



Kent School District

OSPI/AESD Evaluation Brief, 2018-2019 School Year

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The Strategic Use of a Multi-Fellow Team to Achieve District Goals

In 2016-17, Kent School District embarked on the goal of implementing the [Next Generation Science Standards](#) (NGSS) throughout all buildings and across all grade levels. The implementation strategy included building a multi-Fellow district team of individuals from key access points who could serve as a conduit of information. Each Fellow was responsible for communicating the holistic vision within his or her sphere of influence, collaborating with peers, and providing the support needed to successfully change their previous science culture to align with NGSS. This brief tells the story of how Kent School District (KSD) strategically used Fellows to undertake this effort. It also provides a roadmap for other districts looking to make impactful, system-wide changes using a multi-Fellow team model.

A Team Advantage – Planning Phase

KSD is comprised of 28 elementary schools, 6 middle schools, 4 high schools, 3 academies, and 1 early learning center that serves a total of 25,416 students. Approximately one-third of the students are White, 22% are Hispanic/Latino, 19% are Asian, 12% are Black/African American, 10% are 2 or more races, 3% are Native Hawaiian/Pacific Islander, and less than 1% are American Indian/Alaska Native.

Using seven strategically placed Fellows, KSD successfully transitioned to NGSS and now has a team of NGSS expert educators and support staff. The KSD Fellows Team represent a range of roles, including district education leaders, building administration, and classroom educators. The multi-Fellow team included the District STEM Coordinator, K-12 STEM Specialist, and the Elementary Science Specialist; one middle school, one high school, and one elementary school teacher; and the high school principal.

Regular Collaboration to Stay on Track

The KSD Fellows Team worked together at the four 2018-19 Science Fellow Convenings and met at least monthly to discuss progress made on the roll out, tackle questions from the field, reflect, and plan the next steps. A team member shared, “[We] had a commitment to meet regularly ... even if it was just informal dialogue where we continually revisit these topics. [We didn’t] just [meet] once or twice a year where we were throwing out ideas and waiting to solve them until next time.” The team heard and respected each members’ perspective, which they used to adapt and modify the approach as needed.

Planning – From Implementation through the Long-term

The initial meetings focused on planning and preparing a structure to implement NGSS standards, content, and supporting materials. Discussions included a long-term K-12 planning approach to help elementary teachers prepare students for middle and high school science. Together, the KSD Fellows Team built consensus around how to introduce the new concepts

and integrate them into the current practice. Employing a diverse team provided a tremendous advantage. A Fellow explained:

Having a mixture of teachers, administrators, and district personnel ... made [the NGSS rollout] so much stronger [because] we all had our own spirit and influence. And we knew that we were an integral part of this team, that we all had a purpose, and we all had a reason for wanting to succeed. I don't think you'd get that if you were just one individual.

The Value of Multiple Perspectives

Each Fellow's knowledge was essential to the collective group. School-level Fellows spoke about the importance of the district-level perspectives. The district-level Fellow provided a comprehensive view of district priorities and directives, which was essential in arranging the team's work. The district-level Fellow also reported progress made and hurdles to school leadership, building administrators, and other district personnel. A KSD Team Fellow explained:

If this was run, let's say, from a group of teachers in the classroom solely as a team, without having a district person involved, too, I think it might be difficult ... Just having people that had a clear vision of what the district's goals were [was important] so that we could align [our work with them]... Also [it was important] having different levels of administrators that can actually make some of those changes that, as a classroom teacher, we wouldn't be able to do.

Additionally, district-level KSD Team Fellows spoke about the importance of the teachers' perspectives, as one Fellow explained:

If it had just been me, we could've thought that ideas were good, but we actually had teachers that we could ask, 'Is this reasonable? Is this going to work? Can you try this and give us feedback?' And if it's not going to work, you ditch it! You don't keep doing something that's not going to work... It's just nice to have a group of people to talk to, as we're trying to implement change, to bounce ideas off, but then also to think about how a particular change would look in an elementary classroom or a high school classroom, and in the middle school level.

