



# Six Years of Scaling Up: Districtwide Implementations of the Next Generation Science Standards

## EXECUTIVE SUMMARY

### NGSS Early Implementers Initiative: Bringing science to life as a core subject in K–8 classrooms

A diverse group of eight California school districts and two charter management organizations is actively implementing the Next Generation Science Standards (NGSS) in grades K–8. These NGSS Early Implementers are supported by the K–12 Alliance at WestEd, and work in partnership with the California Department of Education, the California State Board of Education, and Achieve.

The S. D. Bechtel, Jr. Foundation commissions WestEd’s STEM Evaluation Unit independently of the K–12 Alliance to evaluate the Initiative in the eight participating public school districts. This document summarizes the content and findings of the twelfth evaluation report in the Initiative series, published in August 2020. Access the complete series and learn more at [K12alliance.org](http://K12alliance.org).

Many educational initiatives are funded for only a couple of years. The California NGSS Early Implementers Initiative spanned an extraordinary six years, during which eight school districts worked toward districtwide implementation of the Next Generation Science Standards (NGSS), which call for teachers to transform their instructional practice. This twelfth report in our evaluation series for policymakers, school and district administrators, and professional learning specialists

describes the Initiative’s scale-up in its later years to reach all K–8 science teachers. Specifically, the report addresses the following questions:

- In contrast to focusing in Years 1–4 on developing Teacher Leaders, what strategies did districts use in Years 5–6 to reach all other K–8 teachers of science (called **expansion teachers** in this report)?
- What impacts has the Initiative had on expansion teachers?

- Which professional learning strategies have been most and least effective for influencing the practice of expansion teachers?
- What special attention was paid to providing administrators with professional learning to prompt their support of NGSS implementation?

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## Advances in Expansion Teachers' NGSS Practice

Majorities of expansion teachers in both the elementary and middle grades reported shifting their science instruction toward NGSS teaching. At the elementary level, for three years in a row, over a third of expansion teachers said they taught more science than the previous year. Almost two thirds of them said they would be comfortable teaching a science lesson for their principal as part of their professional evaluation.

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## How Districts Reached All K–8 Teachers of Science

In Years 1–4, professional learning for Teacher Leaders was the same in all the Initiative's districts. In contrast, in Years 5–6, districts used varied models for their overall NGSS implementation policies and strategies, districtwide professional learning offerings, and school-level professional learning and support.

**District NGSS implementation policies and strategies.** Four districts established new policies requiring minimum weekly minutes of science instruction in the elementary grade. Further, districts also sanctioned integrating science during the allotted instructional time for English language arts or English language development. Five districts engaged teachers in a

rigorous process to select instructional materials for adoption using the California NGSS Toolkit for Instructional Materials Evaluation (TIME). Several districts decided to include science in their districtwide contractual teacher professional learning days.

**Districtwide professional learning.** Among four primary types of districtwide professional learning opportunities offered to expansion teachers, two were local adaptations of the main Initiative-wide professional learning activities of Years 1–4, the five-day Summer Institutes and the two-day lesson studies:

- Some of the local Summer Institutes were shorter, but they included similar activities as Summer Institutes of previous years. That is, all institutes involved teachers experiencing NGSS learning in hands-on lessons intended to model NGSS instruction, rather than being dominantly information-giving "NGSS 101" sessions.
- Districts tried widely varying adaptations of the Initiative's Years 1–4 Teacher Learning Collaboratives (TLCs), the Initiative's version of lesson studies.
- One large district created a train-the-trainer model providing five pull-out days per year for 300 teachers to participate in professional learning sessions called Science Capacity Builders.
- Two districts implemented "academies," wherein teachers had opportunities to confer on how they were teaching multi-week instructional sequences.

**School-level professional learning and support.** There were three main strategies for supporting NGSS implementation by expansion teachers at the school level:

- Establishing NGSS teacher Site Leads at the school, whereby interested teachers could be liaisons between district Initiative leads and their school's teachers and administrators, acting as a general resource for NGSS implementation support.
- Making use of existing teacher meetings, such as Professional Learning Communities, or grade-level, all-staff, or science department meetings.
- Developing a menu of 45- to 120-minute professional learning sessions on NGSS teaching that principals could select for their school.

Informal learning also played a critical role in school-level support, with teachers interacting and collaborating on an ad hoc basis, beyond the organized opportunities described above.

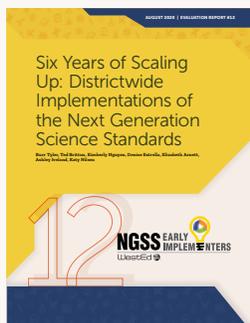
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## Administrators and District NGSS Implementation

About two thirds of expansion teachers reported that their principal was “very supportive” of their teaching NGSS. Principal support resulted from the Initiative making a concerted effort to engage administrators and empower them to actively

support their teachers’ NGSS implementation. All districts created an administrator strand at their Summer Institutes. One district required all principals to participate in a series of three two-hour, concentrated NGSS professional learning sessions with “homework assignments” to observe science instruction at their school. Most districts implemented some form of science walk throughs, in which principals, accompanied by one or more Early Implementer participants, briefly visited a series of five to ten classrooms where science was being taught. Over 90 percent of surveyed administrators reported that they participated in science walk throughs.

While much has been accomplished in districts’ NGSS implementation, there are expansion teachers that still need to be reached, and among many of those who have already become involved, there is a need to make NGSS teaching the mainstay of their year-long practice. Further, there is a particular need to keep this NGSS implementation momentum going in the context of altered teaching conditions being caused by COVID-19. The report closes with a dozen brief **recommendations** for district leaders on NGSS implementation.



*Read the full report, access other evaluation reports and resources, and learn from NGSS Early Implementers at [K12alliance.org](https://www.k12alliance.org).*