

Inquiry Hub Case Study

The *Inquiry Hub* provides districts with a digital platform for teachers to customize curriculum materials and to support ongoing professional development related to the improvement of teaching and learning. Through funding from NSF's Cyberlearning Program, the *Inquiry Hub* team is aiming to develop a scalable model for partnering with districts to support instructional improvement at scale. At present, a key goal of the *Inquiry Hub* team is to support a large urban district in implementing ninth grade algebra instruction that is aligned to the demands of the Common Core State Standards in Mathematics.

The digital platform that provides a base for the work is called the Curriculum Customization Service (CCS). Individual teachers can access digital versions of the adopted district textbook, *Discovering Algebra*, broken down by big idea or Common Core content standards. Teachers can add content that has been vetted by other content providers approved by the district and that have agreements with *Inquiry Hub* and share lesson ideas with other teachers. Teachers can organize sequences of instruction into "playlists" in the CCS to assist with instructional planning. The CCS is first and foremost a teacher planning tool, not an interface for students to engage directly with digital content.

From the district's standpoint, the challenge of preparing teachers to meet the new demands of teaching to the Common Core standards is multifold. First, there are gaps in the existing curriculum materials for which teachers have few good resources, especially in the area of statistics and probability. Second, the new PARCC assessments to be implemented soon will present challenges to students on two fronts: they are more cognitively demanded and will require facility with new, computer-based formats for testing students. Third, there are needs for improving the quality of instruction, particularly with respect to the level of cognitive demand of tasks teachers assign students. Finally, there is a need for all teachers to develop a better, deeper understanding of the Common Core State Standards in mathematics, both with respect to content and to the mathematical practices.

In the past year, the *Inquiry Hub* has worked closely with district leaders and a cadre of 11 teachers to develop web tools and a professional development process focused on the analysis of open educational resources. The focus of the work has been to identify high-quality mathematical tasks that embody the Common Core, are cognitively demanding, and are accessible to the large numbers of English language learners in the district. A team of researchers, working in collaboration with district leaders, identified potential tasks to rate and a rubric to use to rate tasks. They designed a process for discussing tasks, which was implemented in both face-to-face professional development workshops and in teleconferences that took place every two weeks during the school year. Researchers studied enactment of the tasks and found most teachers sustained the level of cognitive demand of tasks as written, which surprised but delighted district leaders.

The district leaders wish to bring the task rating process to scale among the district's 100 or so ninth grade algebra teachers next year.

The research team includes people with expertise in curriculum and instructional design, mathematics education, science education, and evaluation research. There is only a modest amount of funding available for research, as the bulk of the effort is to be dedicated to scaling up the model and developing a viable business plan for sustainability.

Questions for Discussing the Case:

1. What types of settings would you think are good places to help bring this innovation to scale among the district's algebra teachers? Why?
2. What questions might you ask district leaders about the district context that could help you decide how to scale the tools and professional development process?
3. What do you anticipate will be the challenges associated with bringing the tools and process to scale in the district?
4. What would you study, to inform and adjust the process of scaling?