



Partnership Study | Davenport & Bettendorf, IA

District Partnership Spotlight

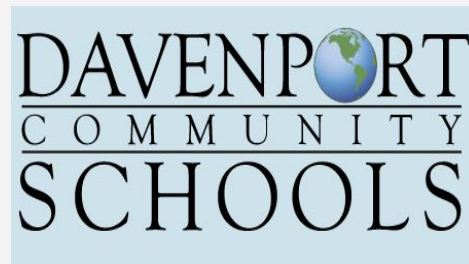
**NextGen
Science**
WestEd 

Partnership Overview

In August 2015, the state of Iowa officially adopted the performance expectations of the Next Generation Science Standards as the new Iowa Science Standards.

Bettendorf and Davenport Community Schools are working toward successful implementation of the new standards and are now a model for many districts across Iowa.

In 2018, science leadership in Bettendorf and Davenport Community Schools and the NextGenScience team entered into a partnership designed to observe shifts in learning and instruction as a result of the adoption and implementation of the Iowa Science Standards. The partnership included a mixture of strategic activities such as strategic planning, professional learning sessions, learning walks, and data collection to support progress monitoring.



“The thinking science affords our young people is not confined to the classroom. You can talk about the economic reasons: STEM jobs are going unfilled because we don't have a workforce that is prepared. You can talk about political reasons in terms of just having an educated, voting population. Or, you can talk about science in terms of scientific advancement and the safety of the human race. We need cures for diseases we want to fight. Someone's going to have to build that better bridge.” **Chris Like, STEAM Coordinator, Bettendorf Community Schools**



“After we adopted the NGSS, much of the effort that I have seen has been to incorporate phenomena into instruction and assessments. There also has been a big push on incorporating the science and engineering practices into instruction so that students don't just read about science but do the work of scientists and engineers every day.” **Tammy Askeland-Nagle, Science Consultant, Mississippi Bend Area Education Agency**

Monitoring Progress of NGSS Implementation

The first step in the partnership between the NextGenScience and science leadership team was to identify priority areas and begin to investigate the status of taking stock of NGSS district implementation across each of the districts in those areas. The districts identified priority areas using the [NGSS District Implementation Indicators](#) as a guide.

The districts identified priority areas:

- Indicator #3: Professional Learning for Teachers
- Indicator #5: Instructional Materials
- Indicator #6: Assessments
- Indicator #13: Student Outcomes

“We wanted to effectively diagnose where we were as a district in terms of science instruction. NextGenScience came in and visited our classrooms and did the audit. They asked, ‘is this what an NGSS classroom should look like?’ and ‘why aren't more kids taking advanced classes? What are the barriers here?’ We got some really great recommendations which we've made some progress towards.”

*Melissa Trimble, Curriculum and Instruction Specialist,
Davenport Community School District*

Supporting a Robust Implementation Plan

As a result of the district science review and strategy support, the NextGenScience team wrote a report that described and synthesized the themes across several data sources — a survey of district educators, classroom observations, and a review of publicly available and internal data — to highlight emerging patterns for each district.

NextGenScience developed a series of recommendations that described high-leverage opportunities to increase and accelerate science educational outcomes for students.

The report was used by districts to inform and strengthen a robust implementation plan, create buy-in with stakeholders, and use as evidence to advocate for policies that will move their science programs forward.

“Our areas of focus for the district have been professional learning for teachers as well as a focus on the selection of high quality science materials.”

*Melissa Trimble,
Curriculum and
Instruction Specialist,
Davenport Community
School District*

District Curriculum Focused NGSS Support

The NextGenScience team's professional learning support focused on the use of the Educators Evaluating the Quality of Instructional Products (EQuIP) Suite of Tools as a mechanism to help educators deepen their understanding of the NGSS while providing criteria by which to measure the degree to which lessons and units are designed for the NGSS. They also used the [EQuIP Rubric for Science](#) to create a customized learning program for the school districts. It included two days of initial face-to-face professional development and follow-up support. The goals were to help educators use the NGSS Lesson Screener in order to (1) provide constructive criterion-based feedback on lessons and units; and (2) review materials to determine what revisions are needed.

