelligence, in schools.

At the Verizon Innovative Learning Schools program, we've learned over the last decade how to best prepare teachers to embrace and integrate technology, and it all comes back to human-centered professional learning. No matter how advanced AI becomes,

nothing can replace person-to-person connections, especially in teaching and learning interactions. That's why we believe in the power of having dedicated, experienced coaches work with educators to build their capacity to use technology efficiently and effectively.

Verizon Innovative Learning Schools coaches are school-based coaches selected by the participating school or district. While most coaches work in one school, some coaches work in a shared model and split their time between campuses. Often, the coaches are teachers who have already shown leadership in technology or professional learning at their school.

Verizon Innovative Learning Schools coaches support teachers using various coaching models and stances, work within professional learning communities and during common planning time, and help develop the capacity of teacher leaders.

The program is based on the philosophy that a great coach doesn't tell a teacher how to implement technology in the classroom. Rather, the coach serves as a thought partner and information source to empower teachers to own their professional learning and sustainably change how they think about and approach technology in their classrooms.

Coaching techniques and focus are generally based on the needs of the teacher and the goals of the school and district. Depending on the coaching model at the school, some coaches may support teachers by request, while others may work to support all teachers in specific content areas or grade levels.

Districts and schools are encouraged to think about and systematize the support that Verizon Innovative Learning Schools coaches provide with a focus on creating sustainable practices that can be used for years to come.

A key component of the program is that coaches engage in their own professional learning about how to support their peers and in networking opportunities to learn from each other. Over the past 10 years, our team at Digital Promise has focused our work with coaches on professional learning and personalized coaching support, which they then implement in their buildings.

We've gathered many lessons, including the broad applicability of these practices to coaching beyond technology-focused support. These concepts can be applied by any coach because they focus on leveraging human connections, building on educators' existing strengths, and viewing teachers as learners.

We have found five ways coaches can support teachers with using technology in the classroom and overall instructional improvement:

1. **Provide individualized, targeted support to teachers;**
2. **Create opportunities for teacher collaboration;**
3. **Model best practices for using technology in the classroom;**
4. **Address educators' concerns about new technology, including the use of AI in school; and**
5. **Strengthen alignment between district technology policies and classroom practice.**

Provide individualized, targeted support to teachers.

To meet teachers where they are, coaches begin by understanding each teacher's comfort with devices and tech tools, including AI technologies. This understanding is the foundation for ongoing, individualized support and provides a sense of what the teacher is willing to try. Coaches ask teachers questions like:

- What has your experience been with technology?
- Why is technology important and useful for your teaching?
- Which digital tools have you tried?
- Which digital tools are you interested in learning more about?

From there, coaches help teachers set a vision for technology in their classroom that is aligned to their school or district vision and grounded in learning goals for students. Establishing this vision helps the teacher and coach get on the same page about what the teacher wants in their classroom and how technology can help achieve learning outcomes.

Questions to refine the vision might include: If you implemented AI or another form of technology in your classroom, and everything was going well, what would it look like and sound like? What would the teacher be doing, and what would students be doing?

Once the vision is clear, the coach works with the teacher to turn that vision into a collaborative coaching work plan. A simple starting place for this can be the coach asking the teacher, "What is the first step you would take to realize the vision you described?" If the teacher doesn't know, the coach

offers to brainstorm ideas together.

Throughout the course of the coaching relationship, coaches also consider how to help teachers sustain the changes they have decided to implement. By co-developing work plans that include regular feedback loops, teachers and coaches can check in regularly and adjust as needed. A great way to establish this is for the coach to ask the teacher, "How do you want to receive feedback?"

Research about coaching grounded in positive psychology tells us that the most effective coaches work to uncover existing strengths that can be built on (Kauffman, 2006). Coaches can use this approach when helping teachers think about what digital tools or technologies they want to try.

A good way to begin is to ask, "What do you believe are your strengths?" If a teacher says that they are creative, for example, a coach may follow up by asking if the teacher would like to learn more about technology tools that foster creativity and content creation. This approach can help the teacher connect new learning to an existing strength.

Good coaches also remember to celebrate accomplishments along the way. No achievement is too small to celebrate. By doing this, coaches help create the kind of environment that gets teachers excited to try using technology, take risks, build agency, and engage in their own professional learning.

Create opportunities for teacher collaboration.

Teaching can often feel like a solitary job. Technology can play a role in mitigating that isolation, and coaches can help facilitate it.

First, coaches can help teachers use technology tools to collaborate more effectively and efficiently. For example, educators often gather to review student work and analyze student data. Coaches can help teachers use technology to make this more efficient and effective. AI can help teachers identify approaches and best practices to test to accelerate student learning or improve outcomes, then teachers and coaches can come together to evaluate the effectiveness of those best practices.

Secondly, coaches can help teachers learn from each other about how to use technology in meaningful ways. With many teachers facing similar challenges about using new technology tools, what better source of information than their own peers? These three examples from Verizon Innovative Learning coaches demonstrate how to facilitate this kind of collaboration among teachers.

1. One coach in a middle school encourages collaboration through the use of "pineapple charts" (Cargal, 2021), which draw on the pineapple as a traditional symbol of hospitality. When teachers place the pineapple chart outside their classroom doors, they are indicating their rooms are open to visits from their fellow teachers to observe how they use technology in their classroom. After these visits, the coach debriefs with teachers about what they observed, helps them identify best practices, and talks through how they might implement new ideas inspired by their visits.
2. Some of our coaches create collaborative learning groups called teacher leader corps. Teachers who participate in these groups observe one another's classrooms, lead professional learning sessions, and tackle shared challenges. In one group, a coach invited a teacher to serve as the school's Google Forms expert. Teachers visit this leader's classroom to see students leveraging Google Forms in a variety of ways and support each other in creating their own Google Forms.
3. One coach in a middle school created weekly videos of tech tips. In these short videos, she highlights one or two technology tools teachers can try. The coach also provides individual support on any of the tools she features in her videos and has open office hours where teachers can experiment with AI and other tools in a low-stakes, fun environment.

Model best practices for using technology in the classroom.

Modeling a technology tool, practice, or approach can be a great way for coaches to introduce teachers to new technology applications or help them overcome anxiety about using those approaches. But good coaches never force modeling as a coaching technique, especially if the teacher is not open to learning from it. Like other strategies, it's important to identify why modeling is being used, what the intended outcome will be, and whether it is the right fit for the situation.

If a teacher is open to the coach engaging in modeling a technology tool in the classroom, the coach should begin by asking questions like:

- What do you hope to get out of observing me model this tool?
- When I use this tool, is there something specific you would like me to demonstrate?
- How can modeling this tool help us reach our shared coaching goals?
- How do you want to capture your thinking and observations while I model this tool?

Following the modeling, the coach and teacher evaluate together whether the approach to using technology did or did not work. Then they debrief the overall lesson and discuss takeaways.

Some coaches may worry about modeling if they are not content experts in the subject area the students are learning. However, there are still ways they can incorporate modeling into their coaching practice. For example, the teacher can remain the leader of

the lesson and content, while the coach offers a brief model of the technology tool during instruction.

If modeling is not the right fit, there are other ways for coaches to help teachers understand and apply specific tools or instructional approaches. The coach and teacher can co-teach a lesson that includes technology tools, co-plan an upcoming lesson that integrates technology, or review student work together to decide on next steps for using technology to meet students' needs.

4

Address educators' concerns about new technology, including the use of AI in school.

Teachers are not just teachers; they are also learners (Knowles et al., 2015). Adult learners need specific kinds of environments in which they feel safe to learn, take risks, make mistakes, and grow, including when they are integrating AI in school — for example, through ChatGPT. Here are some ways coaches can help create those kinds of environments and address teachers' concerns and possible resistance.

Start with the "compelling why." Change can feel ambiguous, unrelatable, irrelevant, or impossible to do. When coaches clarify the "why" behind the change and how it will impact their students, it can reduce teachers' anxieties and resistance.

Find out what teachers want to learn and try. Starting with the technologies teachers are curious about can help build teachers' intrinsic motivation, encourage them to take risks, and open the door to additional possibilities.

Help identify tools that are immediately applicable. Teachers may respond better to technology when they see an immediate use for it in their classroom and see how it can help students learn. Coaches can share or brainstorm those opportunities, including how to integrate a new tool into one small part of a lesson, such as using AI-generated writing prompts, so that teachers learn technology doesn't have to be a massive shift.

Identify opportunities to automate tasks using technology. Technology tools can also free up teachers' time from administrative tasks and time-consuming projects so they can focus on interactions with students and other teaching tasks that have a direct impact on student learning. Coaches can ask teachers about tasks that might be automated through the use of AI or other tools so they can focus more time and energy on their students.

Coaches play a key role in building environments that are safe for taking risks and getting feedback, but administrators also have a role to play in building that culture and encouraging a growth mindset. Administrators should be thoughtful and intentional about this role — for example, deciding not to conduct teacher observations when a new technology tool is being piloted.

5

Strengthen alignment between district technology policies and classroom practice.

Some districts may have a preapproved list of digital apps and tools that are permissible for teachers to use. Coaches play a role in helping teachers understand why it's important to use the district-approved tools — for example, to ensure the tools have adequate protections for student data privacy.

Coaches aren't meant to be a single, magic solution to technology challenges, such as the complicated issue of using AI in school. They should be part of a system of support. It's also important to remember that the coaches themselves need support and preparation from school and district leaders.

But we have found that they are a key part of our professional learning approach to helping teachers expand and grow how they think about technology use in the classroom. For example, 82% of participating Verizon Innovative Learning Schools teachers have reported that the program helped them explore new ways of teaching.

INSPIRATION AND SUPPORT

All kinds of coaches and professional learning facilitators — even those whose jobs don't explicitly include technology — can use the concepts and strategies described here. They can bring a human face and an individualized approach to helping educators use available technology tools. They can be an inspiration and support for instructional risk-taking and innovation that can help improve teaching and prepare students for the future. With a coaching system in place, technology use can be purposefully woven into professional learning and strategic plans to meet all teachers where they are and move them forward in affirming ways that contribute to student success.

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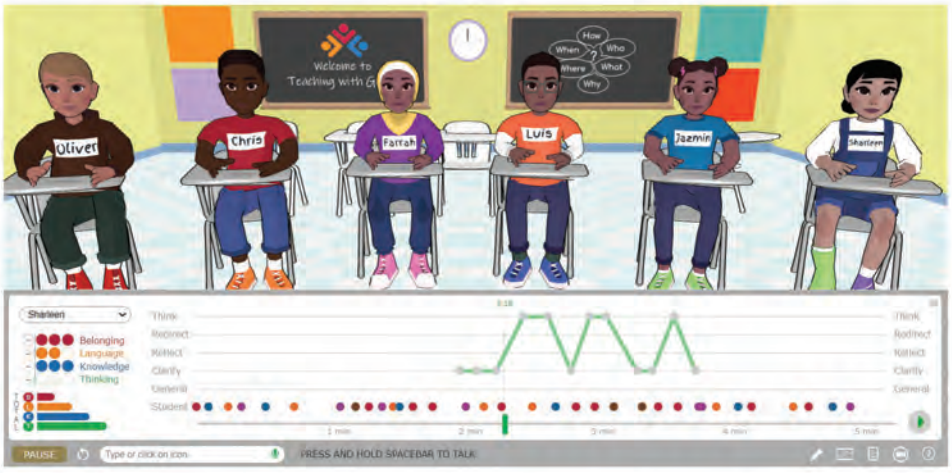
AI-powered simulation drives teacher learning

BY RHONDA BONDIE AND ELIZABETH CITY

Along with many educators, we have been skeptical of technology tools that claim to make a teacher's job easier. After all, technology has yet to live up to the litany of promises we have heard throughout our teaching careers. Now artificial intelligence is grabbing headlines, with many leaders claiming it has the power to transform education.