A Team Advantage – Implementation Phase

The next step was to implement all that they had learned from their ESD Regional Science Coordinator and their peers in the Convenings. The ESD Regional Science Coordinator had dedicated time in the Fellows Convenings to explain the new science standards. Fellows left the convenings with an understanding of key NGSS components, including:

- Argumentation, or the need to make arguments based on evidence;
- The implications of literacy and mathematics to instruction; and

- Cross-cutting concepts that illustrate science phenomena and dilemmas, identify students' science misconceptions, and lead students to "ah-ha" moments for a better understanding of engineering and science.

The Regional Coordinator also covered topics such as formative assessments, so Fellows could teach others how to assess students' understanding.

An Iterative Process to Test and Retest

During implementation, the KSD Fellow Team used an iterative design process to create a safe space to explore ideas, learn, and build capacity to transition the district to NGSS. (See Figure 1.¹) The process included the following steps.

- **Empathize** – The KSD Fellows empathized with each other when sharing their viewpoints as administrators, teachers, and specialists.
- **Define** – They defined and clarified priorities for each grade and identified unique NGSS transition challenges and constraints for students, teachers, administrators, and district-level specialists.
- **Ideate** – They discussed and formed ideas as a group.
- **Prototype** – They proposed implementation plans for each grade level and created necessary supporting resources.
- **Test** – They worked throughout the district to implement their ideas and transition the teachers to the new science standards.

Throughout this process, the KSD Fellows repeated these steps, meeting to discuss what worked and what did not work well. They asked, "What could be better? What could be revised?" The team used their new insights into teachers' learning processes to create innovative ways to bring NGSS-based learning into the classroom.

¹ Design Thinking Process. Graphic by d.school Hasso Plattner Institute of Design. Stanford University. 2004. Retrieved from <https://dschool.stanford.edu/>

Cycle of NGSS Implementation



Figure 1. Cycle of NGSS Implementation Phase

Action Plans – Different Pieces of the Same Puzzle

Action Plans were pivotal in completing the rollout of the NGSS. The KSD Fellow Team constructed their Action Plans together and described their tasks and outcomes within their sphere of influence (Figure 2). They tightly aligned their plans to the district’s goals. In the focus groups, Fellows expressed how these plans bolstered their confidence to accomplish the work. One Fellow said:

I felt much more confident because we all had an Action Plan. We wrote [our tasks] down and worked for three years [to] implement it. We had a team, and that’s safety in numbers, knowing that someone else was trying to do the same thing.

