



GE Foundation Developing Futures™ in Education

A Partnership for Innovation:
The Development of the
Cincinnati Public Schools
Math Curriculum

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GE Foundation

In a Nutshell...

A true partnership between the GE Foundation and the Cincinnati Public Schools (CPS) led to the quick development of a new, Web-based, K–8 mathematics curriculum with little fanfare. This new math curriculum is one cornerstone of the vision shared by the GE Foundation and CPS of improving math teaching and learning. The new curriculum provides teachers with easily accessed, user-friendly, concrete, relevant resources for classroom use. The partnership achieved this significant accomplishment through leadership, vision, collaboration, strong staff, and human and financial resources. This document tells the story of what happened, how it happened, and how CPS plans to roll out the curriculum to every student, in every school, every day. It concludes by drawing lessons and implications for the broader national effort of the GE Foundation to improve teaching and learning in math and science.

What Happened?

Development of the new math curriculum began about two years ago. District staff first undertook the tasks of aligning district standards with Ohio standards, developing draft benchmark assessments, and creating pacing guides. These tasks were accomplished in 2005–2006, with the support of a planning grant from the GE Foundation. The impetus for the new curriculum was the district's recognition of the need to improve student achievement in this critical subject. At the time, seventh- and eighth-grade students in CPS were 20–25% below state averages on math assessments.

The development of the curriculum was informed by the CPS Strategic Plan for 2006–2011, "Building Futures," adopted by the CPS Board of Education in April 2006. During the planning stage, with the help of the \$500,000 planning grant from the GE Foundation, a team of CPS administrators, teachers, national education consultants, and GE Foundation team members developed a 5-year plan for improvement and a roadmap for implementation of new math and science curricula that would be fully aligned with the district's strategic plan.

During the 2006–07 school year, curriculum maps, model lessons, and resources were developed and benchmark assessments were revised, all with support from the GE Foundation and the foundation-sponsored change agent. Up to that point, the CPS team had all of the necessary components for developing the curriculum but lacked the expertise for pulling the components together. With assistance from a curriculum mapping

expert, recommended by the GE Foundation-sponsored change agent and supported by grant funds, the district team began development of the curriculum in the spring of 2007. The district team drew on grant funds to participate in a seminar that provided the training they needed to develop the curriculum mapping.

By summer 2007, the team was taking steps to ensure that a math curriculum—aligned with the goals of the CPS strategic plan, the Developing Futures™ in Education goals, and state standards—would be ready for implementation in the 2007–08 school year. Model lessons were developed by grade-specific teacher teams. University professors were hired to review every model lesson and certify lesson effectiveness. Feedback forms were created for teachers to fill out to help improve the lessons. Finally, teacher leaders from every school were trained by an outside contractor on how to use the model lessons and understand the maps.

All teachers in the CPS were introduced to the curriculum at faculty meetings in early September 2007, with professional development planned for the coming year. Instructional Support Teams (ISTs) of coaches will visit schools and help teachers to teach the new curriculum. Model lessons will include a preassessment, a teacher content-knowledge section, lesson plans, student activities, resource materials, and a postassessment. Over time, other model lessons will be added to the curriculum guide.

How Did It Happen?

The development of the math curriculum in CPS stands as a major accomplishment. Given the challenges of making this happen in a school district, how did CPS manage to achieve so much, so quickly? The answer lies in the partnership that the GE Foundation and CPS have forged over the past two years. Several key elements of this partnership stand out as the drivers of the math curriculum success: leadership, vision, collaboration, strong staff, and human and financial resources.

There is no substitute for strong leadership. Perhaps the single most important factor in the success of the curriculum development work was strong leadership. From the very beginning, with the full encouragement and support of the GE Foundation, the superintendent insisted that the work of the GE Foundation grant be fully integrated into the district's efforts to implement CPS's strategic plan. The emphasis on alignment and integration ensured that staff not only understood the urgency and importance of the work but also believed that their efforts would produce a curriculum that would ultimately be used throughout the district.

The vision of improved math teaching and learning lay behind the effort. Although leadership undoubtedly drove this effort, behind it lay a vision, shared by CPS and the GE Foundation, of improved teaching and learning in math. Partially because everyone in CPS knew that the work of the grant was an integral part of the district's strategic plan, not just an add-on, the vision of improved math teaching and learning rooted in a single, districtwide curriculum stood as a quiet but nonetheless important and powerful driver for the curriculum development work.