But new questions arise every day about the impact of AI in schools: How will teachers learn about AI and leverage it in their classrooms? How might they use it to develop their own teaching expertise? Can AI for educators really lead to better teaching and learning?

Despite our natural skepticism, our emerging experience with AI-powered teacher learning suggests



Novice and experienced teachers engage with AI-powered students in the Teaching with Grace virtual classroom.

potential for benefits to teachers and students — when the tools are carefully designed and grounded in research and teachers' deep knowledge and experience. In particular, we believe that AI can help teachers become more effective by providing consequence-free personalized teaching practice.

Traditionally, teachers develop their teaching practices by working in schools under the supervision of a mentor teacher, coach, or administrator. Because these situations occur in real classrooms with real children, they have high stakes for everyone involved. As a result, teachers have limited opportunities to experiment with new teaching practices or apply feedback to improve their practices.

In contrast, a virtual classroom allows teachers to pause, try again, and focus on specific parts of a lesson. AI can provide immediate feedback on teaching practices, such as the quality and equitable distribution of the teacher's feedback to avatar students, so they can make changes in real time. This situation can provide the time and support for teachers to develop the quick-thinking skills they need to respond to students dynamically as learning unfolds in classrooms.

To explore AI's potential for supporting teacher development, we built an open-source, freely available AI-powered classroom called Teaching with Grace with financial support from several grants — Reach Every Reader, Computer Integrated Teacher Education, and Teaching with Primary Sources.

Teaching with Grace provides teaching simulations, where teachers can practice their instructional moves in much the same way that pilots, doctors, nurses, and military personnel use simulations to develop skills and problem-solving strategies.

We have found that this simulated classroom creates dynamic and personalized opportunities to practice teaching that can help teachers provide better and more equitable feedback and engage in more meaningful interactions with students.

RESEARCH-BASED LEARNING

During the last six years, we have been part of the leadership team of a research-to-practice initiative called Reach Every Reader, which creates research-based solutions to the complex challenges of ensuring every reader thrives. One major component of the initiative is providing professional learning, which we align with Learning Forward's Standards for Professional Learning, with a particular focus on equity practices and drivers, professional expertise, evidence, and learning designs.

As part of our professional learning, we have begun using immersive technologies that engage teachers in opportunities for practice and feedback that teachers can take back to their classrooms. These digital tools mirror and help us to model the types of personalized and differentiated learning that we hope pre-K-12 students experience. They enable us to reimagine teaching practice where teachers take risks, explore different approaches to learn from their experiences, and develop self-awareness of themselves as teachers.

Our AI-powered virtual classroom, Teaching with Grace, is built on the principles of instant data-rich feedback, learner control of personalized practice, and unlimited, anytime, anywhere practice. In this virtual classroom, teachers practice recognizing student strengths as the starting place for learning.

For example, teachers learn and deploy strategies to quickly perceive the effort, emotions, and histories that students bring to their learning

as assets. Practice sessions are also designed to help teachers think and respond to students in the moment — for example, prompting students to think deeply about themselves and their learning.

Teaching with Grace homes in on teacher-to-student feedback because research has found this to be one of the most impactful teaching practices on student learning (Hattie & Timperley, 2007). AI can be trained to use language models that quickly analyze and categorize the language teachers use to identify specific purposes and qualities of teacher feedback.

Teachers in the virtual classroom can pause their practice to see a visual timeline showing the frequency and quality of feedback they gave to each student. They can then reflect on those patterns, identify what they want to change, and try again. In this way, the data-rich, consequence-free environment powered by AI and machine learning encourages teachers to be present, imaginative, responsive, and precise, not just in their next simulations, but in classroom interactions with real students.

Our practice scenarios focus teacher attention on two aspects of feedback that teachers use in nearly every classroom lesson and that have a high impact on student learning when done well: adjusting teacher directions for partner discussions to increase the quality of the academic language students use to express their ideas and equity in discussion participation as well as responding to student misunderstanding when providing feedback.

HOW THE SIMULATION WORKS

We begin each practice session with teachers listening to student responses so that teachers must adjust their teaching immediately based on student understanding and learning. One scenario begins with students responding to comprehension questions based on a newspaper article about the equipment scientists use to explore the moon. Each avatar student expresses a partial but incomplete understanding of the article.

Teachers are then directed to select a student to pull aside for individualized feedback, using the following steps. First, the teacher engages the student by taking a few deep breaths to relax and focus on learning. Then the teacher asks clarifying questions to better understand the student's thinking that led to the initial responses. And finally, the teacher fosters deeper learning by prompting avatar student metacognition (e.g., "How has your thinking changed?") and asking students to reflect (e.g., "What are you taking away from this experience?"), generalize (e.g., "What have you done before that looks similar to this task?"), or transfer their learning (e.g., "Could you try this approach on another assignment?").

Following the practice session, teachers receive a visual display of the quality and frequency of their feedback to student responses. Teachers can also view an analysis of student responses showing the amount students expressed belonging and used academic language, knowledge, and thinking in their responses to the teacher. Taken together, this information can help teachers examine the extent to which their teaching was responsive to student learning.

Before we developed the AI-powered classroom, we tested simulations using a combination of software, scripts, and educator actors playing the roles of avatar students and professional coach. We analyzed recordings of over 200 teachers of different content specialties and grade levels and from urban and rural school contexts using the simulations to practice adjusting teaching in response to avatar student learning (for a detailed description, see Bondie et al., 2023). Both novice and experienced teachers found our simulated practice sessions relevant and useful for developing more effective and responsive daily teaching practices.

SIMULATION TAKEAWAYS

In our work in teacher education, we assign Teaching with Grace practice for both novice and experienced teachers to practice in-the-moment student interactions that are key to nurturing learning. Five takeaways from the simulations inform the way we now design teaching practice in our teacher preparation courses and ongoing professional learning.

Expect varied growth from repetition.

Improvement for teachers does not happen in a continuous upward motion. Repetition did not lead to linear and consistent teacher growth; teachers improved and then struggled when they tried something new, but then improved again.

We also found that the type of repetition matters: Teaching sometimes didn't improve when multiple practice repetitions were too similar and tedious. Expect to see both growth and backward stumbles on the path to teaching expertise.

Align expected outcomes to actual teacher goals.

When teachers were allowed to choose to repeat, continue, or move on to a new task, teachers chose the practice that matched their goals. For example, many preservice teachers sought repetition for automaticity, while experienced teachers tended to continue to push for deeper student learning, and early career teachers tended to try something new. These different goals for practice changed how we defined growth (e.g., improving through repetition versus expanding through skill transfer to a new task).

Prompt teacher self-reflection.

Following each simulated teaching practice, teachers used a survey to reflect on their learning in the practice session and plan next steps for using their learning in their daily teaching. Teachers reported increased awareness

of their thinking process and problem-solving that takes place during teaching.

Explore and play.

The virtual environment invites playful and experimental teaching practice. For example, veteran teachers reflected on how they enjoyed exploring teaching strategies in the virtual classroom because it is hard to try something new when what you are doing is working well, yet you know there could be room for improvement or creativity.

Without the pressure of caring for real students, teachers could experiment with their teaching approaches and explore new strategies without worrying about time constraints or possible missed learning for students if the technique was unsuccessful.

Focus on student equity.

Teachers gave richer and more specific feedback to students who gave longer answers. Sadly, students with shorter responses (e.g., "I got the same as my partner") usually got less feedback from teachers at all experience levels, even though their minimal responses likely indicated lower levels of understanding and therefore more need for help.

Professional learning needs to draw teacher attention to habits that fail to nurture every learner and offer practical teaching practices that promote equitable engagement and learning opportunities for all students. We try to use student responses that are incomplete or partially correct to give teachers practice in responding to these challenging types of student responses.

NEW WAYS TO SUPPORT TEACHERS

The rapid development of AI technology has opened new doors for our work supporting teachers to improve their practice. Before this technology was available, it would take weeks for us to analyze the sessions and provide feedback to teachers about their interactions with avatar students so they could reflect on their teaching. Now that we use AI to analyze the language spoken during virtual classroom interactions, teachers can pause the practice session at any time to receive instant feedback.

We continue to add new simulations and features of the virtual classroom. Although still in development, Teaching with Grace is publicly available through the Agile Teacher website at **agileteacher.org**. Videos on our approach to providing effective feedback are available at **www.youtube.com/@agileteacherlab627**.

The many ways educators and leaders can use these tools include:

- Teacher educators and professional learning facilitators might incorporate these free tools into teacher preparation and ongoing professional learning.
- Teachers can use the tools on their own to improve their teaching practices.
- Coaches and principals might refer teachers to the Agile Teacher website and tools to provide support for developing teacher provision of high-quality feedback to students.

Digital tools are not free from possible perils, of course. Digital representations of students lack human feelings and experiences, limiting teachers' opportunities to practice learning about real contexts and the lives and identities of real (human) students.

Representation of identities and cultures in nonhuman digital constructions of any kind, such as avatars, involves great care and critical analysis to avoid stereotypes. It's important to recognize that the makers of the technology tools bring their own cultural values, languages, and ties to funding sources that may shape the practice opportunities and measures of success that are promoted.

One way to confront and limit bias is to engage with teachers in creating practice scenarios and developing the language models used to analyze the teacher language used in the virtual classroom.

Even with attention to diversity and representation, technology tools should not be used in isolation. The best learning is relational. Like students, teachers need human supervision, feedback, and coaching to make the best use of the tools and ensure that their interpretations and implementation reflect evidence-based teaching practices.

While these limitations require ongoing attention, new technologies are vital for developing accessible, affordable innovations in teacher education. Virtual teaching practice may transform the way teachers prepare to interact with students, ensuring that, from their first days in the classroom and throughout their careers, teachers feel equipped and confident and are ready to engage the brilliance of their students.

We invite educators and facilitators at all levels to try our tools and collaborate with us on furthering these technology innovations in teacher education. Through collaboration, we hope to continue to develop flexible, adaptive, and scalable teaching practice arenas to meet the needs of all teachers and students.

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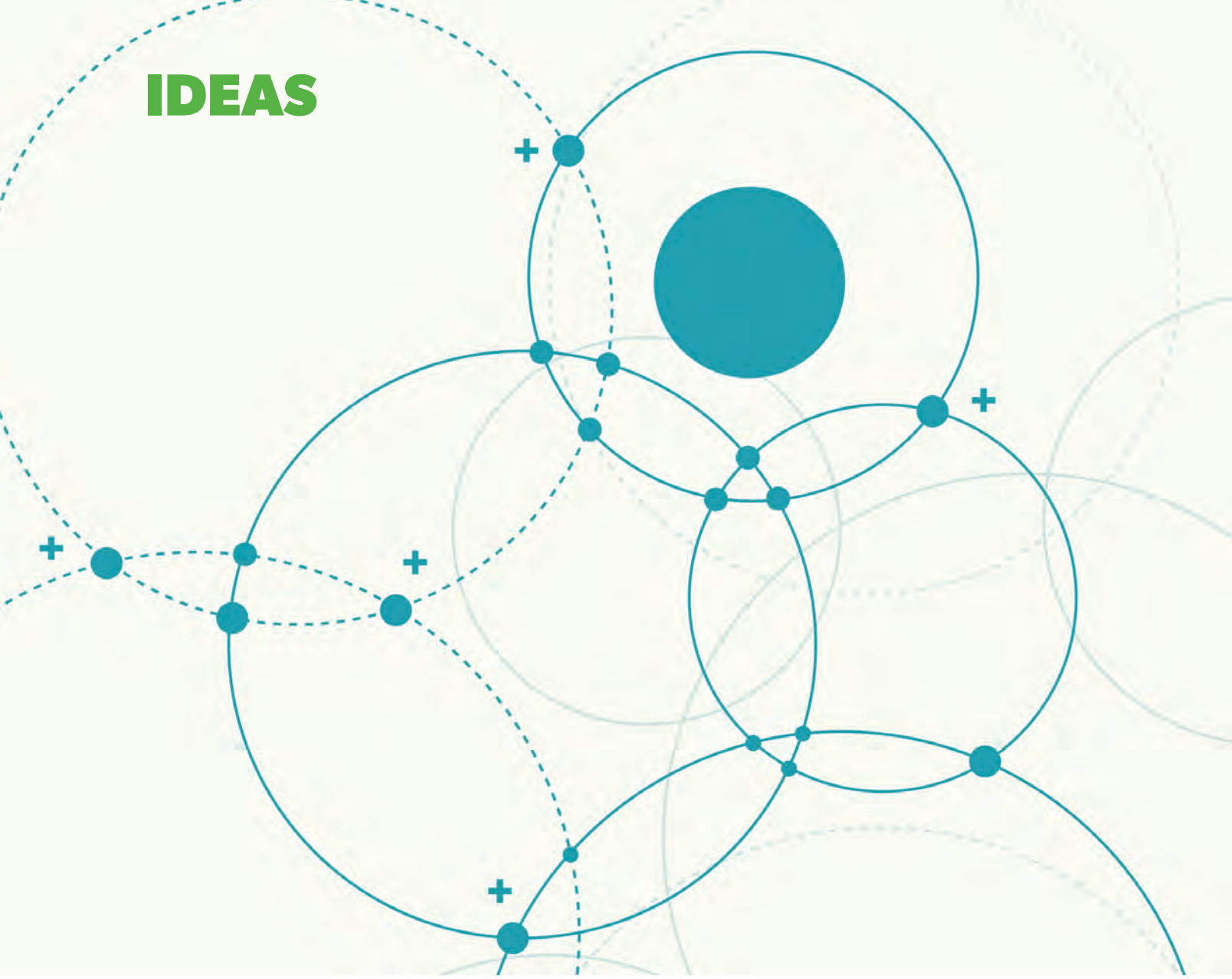
IDEAS