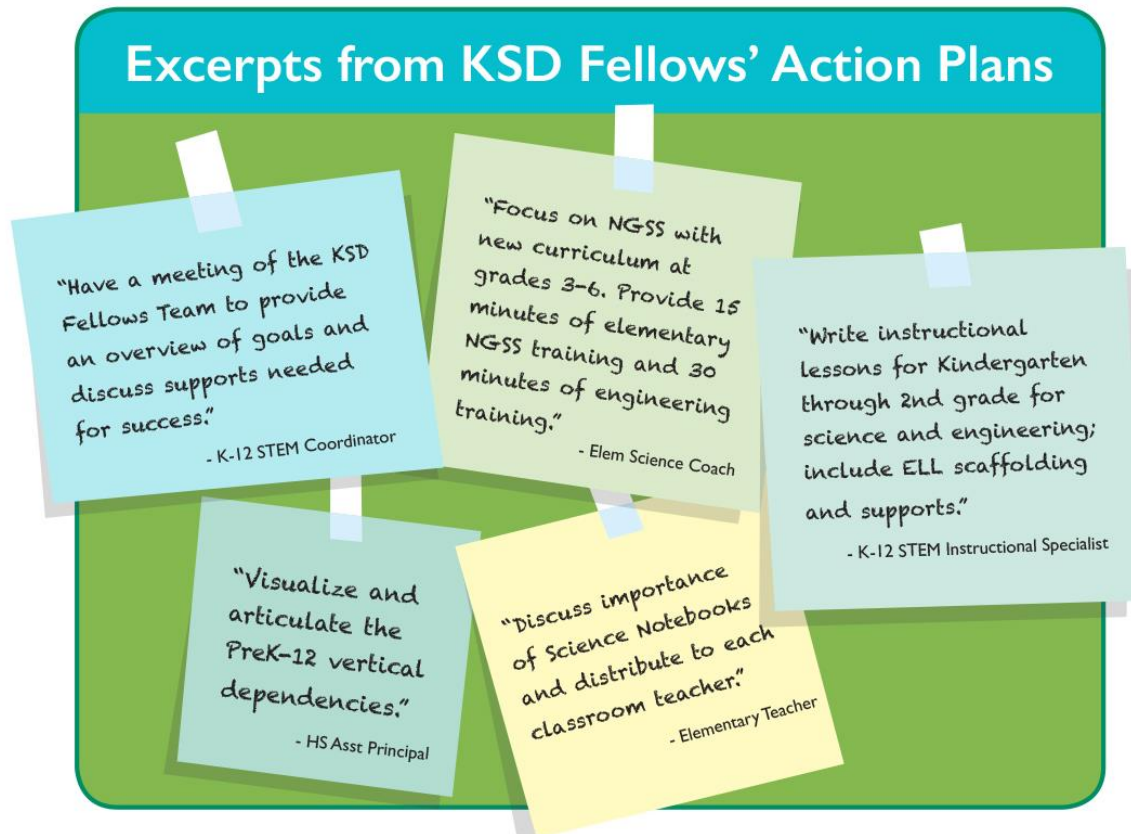


Figure 2. Excerpts from KSD Fellow's Action Plans

The KSD Fellows Team delivered high quality NGSS training in the form of workshops, classroom coaching, and mentoring. For example, they taught elementary teachers how to use high impact strategies for teaching science to their elementary students when time is limited. They modeled what exemplary science teaching looks like and ways to foster different types of science conversation in the classroom, such as argumentation. The Fellows developed the lessons, tools, and processes to three dimensions in the NGSS framework: Disciplinary core ideas (core content), science and engineering practices (eight specific practices that students do), and cross-cutting concepts (ideas that extend across all science and engineering domains).

Tailored Professional Development

The Fellows tailored their professional development to specific groups of individuals. For example, prior to 2013, elementary school teachers were not required to teach science. A Fellow shared, *"For many years, there was not a required number of science [teaching] minutes."* The adoption of the NGSS by Washington State marked the first time that elementary school teachers were required to dedicate 200 minutes to teaching science. *"We often called seventh grade 'middle school science kindergarten' because [the students] are ... mostly lacking science experiences, that we're just laying the ground layer in that first year of middle school."*

ELEMENTARY SCHOOL

Building elementary school teachers' knowledge and confidence to teach and assess science learning required many academic and emotional supports. The KSD Fellows Team was prepared to meet these needs due to the professional development provided in their Fellows Network Convenings. As a result of working together as a team, Fellows could answer elementary teachers' questions about why a particular topic was important to teach. One team member said he explains to his elementary school peers that *"this is the feedback I've gotten from [the middle and high school] teachers. This is why it is important we [teach] this [topic] here at the elementary level."*

SECONDARY SCHOOL

At the secondary level, the KSD Fellows Team provided professional development to teach teachers how to bring NGSS into their classroom. For example, NGSS requires teachers to design an investigation for their students that includes collecting data, interpreting data, and arguing what they learned from their evidence. Fellows at the secondary level led by example and provided teachers with professional development on project-based activities.

