C-SAIL | THE CENTER ON STANDARDS, ALIGNMENT, INSTRUCTION, AND LEARNING

LEARNING FROM DISTRICTS SERIES BRIEF 2

Successful Standards Implementation: Teacher Training with Flexible Specificity, Collaboration, and the Right Resources

THREE LESSONS

In the early 2010s, most U.S. states adopted the Common Core State Standards, hoping to improve student achievement and equity in mathematics and English Language Arts. Teachers and district staff worked hard to change content and instructional practices to align with the standards, yet almost a decade later, there is little evidence that equity improved or that achievement levels rose on a state or national level.

Certain districts and schools, however, did see improvements in student learning. What were these districts doing "right"?

Teacher surveys in multiple states identify specific strategies that fostered teachers' implementation of the standards in the classroom. These statewide results are consistent with strategies used in the Chicago Public Schools, a district that saw significant improvements in achievement and educational equity in math after the standards were implemented. A large-scale implementation study of several states and an in-depth look at one district found similar results—Chicago illustrates some of the key findings of the Center for Standards, Assessment, Instruction and Learning (C-SAIL), a five-year research center funded by the federal Institute for Education Sciences.

By Elaine Allensworth, Laura Desimone & Latrice Marianno

In Chicago, students showed gains in test scores, grades, and pass rates in their math classes. The largest improvements occurred among students with the lowest initial math test scores. Does Chicago's approach to implementation offer lessons for other districts?

Here we share the strategies that seemed most promising, based on the following in-depth studies:

- A set of studies of implementation in Chicago (Allensworth et al., 2021; Allensworth et al., 2022; Cassata, & Allensworth, 2021).
- A set of studies on implementation of math and English Language Arts standards in Kentucky, Ohio, Texas, Massachusetts, and California, conducted by C-SAIL (Desimone et al., 2019; Edgerton & Desimone, 2018; and Pak et al., 2020).
- A 2016 study of Common Core standards implementation across five states by Tom Kane and colleagues (Kane et al., 2016).

Lesson 1: Professional learning is a critical lever for effecting instructional change, but the design and structure of the training matter.

Evidence suggests that professional learning around the standards led to instructional changes associated with higher student achievement in math but not English Language Arts. In 2016, Tom Kane and colleagues conducted a study of Common Core implementation across five states and found that **learning gains in math were related to a greater number of teacher professional-learning days** (Kane et al., 2016). In Chicago, schools where teachers reported extensive professional-learning time showed significantly larger **improvements in instructional practices aligned to the practice standards and in student grades, pass rates, and test scores in math** (Allensworth et al., 2021).

C-SAIL also **found an association between high-quality professional learning and better-aligned instruction**, but many teachers reported not having enough professional learning to fully prepare to implement the standards (Edgerton, & Desimone, 2018; Edgerton & Desimone, 2019). ***This may explain why there was little change in student achievement nationally***.

Several factors shaped professional learning that led to positive instructional change. Teachers had more buy-in and success when the training offered:

- flexible specificity;
- opportunities for collaboration with knowledgeable colleagues; and
- a focus on changing not just what was taught, but how it was taught.

Flexible specificity

Research shows that when teachers have specific—clear and detailed—guidance, the quality of implementation increases, but district leaders often find it challenging to balance specificity with teachers' desire for autonomy. A **flexibly specific approach** to curriculum and professional development seemed to hit the "sweet spot"—giving enough guidance for teachers, coaches, and principals to feel confident in their undertaking but allowing flexibility for these educators to exercise professional judgment. Districts that used this approach built flexibility into the teacher learning process. For example, professional development activities were expected to have both a concrete, detailed aspect and opportunities for teachers to adapt lessons to their own students. Such districts also involved principals and teachers in the decision-making that shaped learning opportunities.

By contrast, when teachers were given specific materials and told exactly how to use them, they felt little buy-in or ownership of the standards. When they couldn't adapt materials to their classroom needs, more teachers said they thought the standards were not appropriate for their students. What's more, even if districts did develop specific materials, teachers said they felt less prepared when a district communicated inconsistently on their effective use or changed them often.