SUPPORT FOR SCHOOL LEADERS

School leaders need support to ensure success for all students. That support should include guidance about managing change in stressful times (p. 60), evaluation processes focused on learning (p. 54), and a framework for integrating equity into decisions and actions (p. 64).



A sweet spot for principal growth and evaluation

BY SHELLEY HALVERSON AND GREG MAUGHAN

We all have experienced evaluation systems that feel like a series of hoops to jump through. Some require goal setting, some require elaborate data collection, and some are a little of both. Regardless of role, it often becomes a box-checking exercise and not a reflective, meaningful process that engenders growth for those engaged in it.

In the small rural district of South Summit School District in Kamas, Utah, where we lead, we hoped to go about principal evaluation in an entirely different way. We envisioned something more useful and grounded in principals' work, specifically in the area of instructional leadership that would also promote growth.

In 2022, we set out to do just that. Following is an account of how we used survey results, formed a professional

learning community (PLC) with our principals, and built a framework of the four themes that emerged that function together for a meaningful process of collaborative inquiry and evaluation.

GATHERING INFORMATION

To begin, we conducted a qualitative research study to gather data on what our principals thought was needed in creating an evaluation system that would promote leadership growth. Principals participated in two individual interviews and a group interview. We asked them what meaningful evaluation would look like in practice, what types of professional learning would be most beneficial for professional growth, and how a supervisor might support a principal through this process.

As we coded the data, we realized that principals needed to see the process as formative and supportive of growth. Without that, the logistical details, such as the number of observations, the goal-setting worksheet used, or even the set of leadership standards used to measure effectiveness did not matter.

At the heart of such a process is a foundation of relationships and trust. One principal said, "You really need to know me. You need to understand my heart and my soul and where I am coming from. I need to trust you. If we really want these kinds of evaluations, I need to trust that you are really on my side."

During the course of our study, it became clear that we needed to co-create our evaluation system alongside our principals, an aspect we found to be generally missing in most existing evaluation system components. In fact, without principal input, there was a danger of unintentionally creating a disconnect between leadership standards, expectations, and the real-world, day-to-day work of a principal (Lashaway, 2003).

Principals' participation in the study gave us information to begin tailoring our work for the individual leader. It also supported building the foundation of trust and reframed the evaluation from an exercise in compliance to a process of personal growth.

Multiple times during data collection, discussions revealed areas of need. In one example, principals shared their desire to have time to sit together and dig into various topics relevant to instructional leadership.

As a result, we began building our evaluation system in partnership with them. We included a structure to facilitate collaborative, job-embedded professional learning with requested discussion topics and areas of reflection. Our goal, as district leaders, was to be as responsive as possible to their expressed needs while ensuring we continually moved the work forward.

DETERMINING PLC GOALS AND STRUCTURE

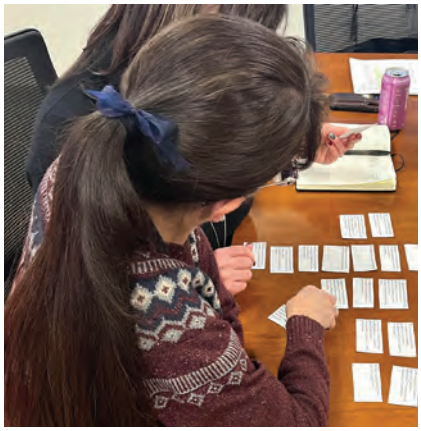
We began by setting up a monthly principal PLC time for collaborative learning. These meetings were strictly for learning, and business matters were not allowed to intrude on that time. Based on the data and conversations, we determined that, to build a collaborative environment, we needed to be able to ask for help, share successes, be generous with our assumptions, and get curious.

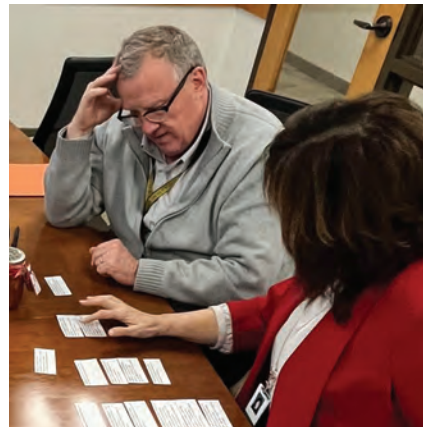
To get a sense of principals' priority areas, we sent a survey of topics from a list generated from things we had heard mentioned during the data collection or in other meetings and conversations and asked them to rank their top three.

In looking through their responses, the one common request was to create the nonnegotiables of what Tier 1 instruction looks like across the district, regardless of grade level, content, or school site. We discovered it was a high-leverage topic with a lot of productive crossover to other survey areas of interest and would also support district coherence around high-quality instruction.

As we engaged in the work, we used a specific structure for how we dig into the Tier 1 components — for example, engagement, rigor, reflection, and access. We defined components as the overarching elements of high-quality Tier 1 instruction. That structure developed as follows:

- Each principal defines the component for themselves.
- All definitions are captured in one place.
- Using those definitions, we create a shared definition of the component.
- We watch a video of teachers in elementary, middle, and high school to look for evidence of the component.
- We revisit and refine our definition and co-construct what evidence we want to see in the classroom of the component of Tier 1.





Principals from South Summit School District in Kamas, Utah, sort teacher definitions of engagement to look for themes as part of a districtwide professional learning community. Left photo: Laci McCormick and Kena Rydalch; right photo: Jeff Greiner and Lisa Flinders.

- We then answer two questions:
    1. What would you observe students doing and demonstrating during rigorous learning?
    2. What would you observe educators doing and demonstrating to cause rigorous learning?

Each month, we identify one component of Tier 1 to address and, when needed, we spend more time on a component as determined by the group. One of our next steps is to create an instructional playbook with instructional strategies that support teachers in reaching the expectations of the components of Tier 1.

Between PLC sessions, we spend three hours a week in the schools, observing three classrooms with the principal and assistant principal, looking for co-created evidence of that month's component of Tier 1. It becomes an opportunity for calibration between observers and is a means of testing our definitions and understanding.

Every observation is debriefed with robust conversations about what we saw, as well as how to give useful lesson feedback to the teachers. In this way, the learning is job-embedded and practical, occurring outside of a meeting setting. When the PLC reconvenes, we discuss principals' observations to review and refine our definitions.

We engaged in these practices to foster the conditions for continuous cycles of improvement in instructional leadership. What emerged from the work was the discovery of four themes, which we like to conceptualize as four gears (See figure on p. 57.) Together, the four gears create the type of evaluation system and climate in which a principal can be vulnerable and grow professionally in meaningful ways.

TAILORING TO THE INDIVIDUAL

Responding to our principals' feedback allows us to ensure we are tailoring our process to their individual needs — the first gear. We gathered their input throughout the process since we want anything we implement to be co-created. This is accomplished during the PLC reflection section, in individual interviews, and by comparing our experience with our established learning intentions and success criteria.

Initially, each month we had scheduled one business and one PLC meeting, but after the first couple of PLC meetings, principals requested we dedicate some of the business meeting time for PLC work instead. When asked what wasn't working, one principal said, "I feel like anything that is not working is already fixed — like the schedule and having everyone there."

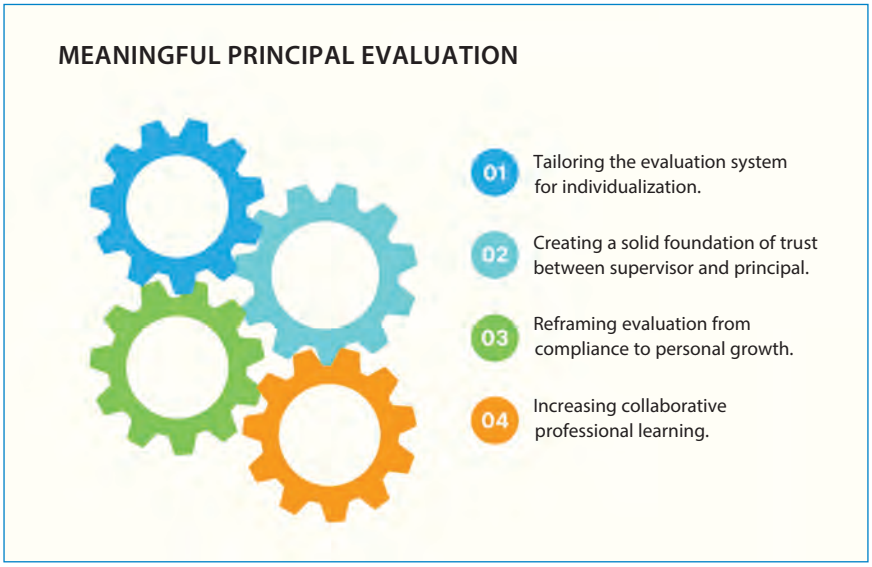
When we originally planned the PLC structure, we did not include a data collection piece. However, as we tried to define certain components of Tier 1, such as engagement, the group wanted to first collect its own data on how teachers and students define engagement so we could develop a common language.

How much PLC time we spend on each component has been adjusted multiple times in response to the principals' desire to dig into and reflect on certain components of Tier 1 instruction more deeply. Not only do we respond to any feedback that comes up during meetings, we also have added more formal data collection points to elicit their input.

Based on their responses, we adjust our process in the moment, as well as the district implementation timeline, and then calibrate our next steps for implementation.

THE GEARS AT WORK TOGETHER

Our PLC has facilitated building a foundation of trust while also focusing on professional growth — the second and third gears. During the study, principals described why collaborative structures in professional learning are so important. They named the positive effects of being able to "work together," to "get to know [one another] and feel safe together," and that the PLC



serves to "benefit them as a group and individually."

They described this cooperative structure as their preferred option for professional learning. It helps to create an environment that is safe enough for them to be vulnerable in a way that is essential for engaging meaningfully in one's own improvement (Brown, 2018).

We are beginning to see shifts in the culture of our PLC as principals are feeling emotionally safe enough to openly challenge our thinking as well as each other's thinking. One principal said, "The exchange of ideas and the way we are working together is strong. It feels good. The interaction widens your scope of thought and ideas. I leave those meetings exhausted in a good way."