SCHOOL ADMINISTRATION

The team also conducted specific sessions for building principals and administrators on NGSS implementation and implications to science teaching. As a result, building principals gained a greater appreciation for the enormity of the transition and approved Substitute Teachers for when the KSD Fellows Team travelled to different district buildings to deliver professional development.

REACHING A LARGE AUDIENCE OVERALL

As a result, NGSS training reached a very large audience in the district. Approximately 310 teachers completed the professional development class, called NGSS 101, which built a strong foundation of teacher knowledge. A KSD Fellows Team member shared, *"We weren't able to capture all 41 sites, but we could at least get a bit of a range. So, I think that's really important too because ... what one building needs may not be what another building needs even in the same district."* Another Fellow explained the advantages of having ample support to gain momentum and credibility to influence perceptions of the value added by NGSS:

[The professional development] was across different buildings within the district [and] the principals talked to each other, [teachers] talked to each other... [When] more than one person hears [that] and says, 'Oh, the people who get this training and [NGSS] background really do come back with some skills that we are able to use,' I think that makes a huge difference.

Fellows outside of KSD also supported the transition to the new standards. The Fellows' Network expanded access to other districts that were learning how to best apply the new ideas in the classroom. The deep, trusting professional relationships developed through the Fellows' Network served as an asset for these district-, building-, and classroom-level changes to improve science education. A district-level Fellow explained:

Just having those connections with people I've met and worked with [at the convenings] ... I feel like I can contact them, not only within our group, but [also within] the bigger group throughout the region. And when I have a concern, or something I'm working on, or something I can learn about, I contact those people, and they get right back and have become real collaborators who are very, very willing to share. So, I think that makes a huge difference.

Science Fellows' Reflections

Upon reflection, the KSD Fellows Team strongly felt that progress toward the districts' goals would have gone differently without the team approach to NGSS implementation. A KSD Fellows team member shared, *"It would be impossible, I think. People can't affect change usually by themselves without conversation with others, especially vertically."* They unanimously agreed that working within a team of Fellows allowed them to optimize the implementation of NGSS throughout their district and better prepare students to move to the next grade level with strong foundational science knowledge. They felt that every Fellow was critical to successfully carrying out the district's NGSS directives.

Focus group participants expressed they felt more accountability when working in a team. One Fellow said, *"When you know that you're sort of accountable to this school that you are working with, it just changes your motivation and drive to succeed."* A second Fellow shared, *"I think that the team gave me greater purpose and motivation because, if I knew that whatever I'm doing could have an effect positively for those teachers, then I'm going to work much harder."* The team also agreed that the teachers throughout the district felt more accountable to each other for vertical and horizontal coherence, as a KSD Fellows Team member shared:

I think [our KSD Fellows Team] helped to maybe make the level of accountability feel a little more real for my colleagues, who [thought], 'It's out of sight, out of mind, because there's already so much to try to deal with' ... [But our team approach] helped bring home that 'Oh, this is important, too.'

The team approach mitigated staff turnover and personnel changes, as the effort continued to maintain momentum even through challenges. *"We did end up in a situation where half of the team ended up leaving ... So, I think that's a big reason for [using multiple Fellows] because you're always going to have turnover. [With one Fellow], if they leave and they're the only one, you've lost all of that within the district."*

The NGSS implementation was a slow and intentional process, particularly in elementary schools, to increase teachers' confidence who do not have science backgrounds. A Fellow shared, *"I'm in my fourth year at Kent now, and I'm really, finally, seeing huge changes, huge changes in elementary science."*

Realizing that the work needs to be sustained, the Fellows feel encouraged by the assistance Emeritus Fellows can provide to continue the work. The Fellows shared that they look forward

to collaborating with the Emeritus Fellows to build a stronger science education for all students.
A Fellow shared:

There is a sustainability model built in because the Emeritus Fellows are now going to be called upon to help with the training or help with doing WSTA [the Washington Science Teachers Association conference] ... and just being called on to continue using their leadership skills in other capacities... What a great way to show sustainability in a program.