C-SAIL found that flexible specificity was productive: Chicago illustrates how a district can provide it. In Chicago, **the district built in flexibility via a teacher-leader approach to professional learning**. In each school, district leaders designated two "teacher leaders" who attended "Teacher Leader Institutes" to learn about the instructional practices the district aimed to achieve. All teachers had access to the Knowledge Center, a web-based depository of materials designed to elicit those new practices. Teacher leaders tried out new methods, figured out what worked for them, and served as models for instructional change in their schools. The district allowed flexibility in how teacher leaders would enact the new practices, which materials to use from the Knowledge Center, and how they would support other teachers.

Collaboration with knowledgeable colleagues

Collaboration among teachers and others is a recurring theme in districts where things "work." In the C-SAIL's multi-state study, this was particularly visible in the ways different districts approached coaching. **In some places, teachers saw coaches as enforcers, while in others, teachers viewed them as partners**.

In Chicago, teacher leaders could meet with teacher leaders from other schools and with district and university experts, to learn about new practices, share resources and their experiences with those resources, and get feedback on their own instruction. Teacher leaders discussed different ways of collaborating, from modeling to coaching to developing lesson plans together. **Survey data showed that, districtwide, collaboration with colleagues was the factor most strongly associated with teachers' use of standards-aligned instructional practices**.

It is important to note that collaboration itself does not necessarily lead to stronger instruction. In Kane's 2016 five-state study, professional development and feedback on teaching were related to stronger test-score gains in math, but teacher collaboration was not. In Chicago, teachers said it wasn't just collaboration that helped, **but collaboration with those who could share their expertise and knowledge about the goals of the standards**. Chicago encouraged collaborative activities similar to those found to be related to learning gains in the Kane study—namely, frequent peer observations, feedback, and reflection on whether and how the goals of the standards were manifest in teacher instruction and student work.

Focus on instructional practice

The Common Core math standards and the Next Generation Science Standards, which were also widely adopted by states across the nation, contain two different types of standards: **content standards describe what students should learn** at each grade level, while **practice standards call for instruction that helps students learn "processes and proficiencies" such as problem solving, reasoning, and conceptual understanding** across content areas. While math and science teachers in statewide surveys reported making changes to their teaching, they found it particularly difficult to engage students in the conceptual processes the standards demanded.

Chicago emphasized the practice standards in its professional learning around the standards from the start. The district's instructional materials were designed to encourage practices in which students would come up with different solutions to

problems, discuss math strategies, and develop their own math problems, thereby developing a strong conceptual understanding of math.

Prior to standards implementation in Chicago, teachers were much more likely to use strong instructional practices in classrooms with high-achieving students. **The biggest changes in instructional practices—and the largest increases in test-score gains, grades, and pass rates—occurred in classes of students with low math test scores**.

There is no evidence that adherence to the **content standards** improves student learning gains. Research prior to Common Core showed no significant relationship between teachers' content alignment to standards and assessments and their contributions to student test scores. Several studies of the impact of changing content standards to align to the Common Core found generally null and sometimes negative results on achievement; one found positive impacts only for economically advantaged students.

Lesson 2: Curricular materials play a critical role in successful standards implementation, but teachers need support and time to adapt those resources to their students' needs.

Unfortunately, school districts often invest time and resources into curriculum materials without much attention to how they will help teachers understand or effectively use those materials. **Simply adopting "high-quality" material and providing baseline professional development are not enough**. Teachers need support and time. There is no evidence that developing or changing materials in response to the Common Core math standards or using textbooks developed after the standards were adopted had significant impacts on student outcomes.

A coherent approach to curriculum implementation requires aligning other elements of district policy (such as coaching and ongoing professional learning) to the curriculum, and helping teachers find ways to use the materials in standards-aligned ways. A coherent approach also **articulates clear expectations for teachers, gives teachers time to plan and collaborate, and spells out a multi-year plan for implementation**. In Chicago, one of the goals of the Teacher Leader Institutes was to support use of the instructional resources in the Knowledge Center. Teacher leaders regularly had opportunities to try them out with the support of other colleagues.