Another said, "I love that we are creating learning together." One principal mentioned how they "hope it continues to be an avenue of support for principals because the job is hard." When we observe in classrooms to connect our theoretical work to the practical, we have observed that same level of emotional safety because we are all honing our skills together. There is no hierarchy and what we see or don't see is not used as a "gotcha."

It actively builds trust and simultaneously validates what they are seeing and doing, gives them additional perspective, and pushes their thinking. One principal said that the PLC inspires her because we "are working toward something together, and the conversation is meaningful and shared."

This year, we've focused more heavily on implementing the fourth gear of increasing professional learning in the PLCs. Meanwhile, we make sure to maintain the other three gears through the continual practice of assessing our responsiveness to their needs, checking whether our process feels collaborative, and assessing overall impact of the PLC process through feedback cycles.

Our goal has been to ensure our collaborative professional learning has engendered a foundation of trust, focuses on growth, and supports each principal's leadership skills in an individualized way.

While each of the four gears is important on its own, their real power lies in their interdependence. When one gear is not implemented with the others, it directly impacts the principal's experience. It also hinders the principal from being able to be vulnerable, stifling their leadership growth process.

District leaders are tasked with ensuring that specific and intentional actions are taken to make sure all four gears are present so the conditions for vulnerability are present. In this type of evaluation system — when functioning well, co-created with principals and supported with professional learning — district coherence around high-quality Tier 1 instruction is a natural result.

HOW PLCS HAVE CHANGED PRINCIPALS' PRACTICES

Recently, we asked our principals to reflect on how this PLC process affected their leadership and practice. Their responses were positive across the board. The principals described the process as "finding the sweet spot of what we want our Tier 1 to be, versus what we can actually do and make it real."

Another said, "It has also facilitated conversations between principals so I can learn from other people's strengths, suggestions, and ideas." Our first-year principal mentioned that the PLCs have supported her work in this new role through "sitting with everyone and working through what we want to see as a district."

When we talked with principals about how it has changed their practice, they mentioned specifically how it supports individual school planning. Speaking of her school's 90-day planning cycles and professional learning, one principal said their PLC process "guides my planning. I love that it is co-created and gives us direction. I am always thinking about how I will take it back to my teachers."

Another principal agreed: "The content is meaningful and relevant. It mirrors and matches what I am trying to do with PLCs in my building." A third principal said that the PLC process has helped hone her skills in planning meetings and professional learning at her school. She said, "I am trying to be more thoughtful in my meetings and with my leadership team — I am more thoughtful in putting the agenda together (and) … about how I do professional learning with my staff."

We have made sure to make the process visible to others outside of our PLC in board meetings, conference presentations, faculty and staff meetings, and in many conversations with individuals and groups of teachers. In making visible what is typically invisible, principals have shared with stakeholders the power of what they are learning.

One principal said, "I even brought it up to my community council. I told them about what we were working on and that … regardless of grade level or content areas, any student could walk into any class and be guaranteed a certain experience. They loved it!"

As district leaders, we collaborate intentionally to structure the way our PLC runs to model the best practices we are learning about. We spend time debriefing after each PLC and planning for the next one. We facilitate the discussion but do very little of the talking so principals will feel empowered to speak rather than simply listen to what a supervisor says.

We were pleased to learn that principals had mirrored that modeling and responsiveness. One said, "I appreciate, and it is obvious, that you guys are leading out and being thoughtful. It is clear to me the work you put into putting everything together. You are facilitating and listening to our thinking, and we all enjoy the learning together."

The process impacts individual leaders and their practices, which guides the combined implementation of all four gears to ensure principals can be vulnerable and therefore focus on leadership growth.

NEXT STEPS

This year of co-created collaborative learning around Tier 1 is our first step in building a meaningful evaluation system for our principals. This starting point was necessary to create a collaborative understanding of what we wanted to see in classrooms first. Without that shared understanding, we would not be able to support or evaluate their instructional leadership with the depth that we have.

And, while we have these steps listed in a linear fashion, we are moving between them all the time, touching on where we have been and where we are going, building skills and understanding along the way. The work has led us to clearly picture where we are headed next:

- Complete and refine the components of our nonnegotiables of Tier 1 and present to our school board.
- Align Tier 1 nonnegotiables with the state teaching standards to leverage our teacher evaluation system to support high-quality Tier 1 instruction.
- Define high-leverage instructional leadership practices to support implementation of nonnegotiables of Tier 1.
- Align those high-leverage practices with state leadership standards and our evaluation process to support continuous cycles of leadership improvement.

FOCUSING ON PRINCIPAL SUPPORT

We are pleased with the results in using the four gears of meaningful principal evaluation as we co-create a culture of trust that supports individual growth and collective learning. Our initial focus on the fourth gear of increasing collaborative learning has brought about growth in all participating educators' leadership — including ours — as we learn alongside one another.

Instead of designing "systems to meet all kinds of exacting requirements except the requirement that they contribute to the fulfillment and growth of the participants" (Barth, 1985), we strive to do the opposite. Our goal is to be as responsive as possible to the needs of the group and each individual principal to bring about relevant, worthwhile collaboration.

And, while we have done that, we have also supported the other three gears. Equipped with our new knowledge, we will be able to put the fulfillment and growth of our principals at the center of our evaluation system and keep that as our focus in supporting them to lead.

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Through storms to safe harbor: LEADING CHANGE IN TURBULENT TIMES

BY JO BETH JIMERSON AND CARA JONES

For years, I (Jo Beth) had a photo of a ship in a storm tacked above my desk. On it was this quote: "Anyone can hold the helm when the sea is calm." This was a reminder that skilled leaders steer safely even through storms, and that is true today. The sea is decidedly *not* calm: School leaders must lead change amid layers of increased social and political complexity.

In education, the concept of leading change winds through most, if not all, of a leader's job. But the nature of that change is, well, changing. Before COVID-19, leading through change meant strategically navigating between typical transitions, such as between one program, policy, or practice to another.

This might have been technical, as with a curriculum shift; structural, as in the launch of a new campus; or personal, as when educators transition to new professional roles or adjust to

The COVID-19 pandemic left everyone with less capacity to weather and sustain change, which led us to consider: How can leaders function effectively in turbulent times without losing sight of their own needs?

new routines after a major life event. Though challenging and emotionally draining, these kinds of changes are not new.

However, now there exists a crucial difference in how people experience changes. In systems before COVID-19, various transitions affected some people indirectly, marginally, or not at all. Those less affected had the emotional capacity to hold space for others' burdens. During and after COVID-19, the spectrum of typical crises continued throughout a pandemic that left no one untouched. This left everyone with less capacity to weather and sustain change.

This evolving landscape led us to consider how leaders can function effectively in turbulent times with purpose and resilience while also honoring the humanity of others *and* not losing sight of leaders' own needs as part of the patchwork of a broader community. We asked: How can school leaders navigate change in tumultuous times without losing the best of themselves in the process?

In our work studying and supporting school and district leaders, we identified the following five principles for leading in turbulent times. These principles enhance the odds that change management is successful and sustainable.

1. Use an accurate map and a trustworthy compass.

For any change process, a trustworthy map is essential. Leaders need to have a clear vision for what a change requires, such as personnel, resources, and time, as well as where they hope the change will take the school — what outcomes are anticipated.

An aspiring leader recently analogized this concept to driving along a winding road in the rain: "You have to keep your focus on where you're going, but you also have to be mindful of possible hazards coming your way," she said. The context of change matters, and a vision without attention to sociocultural and political hazards that can appear at any moment can threaten the success of the journey.

Leaders also need an internal compass that guides ethical action (Starratt, 2012). Do they believe in the change being implemented? Can they authentically encourage others to do what needs to be done? Who will they be throughout this change process, and how will they treat others along the way? These are internal drivers, born of leaders' values, integrity, and sense of purpose.

Having a clear sense of identity — including personal motivators, values, and sources of self-worth — is imperative for staying the course during a change initiative. Of course, all socially intense work carries emotional labor or the need to sometimes present a facade to others that does not perfectly match internal feelings in the moment — that's just a part of being professional during times of conflict (Hochschild, 2012). But having to constantly act in opposition to one's deeply held emotions and values is draining and increases burnout risk.

2. Attend to the social as much as the technical.

Change is "technically simple, but socially complex" (Fullan, 2016). What looks simple on paper is difficult in practice because schools are always nested in a socially complex, fast-paced, and dynamic context. Schools are people-dense and socially intense. Successful leaders center people and attune themselves to the social and emotional needs of others in these contexts. Here are ways to do that.

Communicate expectations and information related to the change. Do so frequently, transparently, and with authenticity. People need to know the why, the what, and the how of any change initiative.

Balance expectations with resources needed for success.

Employees tasked with change but denied the resources needed to be successful can become frustrated, resentful, or disillusioned. High expectations in a context that lacks adequate educator support is a recipe for a talent exodus.

Acknowledge that change often walks hand in hand with grief or loss. Adopting a new practice, policy, or way of being means letting go of programs, roles, and ways of being or doing that may be familiar and comfortable. Leaders must understand that people will have a range of responses to change. Some will embrace change enthusiastically, and some will be sad, angry, or hesitant. Trying to understand what people are losing — or what they perceive they are losing — is critical to a leader's ability to respond appropriately (Heifetz & Linsky, 2017).

3. Build a cohesive and diverse leadership team.

Any leader who operates in an echo chamber and makes divergent voices unwelcome risks making decisions on incomplete or inaccurate information. More information, from multiple perspectives, increases the odds of good decision-making (Khalifa, 2020).

Creating an atmosphere where diverse perspectives are not just welcome but are intentionally invited fosters trust and increases awareness of potential complications involved in any change initiative.

To lead change well, leaders must create teams that are inclusive and diverse. If a change affects students, parents, teachers, and community members, cultivating a culture where all those voices are included mitigates gaps in understanding and unwanted surprises. Here are strategies leaders can use to foster innovative and inclusive cultures.

Demonstrate vulnerability and authenticity. Change leaders sometimes need to act decisively but shouldn't pretend to have all the answers. Effective leaders acknowledge gaps in knowledge or insight and seek out information to inform follow-up. "Let me think about that and get back to you" or "I want to give you accurate information, so let me make some calls first" are common parlance for self-confident, self-compassionate leaders navigating change.

Include students where appropriate and possible. Students are often the most affected by change throughout schools and the least likely to be brought into the decision-making process. Children have important perspectives to offer and should have the right to be a part of processes that influence their lives (Bourke & Loveridge, 2018). Leaders should also be intentional in creating teams that have a diverse set of voices that span racial, gender, age, ability, and power lines.

Consider how groupthink can result from "grouplook." If everyone at the table looks the same, attends the same religious communities or activities, participates in the same social, community, and civic circles, the team may be vulnerable to groupthink. This reinforces echo chambers — which is never helpful when facing complex challenges (Smith, 2022). Leaders should be intentional about broadening the voices invited to the problem-solving process and pay attention to who has been intentionally or unintentionally left out.

4. Create anchors and safe harbors.

Too much change is overwhelming. Human beings can only juggle so much at once in terms of cognitive load, which can be thought of as the total demand on one's working memory, or as the "noise" one can endure and still think and act calmly and with intentionality (Hammond, 2018).

Change turns up the volume of the noise that teachers, staff, families, and students navigate as they process information. Too many distractors inhibit the ability to notice events or needs that seem blatantly obvious to others (Chabris et al., 2011). When people are working in contexts where too much change is happening at once, it's difficult to focus and accomplish challenging work.

Leaders can reduce the cognitive noise in the workplace and support healthy working conditions by creating safe harbors — aspects of the workplace that are held constant. Keeping some routines, practices, and personnel assignments stable mitigates a sense of chaos and creates cognitive space for creativity and complex work. For example, if curriculum materials and testing calendars are changing, maybe shuffling the duty roster or classroom assignments can wait.

