



National Science Foundation Awards Three-Year Grant to Digital Promise Global to Develop K-12 Computational Thinking Pathways

Project will address equitable access and learning experiences in public school districts

October 10, 2018 | Park City, UT - Digital Promise Global has been awarded a three-year National Science Foundation (NSF) grant totalling approximately \$1 million for their proposal, "Developing Inclusive K-12 Computing Pathways for the League of Innovative Schools."

The funded project—referred to as “CT Pathways”—is a research-practice partnership between Digital Promise and members of Digital Promise’s flagship network of public school districts, the League of Innovative Schools, that will set out to design, study, and improve 12 school districts’ computational thinking pathways. The project will particularly focus on addressing access and creating equitable learning experiences in computational education for targeted students.

Digital Promise Global President and CEO Karen Cator said, “We are excited to work deeply with members of our League of Innovative Schools to design computational thinking pathways and ultimately provide more students the opportunity to learn critical skills for solving complex problems in an increasingly computational world.”

At the center of the project are three “Core” districts:

1. **Iowa City Community School District (IA)**, a district serving 14,000 students that is rapidly becoming more urban and diverse; its goal is to increase participation in computing among minority and English language learner students.
2. **Indian Prairie School District (IL)**, a suburban district 40 miles west of Chicago, serving 28,000 students; its goal is to improve achievement for students from low-income families.
3. **Talladega County Schools (AL)**, a district of 7,500 students in the central part of the state; its goal is improving achievement among girls and low-income students.

In total, these three Core districts serve approximately 50,000 students (29 percent low-income and 26 percent Black or Latinx).

The project will also involve an additional nine “Pilot” districts, each with valuable knowledge to share, including 91,000 total students (53 percent low-income and 41 percent Black or Latinx) who will work along with the Core districts to improve their work and utilize the emerging outputs to also intentionally and effectively address equity and access for each district’s target groups.

These nine Pilot districts include: Compton Unified School District (CA); Elizabeth Forward School District (PA); Franklin West School District (VT); Henry County Public Schools (VA); Highline Public Schools (WA); Kettle Moraine School District (WI); Mineola Public Schools (NY); South Fayette School District (PA); and Utica Community Schools (MI).

Dr. Jeremy Roschelle, Executive Director of Learning Sciences Research at Digital Promise Global and Principal Investigator of this project, said, “Our research partnership will define pathways that particularly engage girls, low-income and other underserved students in computing, beginning in kindergarten and continuing through high school.”

Completed computational pathways will set out to address early elementary, late elementary, middle school and high school grade bands and include the following as pathway components:

- A vision for curricular integration of computational thinking and computer science in each grade band, including attention to the “why” of computational thinking and computer science education in the eyes of students, teachers, and parents;
- Clear statements of competencies in terms of what students should know and be able to do in each grade band, annotated with short, illustrative examples or videos;
- Identification and adaptation of useful curricular resources to support learning;
- Identification of target teacher competencies, professional development needs, and teacher learning resources;
- Articulation of formative assessment for students and teachers to guide improvement; and
- Guides to help teachers in further adapting and integrating computational thinking and computer science into their classrooms.

For more information on computational thinking and its importance in K-12 education, please visit <https://digitalpromise.org/initiative/computational-thinking>.

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About Digital Promise Global

Digital Promise Global is a nonprofit organization working to spur innovation in education. By working with educators, entrepreneurs, researchers, and leading thinkers, Digital Promise Global leverages technology, taps into research, and shares powerful stories to improve the opportunity to learn around the world. For more information, visit the [Digital Promise Global website](#) and follow [@Global_DP](#) for updates.