The types of resources also matter. The easier they are to use to enact change, the more likely teachers will use them in the intended way. In Chicago, school principals and teacher leaders described the math resources as "game changers." Teacher leaders said it was easy to see how the materials fit with different standards, and that students enjoyed using them.

In contrast, at the time of the study, Chicago had not developed easy-to-use instructional materials in science. Science materials in the Knowledge Center were mostly scope-and-sequence guides and resources for modifying lessons from existing science kits. The more teachers used resources that were not instruction-ready, the less often teachers enacted standards-aligned practices.

Lesson 3: Changing instructional practices is risky for teachers. Teacher buy-in depends on all the implementation factors above.

Whenever teachers try a new instructional technique, they take a risk that it will fail, that they will lose instructional time, that their students will lose interest or struggle more. **Time spent preparing to do things differently is time they could spend preparing to do what they already know works**, or directly helping individual students. New curricula, materials, standards, and assessments come and go. It is often not clear to teachers whether the new is any better than the old. Buy-in is critical to any change effort.

Flexible specificity, collaboration, and easy-to-use resources help develop buy-in for change. The notion of teacher buy-in is an underemphasized component of reform, whether in the context of standards or other school-improvement efforts.

In Sum

In the quest for better learning outcomes for all our nation's students, our findings offer practical insights. Developing teachers' knowledge, skills, ownership, and buy-in is essential if we are to accomplish reforms that engender rigorous content, engaging instruction, and in turn, gains for students. District leaders can foster this teacher development by:

- providing opportunities for teachers to engage collaboratively with the reform and support each other;

- supplying lessons, textbooks and other materials that are easy to use and appropriate for their students; and
- ensuring flexible specificity by providing a clear, detailed path for teachers to achieve the reform, but allowing opportunities for revision, adaptation, and creativity along the way.

This brief is based on the following articles:

Allensworth, E., Cashdollar, S., & Cassata, A. (2022). Supporting change in instructional practices to meet the Common Core mathematics and next generation science standards: How are different supports related to instructional change? *AERAOpen, 8,* 1–15. https://doi.org/10.1177/23328584221088010

Allensworth, E., Cashdollar, S., & Gwynne, J. (2021). Improvements in math instruction and student achievement through professional learning around the Common Core State Standards in Chicago. *AERAOpen, 7*(1), 1–19. https://doi.org/10.1177/2332858420986872.

Cassata, A., & Allensworth, E. (2021). Scaling standards-aligned instruction through teacher leadership: Methods, supports, and challenges. *International Journal of STEM Education*. https://rdcu.be/cmxl4.

Desimone, L. M., Stornaiuolo, A., Flores, N., Pak, K., Edgerton, A. K., Nichols, T. P., Plummer, E., & Porter, A. (2019). Successes and challenges of the "new" college- and career-ready standards: Seven implementation trends. *Educational Researcher, 48*(3), 167–178.

Edgerton, A. K., & Desimone, L. M. (2018). Teacher implementation of college- and career-readiness standards: Links among policy, instruction, challenges, and resources. *AERA Open, 4*(5), 1–22.

Kane, T.J., Owens, A.M., Marinell, W.H., Thal, D.R.C., & Staiger, D.O. (2016). *Teaching higher: Educators' perspectives on Common Core implementation*. Cambridge, MA: Cambridge Center for Education Policy Research, Harvard University.

Nichols, P., Desimone, L., & *Edgerton, A. (in press). The "new" standards-based reform: How is it similar and different than previous waves of reform? *American Journal of Education*.

Pak, K., Desimone, L.M., & Parsons, A. (2020). An integrative approach to professional development to support college- and career-readiness standards. *Education Policy Analysis Archives, 28*, 111. https://doi.org/10.14507/epaa.28.4970

Pak, K., Polikoff, M.S., Desimone, L. M., & *Garcia Saldivar, E. (2020). The adaptive challenges of curriculum implementation. *AERA Open, 6*(2). https://doi.org/10.1177/2332858420932828

Stornaiuolo, A., Desimone, L.M., & Polikoff, M. (in review). "The Good Struggle" of Flexible Specificity: Districts Balancing Specific Guidance with Autonomy to Support Standards-Based Instruction. *American Education Research Journal.*