One way to think about this is with the children's game of "the floor is lava," where the challenge is to hop from one safe spot to the next. The game can't work if there are no safe landing spaces. Adults need safe landing spots, too. People need spaces, routines, and practices they can count on being consistent when everything else seems awry.

Effective leaders embrace change, but they also create safe harbors for themselves and others. This allows teams to recharge if they need it and move forward secure in the knowledge that, while they may encounter rough waters, there will be predictable spaces of calm for respite along the way.

5. Refresh and refuel.

Change requires focus, energy, time, and effort, but leading change is not sustainable unless school leaders invest in themselves. Just as school leaders should support teachers and staff in prioritizing well-being or risk losing talented teachers to burnout, school leaders need to keep themselves healthy and energized so they are capable of doing the work and staying the course. This is often easier said than done, given the passion and purpose many school leaders bring to their work and the fact that educational work never ends.

Practicing self-compassion is important in mental health and

wellness efforts (Neff, 2022). Being human means making mistakes. Leading change inevitably involves making mistakes, but effective leaders give themselves permission to try, make mistakes and learn from them, and try again. In fact, leaders should practice embracing and learning from mistakes as part of the human experience, rather than perseverating on minor fouls or imperfections.

Accepting criticism and adjusting course where warranted, but *depersonalizing criticism* and distancing where appropriate, can help leaders manage the emotional burdens that can accompany change leadership. Change often invites criticism, and leaders today find themselves sometimes facing vociferous — even uncivil and hostile — critics. Heifetz and Linsky (2017) remind us that while criticism may feel personal, it is often lodged at the position, not the person. If someone else were filling the leader's role and making similar decisions, critics would instead target that person.

Effective leaders *pay attention to and manage stress levels*. Heather Forbes writes, "Each one of us has a certain level of stress from where we operate, as well as a point at which we reach complete overwhelm, where we essentially 'blow' " (2012).

Forbes referred to this as a "window of stress tolerance," though thinking of stress limits in terms of a drinking glass provides an accessible visual. Every leader starts each day with a glass. The glass is filled to a level that represents the stressors — personal and professional — the leader is carrying. For some, the glass is nearly empty. For others, it's already nearing the brim.

For those near the brim, there's not much space left for dealing with unanticipated or emotion-laden problems before they become overwhelmed and risk responding to others in ways that are uncharacteristic, unproductive, or unprofessional.

Leaders need to create space in their glass because with each day comes new stressors as challenges, questions, and problems pop up. Exercise, sleep, hydrating and eating well, engaging with a network of positive colleagues, mindfulness or meditation, faith practices, and other hobbies or disciplines help establish balance, mitigating chronic stress that threatens to push great leaders out of schools.

MOVING FORWARD

Though leading change may feel at times like clinging to the helm of a ship in a storm, school leaders can influence the success of the journey. Attending to these five evidence-based principles can help school leaders successfully navigate change and sustain themselves and others along the way, even at times when clouds gather on the horizon. There are better days and calmer seas just ahead, and school leaders play a substantial role in getting us there together and safely.

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How principals can ensure that *every* student succeeds

BY SUZANNE BOUFFARD

Ensuring that every student succeeds takes a shared commitment among all adults in a school and the system that houses it. Principals play a key role in leading and modeling that commitment. Through instructional leadership, professional learning, interactions with colleagues and students, and many other responsibilities, principals can prioritize equity and establish expectations and processes for their colleagues to address every student's needs.

This commitment to equity cannot be a standalone initiative or an add-on task, but instead should be woven into the fabric of leadership and into the school as a whole. As Learning Forward (2020) has articulated in its equity position statement, students', teachers', and leaders' experiences are interconnected.

Because leadership is a cornerstone of an equity-focused system, The Wallace Foundation commissioned a group of experts to review the research and scholarship on culturally responsive leadership and consider how to integrate it within principal

LEARNING FORWARD'S VISION FOR EQUITY

Learning Forward believes schools achieve their utmost potential when:

- Each student experiences relevant, culturally responsive, rigorous learning and benefits from the collective guidance and care of exceptional teachers and leaders;
- Each educator has access to high-quality professional learning so they can cultivate the strengths and address the needs of each student they serve; and
- Each leader advocates for and builds an education system that dismantles institutional racism and removes other barriers to students' equitable access to learning.

Source: Learning Forward, 2020.

development and support structures, such as those the foundation has helped to flourish. The research illuminates what principals need to ensure all students succeed, and high-quality, standards-aligned professional learning plays a key role.

A LEARNING-CENTERED SYSTEM FOR DEVELOPING PRINCIPALS

From 2011 to 2017, Wallace supported six large school districts to develop comprehensive, aligned principal pipelines — intentional, research-grounded approaches to identify, recruit, develop, and support school leaders. Accompanying research identified the following seven key elements, or domains, of principal pipelines that not only result in stronger leadership but also higher student achievement (Gates et al., 2019, 2020):

- Leader standards that delineate what principals should know and be able to do.
- Preparation programs for aspiring principals and assistant principals.
- Selective hiring and placement of principals.
- On-the-job professional learning, support, and evaluation.
- Principal supervision processes that include hiring, supporting, and evaluating principal supervisors.
- Leader tracking systems to monitor and connect preparation, hiring, support, and evaluation.
- Sustainable systems of support that include a district-level position or office responsible for school leadership.

Because learning happens throughout the pipeline, and throughout a principal's career, professional learning and support are integral across the domains. And that learning happens in multiple contexts, not just in the principal's office. As the graphic on p. 66 shows, multiple stakeholders and institutions play a role in building principals' capacity, including schools, districts, and higher education.

BUILDING EQUITY INTO THE PIPELINE

The commitment to leaders' continuous learning throughout the pipeline provides valuable opportunities for principals to expand their understanding of and capacity for equity-centered leadership. To highlight those opportunities and provide guidance on how to leverage them, Wallace turned to a team headed by Mark Gooden and Muhammad Khalifa who, with James Earl Davis, had created the influential Culturally Responsive School Leadership framework (Khalifa et al., 2016).

Gooden, Khalifa, and team produced a report that connects the framework with the domains of the principal pipeline (Gooden et al., 2023). It can help systems and individuals cultivate principals' equity mindsets and practices in a way that is integrated and integral to strengthening the workforce and its positive impact on students overall.

Gooden and colleagues describe how the seven domains of the principal pipeline can be infused with the following equity-centered practices from the Culturally Responsive School Leadership framework:

- Develop critical consciousness about historical oppression and current school conditions and resources.
- Ensure inclusive school environments that are welcoming and culturally affirming through active collaboration with historically and currently marginalized people.
- Provide culturally responsive instructional leadership for teachers to support them in honoring the knowledge, contributions, and ways of engaging people of color and challenge systems that marginalize people and communities.
- Enact culturally responsive leadership engagement in community contexts by

Seven Domains of a Comprehensive, Aligned Principal Pipeline

From *A Culturally Responsive School Leadership Approach to Developing Equity-Centered Principals: Considerations for Principal Pipelines* (2023), p. 4, available for free at www.wallacefoundation.org

establishing partnerships with families and the community at large.

The components of this framework can be integrated into all aspects of principal pipelines in multiple ways, as the authors of the report show. The table on p. 67 highlights some of them.

PROFESSIONAL LEARNING THAT EMBODIES EQUITY

For principal pipelines to be equity-centered, principals' professional learning should not only address equity but embody and reflect equity. Learning Forward's Standards for Professional Learning, which describe the content, processes, and conditions for high-quality professional learning, address equity explicitly and intentionally (Learning Forward, 2022a). All standards are grounded in the goal of "equitable and excellent outcomes for all students," and three standards home in on equity as a feature and a topic of professional learning: Equity Foundations, Equity Drivers, and Equity Practices. (See table on p. 68.)

The full set of standards helps to disrupt and dismantle inequities, as articulated in the equity position statement (Learning Forward, 2020), through multiple mechanisms that include eliminating gaps in access and opportunities by ensuring high-quality teaching, leading, and learning and equipping educators with knowledge and strategies specifically designed to recognize and eliminate bias in the classroom and in their own instructional practices.

School and system leaders play especially important roles in implementing the standards in general and the equity standards specifically. For example, the Equity Foundations standard points out that leaders "have primary responsibility and autonomy to establish conditions, structures, and cultures that put equity at the heart of professional learning" (Learning Forward, 2022a, p. 56). When they set the table for equity, leaders make it possible for educators at all levels "to contribute to such conditions through how they engage, respond, and make explicit their expectations for themselves, their peers, and the leaders who support them" (Learning Forward, 2022a, p. 56).

The equity standards show how professional learning can be an avenue for enacting the equity-centered work recommended by Gooden and colleagues, especially the recommendations in the pipeline domain of on-the-job support.

For example, a recommendation for developing critical consciousness includes engaging in personal identity work to examine biases, assumptions,

SELECTED EXAMPLES OF INFUSING EQUITY INTO PRINCIPAL PIPELINES

Principal pipeline domain	Examples of recommendations based on the Culturally Responsive School Leadership framework
Leader standards	Include specific aspects of identity in new revisions to leadership standards.
Principal preparation	Be intentional about infusing equity into the recruiting, selection, and admissions process for principal and assistant principal training programs.
Selective hiring and placement	Construct specific ways to recruit, interview, and assess candidates for equity mindsets.
On-the-job support and evaluation	Explicitly include equity in the supervising, supporting, and evaluation of principals.

Adapted from Gooden et al., 2023.

and mental models. Professional learning provides one avenue for engaging in that work, and the Equity Drivers standard points to educators' identifying and addressing their own biases and beliefs as a component of high-quality professional learning.

The recommendation to nurture inclusive school environments asks educators to "support and evaluate principals' efforts to build relationships with teachers and students, and to challenge current practices that marginalize students based on race, gender, social class, sexuality, ability, immigration status, language, and religion" (Gooden et al., 2023). The Equity Practices standard mirrors this intention by encouraging professional learning leaders to make space for exploring and embracing student assets through instruction and strategies for fostering relationships with all students, families, and communities.

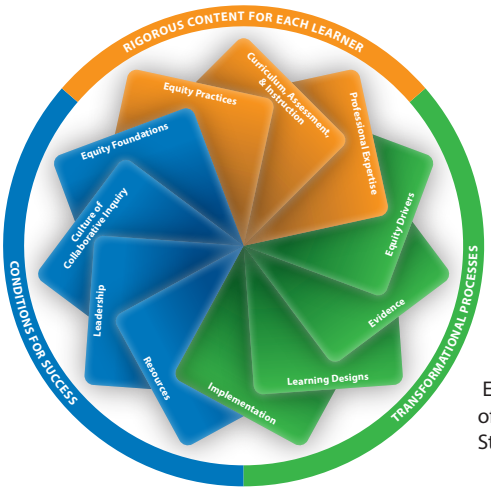
The focus on nurturing culturally responsive instructional leadership describes the need for school leaders to support the development and implementation of a vision of equity-focused instruction. Similarly, the Equity Foundations standard includes educators setting expectations for equity and structures of equitable access to learning, both for educators and students.

Furthermore, recommendations for culturally responsive school leadership that makes learning accessible to all students requires high-quality professional learning about pedagogy and curriculum. The Curriculum, Assessment, and Instruction standard dovetails with the equity standards to provide guidance on how to support all teachers and other educators to ensure rigorous learning for all students.

The Standards for Professional Learning apply to all educators, including principals and those they supervise as well as principal supervisors, who are a key part of principal pipelines. Learning Forward has created role-specific action guides that provide step-by-step guidance for implementing each standard. They include Innovation Configuration (IC) maps, which show how to get from entry to ideal implementation of each standard. See example on p. 69 from a portion of the Equity Drivers standard as it applies to the role of principal.

SYSTEMWIDE COMMITMENT TO GROWTH

When professional learning is designed with equity in mind, it can be a powerful tool to build principals' capacity to support each and every student to high achievement. High-quality, equity-focused professional learning can be embedded at every stage of the principal pipeline,



Equity standards are embedded in each of the three frames of Learning Forward's Standards for Professional Learning.

