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ACTION PLAN

HOW TO DELIVER HIGH-QUALITY PROFESSIONAL LEARNING

A guide for school leaders implementing
professional development in their schools



Decades of research confirm that highly skilled teachers have a significant impact on [student success](#)

High-quality professional development is not a “one and done” experience - it is ongoing, aligned with pedagogical best practices and builds upon educators’ knowledge and experience. When executed effectively, professional development is a powerful way to continuously provide new avenues for students to succeed.

However, many school systems struggle to provide effective teacher development. [According to one study](#) involving three large public school systems and a charter school network, only 30 percent of teachers improved their practice over the long term with the help of district-led professional development.

The National Math and Science Initiative, a nonprofit organization that creates increased opportunities and better outcomes for all students, has extensive experience in delivering evidence-based PD for teachers through our [programs](#).

This Action Plan applies the lessons we’ve learned to help school systems implement high-quality PD that works, leading to sustained improvements in teaching and learning.

Follow these six steps for professional development success

1

Begin with goal setting

What is the purpose of the professional learning? What outcomes are you looking to achieve? Many districts err by failing to establish the specific knowledge or skills they want teachers to learn at the outset. Yet, this process should occur before any PD is delivered. You can't develop a successful roadmap without first having a clear destination in mind.

Think about what instruction should look like for students to achieve desired outcomes, and then define the content knowledge and pedagogical skills that teachers should learn to realize this vision. For instance, if you want students to become creative and collaborative problem solvers, you might focus professional learning on how to design, lead and assess project-based learning using authentic problems or challenges.

2

Involve teachers in planning

Goal setting should occur not only at the school and district levels, but also individually — and teachers should be involved in setting their own individual learning goals.

Professional learning won't result in meaningful, lasting changes to instruction unless the educators responsible for implementing these changes are fully invested. This can only happen if teachers themselves are involved in planning and goal setting. Teachers don't want to feel as if PD is something being done to them; instead, they want to be empowered to take charge of their own learning.



3

Use proven best practices

When planning professional learning, make sure it meets the following criteria for high-quality PD:



Practical and hands-on. Students tend to respond better to practical, hands-on instruction instead of a lecture — and the same holds true for teachers. Allow teachers to learn and apply professional knowledge in the context of the classes they're teaching, with opportunities to create actual lessons and activities they can try out in their classrooms the next day. This makes the PD more immediately relevant to teachers' needs.



Differentiated. Just like the students they're teaching, educators bring very different skill sets and knowledge bases to the learning process. For example, veteran teachers might need more help with technology, whereas brand-new teachers might need support with pedagogy or classroom management. Design PD so that it meets teachers where they are and delivers targeted instruction to address their specific learning needs.



Research-based. The gold standard for professional development is a program that has been evaluated by independent researchers and found to have made a positive impact on teacher effectiveness and student success — such as NMSI's [College Readiness Program](#).



Collaborative. Ideally, teachers should have opportunities to collaborate with their colleagues in creating engaging lessons. This gives them a built-in support network and allows them to learn from others. K-12 leaders can facilitate collaborative planning and professional learning by building time for these activities into the school schedule. If these opportunities can't be built into the school schedule, K-12 leaders are encouraged to explore alternative ways to dedicate time for teacher collaboration.



4 Establish trust

There must be a basic level of trust among the educators participating in PD for learning and growth to occur. This is why so many meetings begin with an “icebreaker” activity as a way of getting everyone comfortable and in a trusting place.

However, what is even more powerful is to create small groups of people who spend multiple PD sessions together. Trust is then naturally built over time, and participants will open up and become more receptive to learning and risk taking.

5 Provide ongoing coaching and support

PD should be a sustained effort and never just a “one and done” activity. There should be several sessions not only for educators to build trust, but also to allow for reflection on the content.

To transform their practice, teachers also require ongoing coaching, mentoring and support. They should receive individual feedback from a learning coach or mentor on how well they’re applying their new knowledge within their classes. K-12 leaders must build a system of ongoing support for teachers so that the professional learning will “stick.”

One often-overlooked aspect of supporting teachers in changing their practice is establishing a culture of risk-taking, so that teachers feel comfortable in trying new strategies without being afraid to fail. This culture comes from leaders setting the right tone with both their words and actions.

6 Measure results

To ensure that professional learning is having its intended impact on teacher practices and student achievement, K-12 leaders must track and measure outcomes. Referencing a variety of data points is important for capturing the nuance of day-to-day classroom activities and ensuring teachers’ voices are heard. Classroom observations, student assessment and achievement data, student/teacher surveys and anecdotal data are all valid instruments for evaluating the success of PD initiatives.



An Example of PD Success

Pittsburgh Public Schools partnered with NMSI to help create a culture of continuous improvement and encourage more students to take rigorous Advanced Placement® courses throughout the district. To do this, Pittsburgh implemented NMSI's College Readiness program, which includes high-quality professional development for teachers.

High school AP teachers in the district received four days of training before the start of each school year, led by AP experts with a focus on content building, instructional planning and assessment. They also attended one-day spring training sessions with NMSI "readers" to learn how AP exams are scored, as well as access to a network of other teachers in their content area through online teacher "villages."

As a result of the program, Pittsburgh schools saw a 78-percent increase in the number of students receiving qualifying scores on AP exams over three years.

"The quality of NMSI's PD and resources is next-level, providing our educators with tools that help them grow professionally and equip their students for success," says K-12 gifted and talented coordinator Kashif Henderson.

Pittsburgh Public Schools has participated in NMSI professional development since 2013 and continues to do so. According to Henderson, these are some of the top reasons why the training has proven effective:

- Teachers are engaged with the material
- Professional resources are modeled with demonstrations
- PD leaders are all current educators who understand the student experience
- Participants aren't talked at or hit with theory; instead, they get practical, hands-on instruction
- Participants have plenty of opportunities for application and reflection

To learn more about Pittsburgh's story, [click here](#).

Moving the Needle

High-quality professional learning is essential for moving the needle on student achievement, but many districts struggle to put this into practice. By following the proven best practices contained in this Action Plan, school systems can effectively implement PD that transforms teaching and learning and results in long-term improvement.



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NMSI provides the training and resources teachers need to strengthen their classrooms. Learn how NMSI can serve your school community today.

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