This type of support was aimed at building district leaders' and educators' understanding of the NGSS better in order to ascertain the degree to which newly-designed instructional materials embodied the NGSS innovations.

"The science materials needle has moved quite a bit in Iowa. When we first partnered, we observed two districts who were spending a lot of time unpacking the standards and writing their own materials. Now these districts have a better understanding of how to select materials that are designed for the NGSS. On top of that, they're making careful plans for how to best provide professional learning for their teachers."

*Jenny Sarna, Director of
NextGenScience, WestEd*

District Assessment Focused NGSS Support

Educators learned how to use NextGenScience's EQulP Task Prescreen tool and corresponding student work protocol to examine science assessment tasks to (1) build educators' capacity to select quality classroom tasks that ask students to demonstrate grade-appropriate, three-dimensional knowledge and practice; (2) analyze to what extent the task connects to instruction, instructional materials, and classroom learning; and (3) revise classroom assessment tasks as needed based on feedback from student work samples.

"The NGSS represent a huge shift in instruction. It's a massive change for leading science programs at the district and state level. You can't just switch over to these new standards in one year: it has to involve sustained support and planning. It has to involve continuously updating your implementation plans, looking at your instructional materials & assessments, your communications with the community, strategic planning, and collaboration with partners. There are a lot of complex parts to the system and they all need to be revised with these new standards."

Vanessa Wolbrink,
Associate Director of
NextGenScience, WestEd

Science Learning Walks to Observe Quality Unit Implementation

The NextGenScience team conducted classroom learning walks throughout the engagement. At the beginning of the partnership, these walks provided invaluable information about what science teaching and learning looked like in the districts across schools.

Based on recommendations from the report, the districts selected several high-quality units to pilot in middle and high school classrooms. To support this process, the NextGenScience team visited classroom twice to observe pilot and non-pilot classrooms and support district leaders in strategic planning.

Focus areas of the walks included:

- **The NGSS Innovations:** the team used the Iowa Innovations Configuration Map to gather evidence of each innovation across a progression.
- **Student discourse:** strategies that would promote student conversation and engagement were identified.

“The state of Iowa is very interested in taking what we've done with Achieve and trying to replicate it to other districts.”

*Chris Like, STEAM
Coordinator, Bettendorf
Community Schools*

Reflective Learning Touch Points

Across the partnership, NextGenScience supported ongoing learning and reflection through:

Webinars: NextGenScience collected questions and needs from educators, school leaders, and district leaders and used those topics of interest to drive the content of regular webinars.

Surveys: For classrooms piloting units, student and teacher surveys were conducted to look at measures of practice before and while the units were implemented. NextGenScience connected district leaders with researchers in the field to support implementation of surveys and analysis of survey results.

Ongoing Support and Technical Assistance: NextGenScience supported leaders with regular phone calls to check in on the status of the work and problem-solve.

“One of the major impacts of this partnership is that we’ve developed a learning and leadership team across districts. Now, we have a tight network and we can continue to share what’s working and what’s not.”

*Tammy Askeland-Nagle,
Science Consultant,
Mississippi Bend Area
Education Agency*

Partnership Results

As a result of this partnership, the districts gained:

- ✓ A data-based description of the current state of science performance in the district based on an analysis of existing data and documents in addition to new data gathered from educator surveys and learning walks.
- ✓ Recommendations for improvement generated by the district team and NextGenScience. These recommendations are grounded in the local context, and concentrate on short- and medium-term interventions that have a high likelihood of success focusing on curriculum, instruction, assessment.
- ✓ Strategic planning support for district leadership in service of stronger science teaching and learning.
- ✓ Customized in-person professional learning around three-dimensional curriculum and assessment; several teacher and school leader webinars.

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