STANDARDS FOR PROFESSIONAL LEARNING EQUITY STANDARDS

Standard	Constructs
Equity Foundations	• Educators establish expectations for equity. • Educators create structures to ensure equitable access to learning. • Educators sustain a culture of support for all staff.
Equity Drivers	• Educators prioritize equity in professional learning practices. • Educators identify and address their own biases and beliefs. • Educators collaborate with diverse colleagues.
Equity Practices	• Educators understand students' historical, cultural, and societal contexts. • Educators embrace student assets through instruction. • Educators foster relationships with students, families, and communities.

Source: Learning Forward, 2022a.

especially when those who supervise and support principals are also engaged in learning. That systemwide commitment to growth can build everyone's capacity for culturally responsive leadership and instruction so that every student is seen, supported, and successful.

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EXCERPT OF THE PRINCIPALS' INNOVATION CONFIGURATION MAP FOR THE EQUITY DRIVERS STANDARD

Equity Drivers IC map

Professional learning results in equitable and excellent outcomes for all students when educators prioritize equity in professional learning practices, identify and address their own biases and beliefs, and collaborate with diverse colleagues.

Construct 1: Prioritize equity in professional learning practices.

Desired outcome:
Builds own and staff's capacity to use professional learning to cultivate knowledge, practices, and beliefs around equity.

Level 1 (Ideal)	Level 2	Level 3	Level 4 (Entry)
Models, **for all staff,** use of research to deepen knowledge on the importance of equity.	Models, **for all school leaders and select staff,** use of research to deepen knowledge on the importance of equity.	Models, **for all school leaders,** use of research to deepen knowledge on the importance of equity.	Models, **for select school leaders,** use of research to deepen knowledge on the importance of equity.
Develops **own and all staff's** capacity to analyze, synthesize, and share research to deepen knowledge on the importance of equity.	Develops **own, all school leaders', and select staff's** capacity to analyze, synthesize, and share research to deepen knowledge on the importance of equity.	Develops **own and all school leaders'** capacity to analyze, synthesize, and share research to deepen knowledge on the importance of equity.	Develops **own** capacity to analyze, synthesize, and share research to deepen knowledge on the importance of equity.
Develops **own and all staff's** capacity to analyze and interpret national, state, local, provincial, and ministry policies that govern equity, including policies that perpetuate inequities, biases, power dynamics, and prevalent mindsets, expectations, and misconceptions.	Develops **own, all school leaders', and select staff's** capacity to analyze and interpret national, state, local, provincial, and ministry policies that govern equity, including policies that perpetuate inequities, biases, power dynamics, and prevalent mindsets, expectations, and misconceptions.	Develops **own and all school leaders'** capacity to analyze and interpret national, state, local, provincial, and ministry policies that govern equity, including policies that perpetuate inequities, biases, power dynamics, and prevalent mindsets, expectations, and misconceptions.	Develops **own** capacity to analyze and interpret national, state, local, provincial, and ministry policies that govern equity, including policies that perpetuate inequities, biases, power dynamics, and prevalent mindsets, expectations, and misconceptions.

Source: Learning Forward, 2022b.

Standards for Professional Learning Innovation Configuration (IC) maps describe what the standards look like when enacted in systems and schools, bringing detail and specificity to the concepts in each standard. The IC map presents behaviors across four levels of descending impact from left to right, with the far left column representing ideal behaviors that most fully embody the intent of the standard and the far right column representing initial behaviors and first steps.

Each standard has multiple constructs or components and desired outcomes. This excerpt shows behaviors that lead to one of the desired outcomes of the Equity Drivers standard.

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PROFESSIONAL SERVICES

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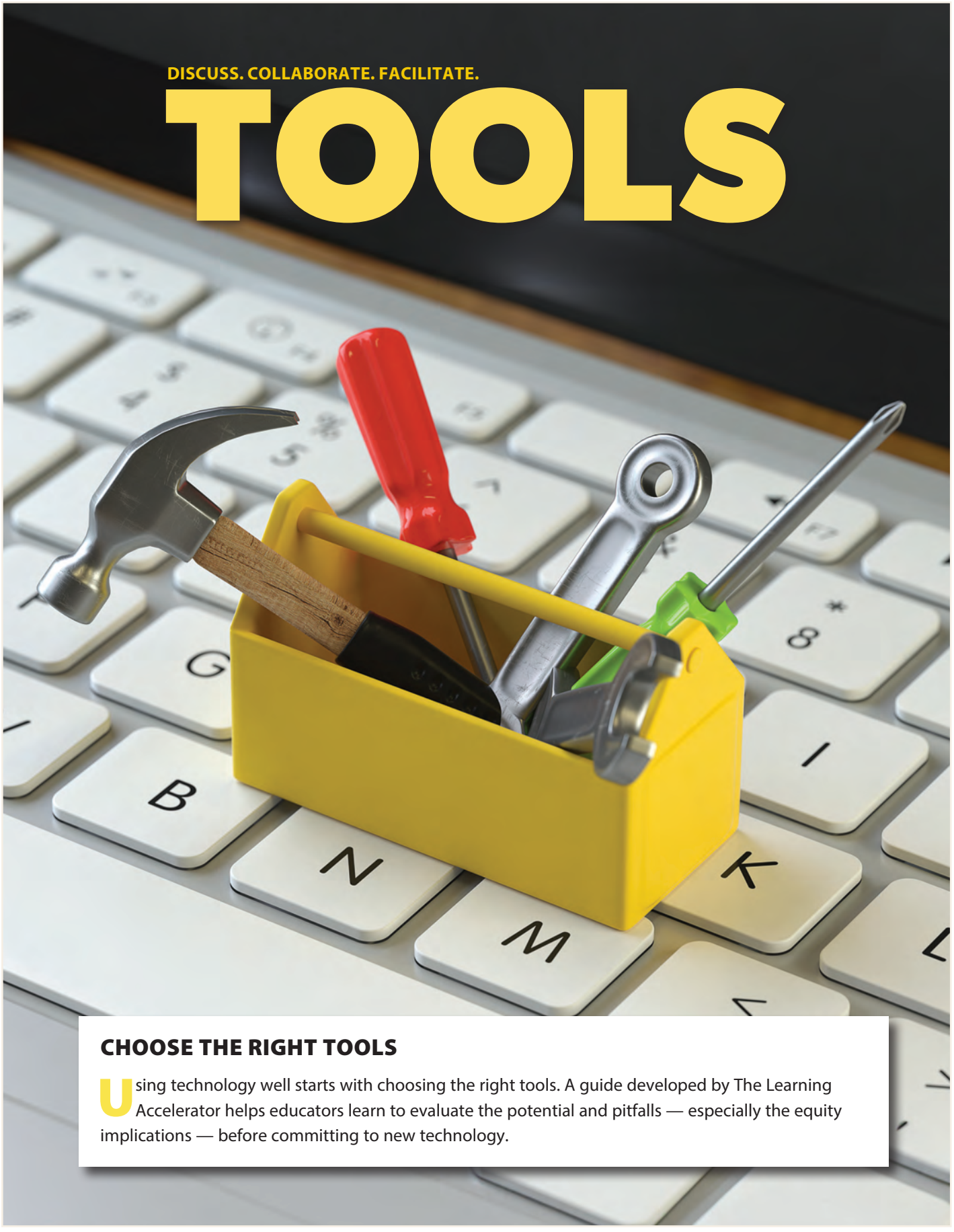
- Create the conditions and systems for professional learning that results in improved educator practice and student results;
- Explore personal beliefs and leading for equity for all students;
- Use change processes to accomplish the goals of the school;
- Dive into critical issues of school culture, assets, and opportunities, and their impact on establishing a clear vision and collective responsibility for learning in the school;
- Develop a Theory of Change, tied to the Cycle of Continuous Improvement, that drives a collective commitment;
- Support the alignment of curriculum, assessment, instructional materials, and professional learning;
- Maximize resources to better support educator and student learning;
- Implement shared leadership with cohesion;
- Coach school, team, and individual improvement.

For more information, contact Sharron Helmke, senior vice president, professional services, at **sharron.helmke@learningforward.org**. | **services.learningforward.org**

- Increasing instructional effectiveness
- Creating a culture of collective responsibility
- Developing and supporting coherent systems of curriculum, instruction, and assessment
- Developing coaching and mentoring skills
- Developing skills to lead high-achieving professional learning communities
- Observing lessons and providing feedback to increase teaching effectiveness

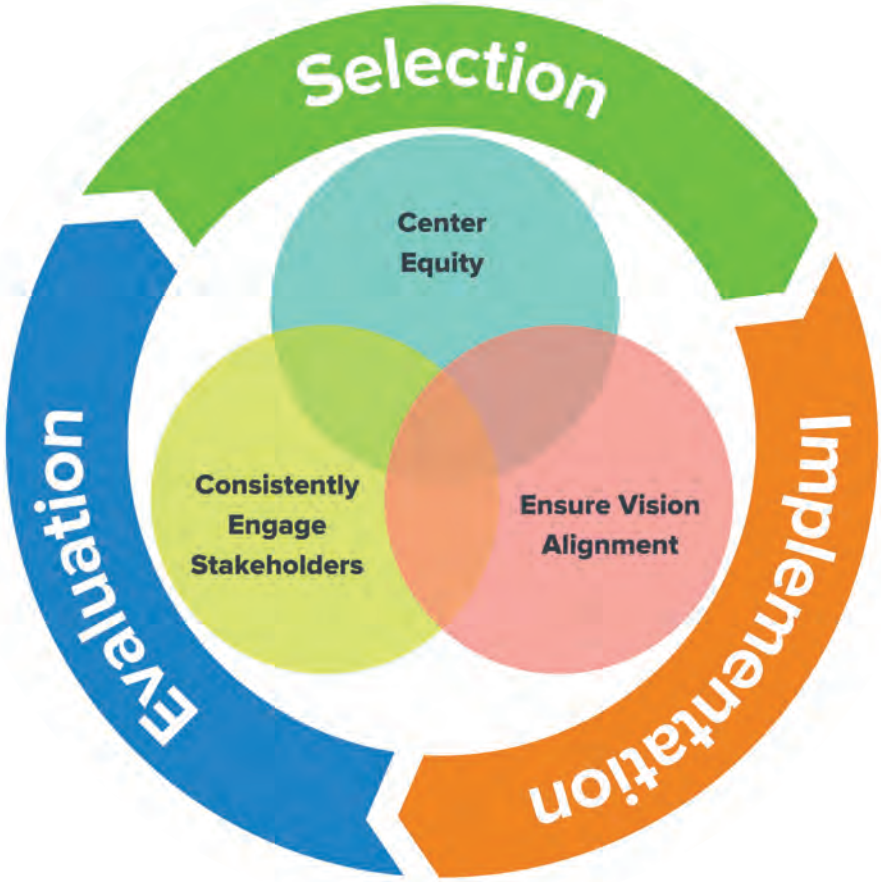
DISCUSS. COLLABORATE. FACILITATE.

TOOLS



CHOOSE THE RIGHT TOOLS

Using technology well starts with choosing the right tools. A guide developed by The Learning Accelerator helps educators learn to evaluate the potential and pitfalls — especially the equity implications — before committing to new technology.



How to find and use the right technology tools

BY JIN-SOO HUH

Educators and and students use education technology tools in a variety of ways — for assessments, projects, organization, and more. A recent report found that during the 2022-23 school year, educators and students accessed an average of 42 education technology tools (Learn Platform, n.d.). Schools and districts need processes and systems to ensure they choose, implement, and evaluate tools in ways that best meet the needs of their school community.

The Learning Accelerator, a national nonprofit that accelerates individual, organizational, and sector learning to transform K-12 education, created a free, web-based guide to support schools and districts in developing these processes and systems. At the core of the guide is a focus on equity. The guide, titled *EdTech Systems Guide: Equity-Driven Selection, Implementation, and Evaluation*, was developed in partnership with the Massachusetts Department of Elementary and Secondary Education's Office of Education Technology.

To work toward educational equity, The Learning Accelerator believes we must be deliberate in how we're designing or redesigning systems in a way that centers the experience and needs of our traditionally underserved students — particularly students of color, multilingual learners, students with disabilities, and students from low-income families. The guide provides detailed recommendations, resources, and examples that schools and districts

can incorporate into their own context. While comprehensive, the guide is designed to make it easy to navigate and jump directly to the most relevant or pressing content.

Here, we share three tools from the guide to support teachers in using education technology effectively:

- A tool to help determine criteria for selection;
- A protocol for determining baseline skills needed to implement a tool; and
- A rubric for observations of implementation.

REFERENCE

Learn Platform. (n.d.). *The edtech top 40: A look at K-12 edtech engagement during the 2022-23 school year*. Instructure. www.instructure.com/resources/research-reports/edtech-top-40-look-k-12-edtech-engagement-during-2022-23-school-year

Jin-Soo Huh (jin-soo.huh@learningaccelerator.org) is a partner at The Learning Accelerator.

ACCESS GUIDES ONLINE

View *EdTech Systems Guide* and other resources from The Learning Accelerator, including guides on digital equity, data advocacy, and teaching and learning practices, at **practices.learningaccelerator.org/guides**

DEVELOP EDUCATION TECHNOLOGY SELECTION CRITERIA

Selecting the best tools for your school will set up educators to use education technology effectively. Schools and districts should identify important criteria as part of their education technology selection process. Taking a moment to set nonnegotiable criteria and develop a rubric for screening tools will help make the process focused and faster. These criteria can also be used to evaluate tools already in use in schools and districts. Here are sample criteria that can be adjusted for a school or district context.

Name of tool		Reviewer(s):	
Nonnegotiables	**Yes**	**No**	**Notes**
The tool is within our budget.			
The tool meets privacy requirements.			
The tool is accessible for all users.			
The tool aligns to our district's vision.			

Criteria	Does not meet	Partially meets	Meets	Exceeds	Notes
Staff capacity: Our current staffing model can support the tool's implementation.					
Research: The tool is backed by or based on research.					
Single sign-on: Users can log on with our single sign-on.					
Support resources: The vendor provides videos, professional learning sessions, etc.					

Adapted from *EdTech Systems Guide*.

View additional examples and descriptions of criteria to consider for selection and a downloadable selection criteria template at **bit.ly/LF-selection**

EDUCATION TECHNOLOGY SELECTION CRITERIA CONSIDERATIONS

The guide has tools to help schools and districts apply the advice in their context. Here are considerations for school and district teams as they develop their education technology selection criteria.

CONSIDERATIONS FOR ENGLISH LEARNERS

Education technology tools that incorporate linguistic diversity and language differentiation or translation can allow students and their families access points into systems with which they may not otherwise be able to engage. We strongly recommend considering the needs of linguistically diverse students early in the tool selection process to ensure that the selected tools can meet this group's unique needs. Consider making linguistic accessibility a nonnegotiable selection criterion.

CONSIDERATIONS FOR SPECIAL EDUCATION

Some education technology tools do not offer adequate accessibility functions. Selecting tools that follow Universal Design for Learning principles and provide accessibility functionality (e.g., closed-captioning, color and contrast, speech recognition, predictive text, magnification, keyboard shortcuts) will ensure that all students can engage meaningfully. Accessibility features should be one of your nonnegotiable selection criteria.

CONSIDERATIONS FOR EQUITY

When using tools to support student learning, it is important to represent the full spectrum of student diversity in any examples, stories, or characters portrayed so that students can see themselves reflected in an affirming way. When developing your selection criteria, consider the extent to which tools are designed to reflect the identities and experiences of a diverse set of students and what opportunities tools may provide for educators to tailor pre-existing content to better reflect students and their lived experiences.

Equity pauses are incorporated throughout the guide to help schools and districts take a step back and reflect on their project design and decision-making to mitigate biases and ensure equity lives across all parts of the work. Through this pause, teams can make the time and space to reflect and improve in service of their school and district's vision and continuous improvement of their education technology processes.

Adapted from *EdTech Systems Guide*.

DETERMINE BASELINE SKILLS AND KNOWLEDGE

After selecting a tool, schools and districts need to determine an implementation plan and ways to support students, teachers, and other stakeholders to use the tool. Depending on the reasons for selecting the tool and its alignment to their vision for teaching and learning, schools and districts likely have very specific uses for the tool in mind. It is important that schools and districts focus implementation efforts on these specific use cases and that they equip stakeholders with the information needed to use the tool in this way.

1. Articulate the vision for the tool.

Describe the ideal use of the education technology tool in your school or district. What does this look, sound, and feel like?

2. Identify stakeholders and key skills they need.

In the vision of the tool above, identify stakeholders who are using the tool and what skills they need to achieve this vision.

Stakeholder group	What skills do they need to use the tool in the way described above in the vision?
Example: Teachers	• *Plan and execute a lesson to introduce the tool to their students (logging in, knowing what to work on).* • *Review data on student usage and mastery.* • *Access professional learning resources provided by the education technology tool's company.*

Adapted from *EdTech Systems Guide*.

Here are common elements of tools that schools and districts may want to explore related to the tool they are implementing.

- **Data collecting and reporting:** How a tool is collecting data and how to make that data actionable.
- **Key functionalities:** Relevant features and functionalities of the tool, including accessibility features and available translation functions.
- **Navigating:** Practical knowledge of how to access the new tool, log in (if applicable), navigate within the tool, and use the tool's functionality.

View guidance on future steps to support the implementation of education technology tools, including identifying available training resources and providing initial training opportunities in the guide, at **bit.ly/LF-implementation**

OBSERVE EDUCATION TECHNOLOGY IMPLEMENTATION

Observations can be a powerful way to gather information about how an education technology tool is being used by directly seeing how it is implemented. Here are some sample observation rubrics for various types of tools. These rubrics can be added onto classroom observation tools used by schools and districts. Gathering data can help determine if a tool is effective. The data can also be used to inform targeted professional learning support for teachers. Some examples include:

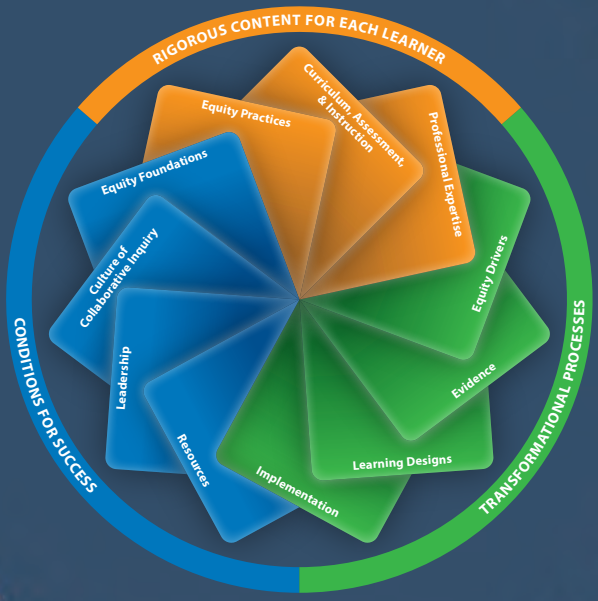
- Teachers can use rubrics to self-evaluate their implementation.
- Instructional coaches can share their rubric data with teachers they coach to identify areas of focus. Coaches can provide resources and feedback on an area of focus and use the rubric to track teachers' growth over time.
- Gathering data can help identify bright spots and school or district focus areas to provide professional learning opportunities.

Engagement				
Content-area practice tool	Very few or no students engaged with the tool.	Some students engaged with the tool.	Most students engaged with the tool.	All students engaged with the tool.
Adoption				
Formative assessment tool	Teacher did not use the tool.	Teacher gave a formative assessment but only to a few students.	Teacher gave one formative assessment to the whole class.	Teacher gave multiple formative assessments to the whole class.
Video creation tool	Students are making videos not aligned to the content (off task) or not making videos.	Students are attempting to make videos but do not understand how to use the tool.	Students are making videos aligned to the content.	Students are making videos aligned to the content and using at least one advanced feature (e.g., animation).
Satisfaction				
Student-facing classroom tool	None of the students you asked said they liked the tool.	A few students you asked said they liked the tool.	Most students you asked said they liked the tool.	All students you asked said they liked the tool.

Adapted from *EdTech Systems Guide*.

CONNECT. BELONG. SUPPORT.

UPDATES



3RD ANNUAL CELEBRATION OF STANDARDS FOR PROFESSIONAL LEARNING

April is when we celebrate the Standards for Professional Learning, with daily learning events and lively discussions with education leaders. Events will be archived on our website, along with a wealth of other standards resources, so you can learn about and apply the standards all year.

Machel-Mills Miles, left, and Heather Sauers facilitated Learning Forward's first Title IIA Symposium. More than 70 professional learning leaders and Title II grant managers attended the event in Arlington, Virginia.

Learning Forward hosts Title IIA Symposium

More than 70 professional learning leaders and Title II grant managers gathered for Learning Forward's first Title IIA Symposium Feb. 29-March 1 in Arlington, Virginia. Participants represented 13 states and Washington, D.C.

Heather Sauers, Edvance Collective CEO and Title IIA expert, and Machel-Mills Miles, Learning Forward vice president of standards implementation & outreach, facilitated two days of learning to strengthen participants' understanding of the reach of Title IIA to improve teaching and learning as well as how to align Title IIA compliance with district priorities and the Standards for Professional Learning. They also explored how to evaluate the impact of professional learning programs and leverage evaluation data to advance strategy.

Additional symposium topics included identifying critical components of the comprehensive needs assessment, using a strategic matrix to prioritize program goals, and engaging in improvement cycles.

Attendees reported that the symposium provided valuable learning. One said, "The big picture overview and the clear connection between all topics discussed worked well for helping us gain a deeper understanding of Title II. (The symposium) provided a nice balance between hearing info, having time to collaborate with others, and having time to get our specific questions answered."

Additional Title IIA symposia are being planned for late spring and throughout 2024-25. Learning Forward also provides ongoing support on Title IIA planning, implementation, and evaluation. For more information, visit **services.learningforward.org**

ANNUAL BUSINESS MEETING REFLECTS ON 2023

Learning Forward's board of trustees, staff, voting members, and representatives from the Learning Forward Foundation gathered for the organization's annual business meeting in March, with a focus on our growth and progress in 2023 and where we are heading in 2024. A highlight from the meeting was the report that Learning Forward's organizational membership is at an all-time high. Here are other highlights from the past year:

- The release of four new Action Guides for the Standards for Professional Learning for principals, coaches, system/central office leaders, and external partners.
- An updated version of Joellen Killion's *Establishing Time for Professional Learning* as a free download, along with a print version that can be purchased in the Learning Forward Bookstore.
- Live, online book club discussions about Learning Forward Book Club selections, a benefit for members at the comprehensive level.
- A digital flipbook of *The Learning Professional* that allows online readers to experience the same layout as the print version.
- A successful 2023 Learning Forward Annual Conference in the Washington, D.C., area, with 3,370 conference attendees, the highest number in attendance since 2017. Nearly all conference attendees — 97.5% of survey respondents — said they came away from the event with ideas they would like to implement or apply.
- A new cohort of the Learning Forward Academy and a new opportunity for 2024 graduates to present their educational change work in data stories in a poster session at the 2024 Annual Conference in Aurora, Colorado.
- Launch of the Curriculum-Based Professional Learning Network with three districts selecting and testing change ideas in instructional practices through the process of continual improvement. Teachers are already reporting positive outcomes. One example is teachers' use of specific mathematics language routines, which they first practiced in their professional learning communities with other teachers.

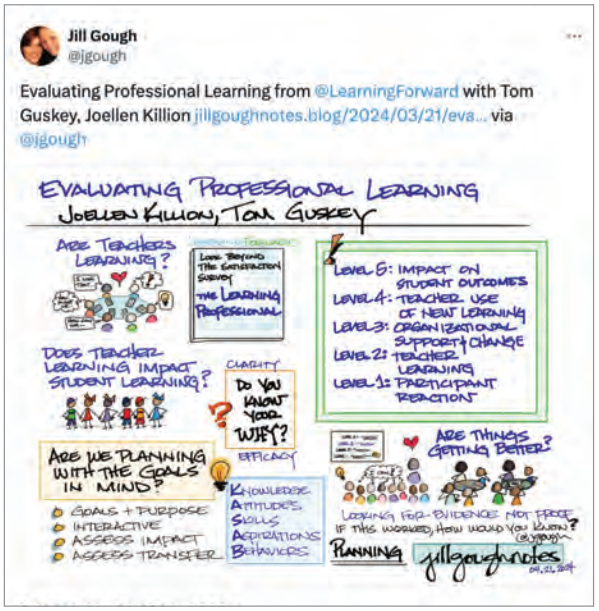
HOW YOU CAN ATTEND THE ANNUAL MEETING

Each year, Learning Forward's annual business meeting updates members on the state of the association. All voting members are encouraged to attend. If you are not yet a voting member and would like to become one, visit **bit.ly/4akZyo3** for instructions.

WEBINAR DIVES INTO PROFESSIONAL LEARNING EVALUATION

Thomas Guskey and Joellen Killion led a members-only webinar on evaluating professional learning, building on the February issue of *The Learning Professional*. The webinar, hosted by Learning Forward in March, explored why and how to assess the implementation and impact of professional learning.

Participants from around the world brought their questions and a wide range of knowledge and experience. According to a poll conducted at the beginning of the webinar, about 80% of participants said they felt somewhat prepared to conduct evaluation of their professional learning, while 14% said they felt very prepared, and 7% said they felt not at all prepared to conduct evaluation.



https://twitter.com/jgough/status/1770944026650312792

Many asked how to decide on evaluation questions and determine what to evaluate. Killion encouraged educators to think about their evaluation questions and design before starting their professional learning, and Guskey explained how to use his five-level model of evaluation to backward plan — that is, to start with the goals for students and work backward to what changes educators need to make and what kind of professional learning will help them achieve those changes.

Both presenters talked about the importance of using multiple sources of evidence, including the perspectives of multiple stakeholders as well as a mixture of quantitative, qualitative, and anecdotal evidence. Guskey pointed out that different types of evidence are needed by different audiences. For example, evaluation can be useful not only for funding and policy decisions, but also to feed motivation to continue the new practices by showing teachers how students improve as a result of those practices. Killion said, "We have an obligation as professional learning leaders and facilitators to begin to transform educator success into student success."

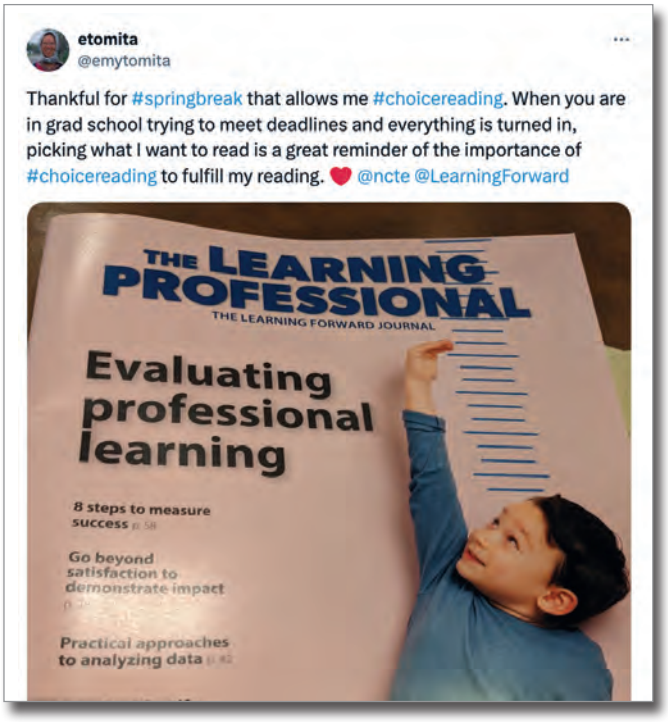
During the webinar, participant Jill Gough, director of teaching and learning at Trinity School in Atlanta, Georgia, created a sketch note summarizing her learning and posted it on social media to highlight for other educators the themes of the webinar. (See image at left.)

To read more about evaluation, check out our evaluation resources page at **learningforward.org/evaluation** and the February issue of *The Learning Professional* at **learningforward.org/journal/evaluating-professional-learning/**

#TheLearningPro

FEATURED SOCIAL MEDIA POST

twitter.com/emytomita/status/1767276098776117303



Follow us on social media. Share your insights and feedback about *The Learning Professional* by using **#TheLearningPro.**

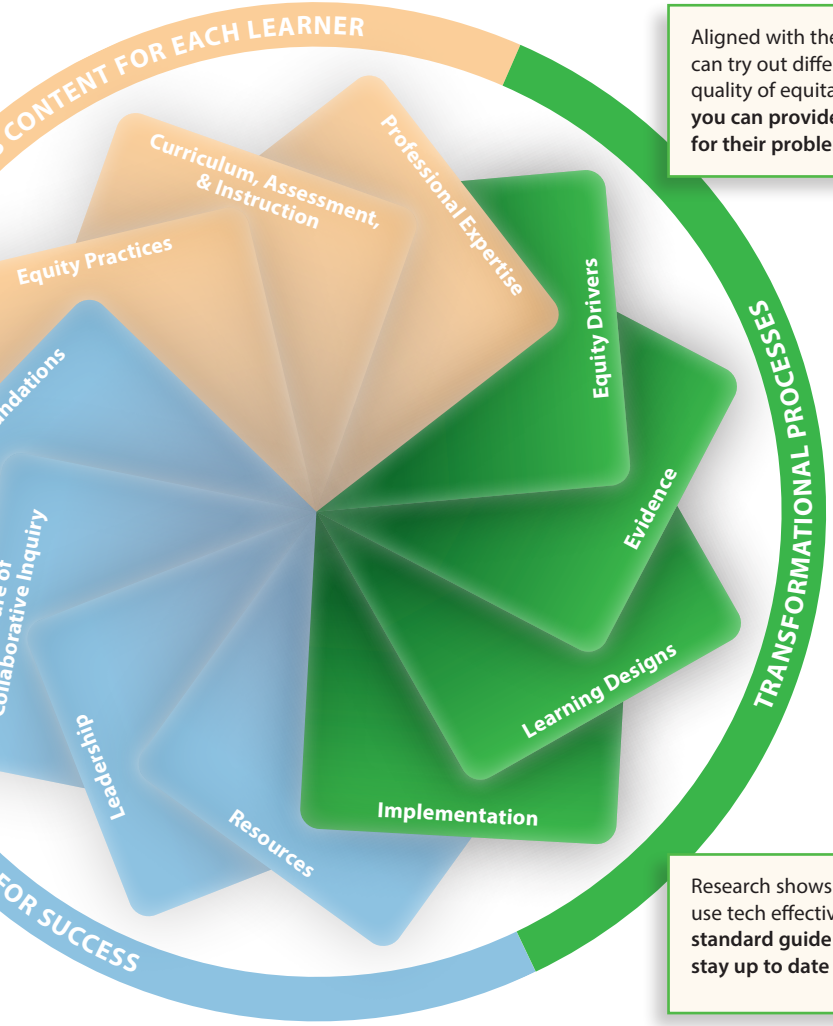
THROUGH THE LENS

OF LEARNING FORWARD'S STANDARDS FOR PROFESSIONAL LEARNING

Standards for Professional Learning describe the content, processes, and conditions of high-quality learning that make a difference for students and educators. Understanding each standard can help learning leaders build effective professional learning.

This tool provides article reflection questions from this issue of *The Learning Professional* to help you deepen your understanding of the standards that make up the Transformational Processes frame. These standards describe process elements of professional learning, explaining how educators learn in ways that sustain significant changes in their knowledge, skills, practices, and mindsets. Use the questions on your own or with colleagues. Page numbers following each question correspond to the related article.

HOW THE TRANSFORMATIONAL PROCESSES FRAME CAN IMPROVE PROFESSIONAL LEARNING



Aligned with the **Equity Drivers** standard, educators in an AI classroom can try out different instructional moves — for example, focusing on the quality of equitable feedback to avatar students. **What are other ways you can provide teachers with a consequence-free learning context for their problem-solving and skill development?** (p. 48)

Denver (Colorado) Public Schools' educational technology team offers in-depth, long-term technology professional learning in credit units that can add up to salary increases. They continually monitor changes in teachers' practice over the course of their learning. **How does your system collect data on the Evidence of teacher learning?** (p. 32)

Coaches at Verizon Innovative Learning Schools provide human-centered professional learning on technology integration. Consistent with the **Learning Designs** standard, this learning is relevant to educators' existing knowledge, context, and goals. **What learning designs do coaches in your system use to build capacity while developing new knowledge in your staff?** (p. 44)

Research shows that novice and veteran teachers are underprepared to use tech effectively in their classrooms. **How could the Implementation standard guide sustained professional learning so that teachers can stay up to date even as technology evolves?** (p. 40)

Learn more about Learning Forward's Standards for Professional Learning at **standards.learningforward.org**

AT A GLANCE

What do educators want to learn about technology?

Teachers want professional learning on using technology to[1]:

1. Create project-based learning
2. Differentiate instruction
3. Personalize students' learning experiences
4. Enhance current lessons
5. Conduct formative assessment

They also request[1]:

75% Curated set of resources by content area, standards, and skill level

70% List of digital resources approved by the district

64% Online tools to organize the digital resources

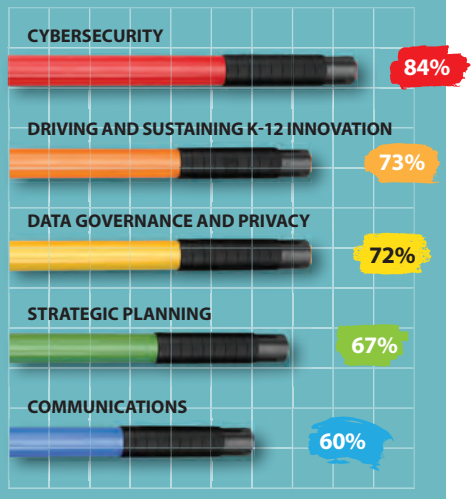
61% Information about classroom management strategies using digital resources

Interest in these items nearly doubled between 2017 and 2023.

Teachers and administrators want professional learning about AI, especially[2]:

- **62%** Teaching students responsible and effective use of AI at school
- **57%** A basic introduction to AI
- **54%** Detecting improper AI use by students
- **42%** Preparing students to use AI in the workforce
- **40%** Using AI to save time on administrative tasks

School technology leaders also want professional learning but are less likely than teachers to have access to it. The topics they are extremely or very interested in are[3]:



Closing the digital divide with professional learning

A digital design divide separates schools where all educators do and don't engage in professional learning on using technology to design meaningful learning experiences. The 2024 National Educational Technology Plan recommends steps to close the divide, including[4]:

- Develop a portrait of an educator outlining competencies to integrate technology in meaningful ways.
- Design and sustain systems of ongoing learning for all teachers and administrators.
- Empower educators to become leaders and co-designers of professional learning.
- Provide professional learning that supports the development and modeling of digital literacy skills.
- Develop collaborative processes for evaluating digital tools, designing learning spaces, and planning curriculum.

1 tomorrow.org/publications/speak-up-data-findings/ • **2** edweek.org/leadership/what-ai-training-do-teachers-need-most-heres-what-they-say/2023/09
3 cosn.org/tools-and-resources/resource/2023-state-of-edtech-leadership-survey/ • **4** tech.ed.gov/netp/

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