Collaborative culture was a catalyst for the curriculum development. Collaboration—the first of the GE Foundation's program components and the core of the change model—was the watchword for the curriculum development process. The curriculum development work clearly benefited from the collaborative culture in CPS. This culture, which is evident in the operation of the grant steering committee, extends well beyond the interpersonal relationships of the superintendent and her team and the Cincinnati Federation of Teachers (CFT) president and his team. The joint efforts of administrators and teachers could not have been successful and would not have been undertaken had the administrators and teachers not trusted and respected each other and respected the contributions each could make to the effort.

In many districts, similar developmental efforts would never have included teachers, because administrators more typically would assume that they (the administrators) know what is best. Even in districts where teachers are included in the process, they often do not feel empowered and invested in working to build the kind of product that CPS has produced.

A strong team did the work. Under the direction of the deputy superintendent, a strong team set about doing the challenging work of developing the new math curriculum. This team included administrators, teachers, and university faculty.

Resources matter. The GE Foundation has provided substantial resources to CPS. The resources extend well beyond the \$20 million grant awarded last year. Funding made a significant difference, as it allowed the team that did the work to be free from other responsibilities to focus on the curriculum development work. The GE Foundation grant funding allowed a three-member team to attend a four-day conference to learn curriculum mapping.

In addition to funding, the GE Foundation has provided CPS with access to two change agents since the beginning of its relationship with the district. While their roles at times have overlapped, one clearly was instrumental in fostering and extending the collaborative culture of CPS. The other was equally important in multiple ways; for the math curriculum development work, she served as an expert broker by connecting CPS to the external curriculum consultant who provided essential technical support to the CPS team.

What Next?

The vision GE Foundation and CPS shared of improved teaching and learning in math has been advanced with the successful development of the K–8 curriculum. However, development of the curriculum is only the first step towards improved teaching and learning in math. The next steps—teacher professional development to use the curriculum, leadership development to support its implementation, and careful monitoring of potential impediments to progress—are crucial. The partnership between CPS and the GE Foundation characterized by leadership, shared vision, collaboration, and careful application of human and financial resources worked well to develop the math curriculum and should also foster its implementation.

CPS has launched a year-long (school year 2007–08) math professional development plan for all math teachers. The plan includes four full-day workshops and monthly school-based meetings in learning teams. Mayerson Academy has contracted with Pearson Solutions to provide the workshops; design the monthly meetings; and train principals, ISTs, and teacher leaders. The professional development plan built into the contract utilizes both regular professional development days and job-embedded activities.

Professional development days will focus on math content and best practices in teaching math. Teachers will develop problems which their students will have to work through in their upcoming lessons and units. CPS will determine the content of the workshops by analyzing 2006–07 data to identify areas in need of improvement. Pacing guides will also drive the choice of content, so that professional development will focus on high-need topics (based on last year's benchmark data) and those that teachers will be teaching shortly after the workshop.

In addition to the workshops, learning teams will meet for one to one and a half hours and use a lesson study approach to extend and deepen learning between workshops. The lesson study approach involves the collaborative and iterative development,

observation, and revision of sample math lessons. Lesson study also involves teacher review of achievement data, student work, and an opportunity for teachers to reflect and share best practices.

Principals, lead teachers, and ISTs will support this job-embedded professional development and will themselves participate in monthly leadership development workshops, also facilitated by Pearson Solutions. These workshops will focus on implementation and support of the new math curriculum and will include monthly school-based meetings and ongoing classroom support.

During the 2006–07 school year, the GE Foundation-sponsored change agent provided leadership development to principals in CPS. During the 2007–08 school year, in addition to the Pearson-led leadership development, principals will also participate in training provided by the Southern Regional Education Board (SREB). The intent is to develop a cadre of CPS leaders who will be prepared to facilitate SREB-developed leadership modules for clusters of principals, assistant principals, and other school leaders.

The professional development strategy is ambitious, and contracting such significant portions of it presents challenges. The initial workshops did not meet CPS expectations. CPS and the change agent, however, quickly identified the shortcomings in the Pearson work and moved quickly and effectively. Pearson responded, although monitoring this work will remain an important activity moving forward.

Beyond the usual tasks involved in implementing the math curriculum and associated professional development districtwide, CPS faces additional challenges. The leadership and collaboration that were so critical in developing the curriculum will be challenged by the superintendent's announced retirement at the end of the school year. The very nature of the transition creates uncertainty and risk in the system. This risk, however, may be minimized by the institutionalization of the superintendent's plans through the collaborative culture that is so deeply rooted in CPS.

Similarly, new leadership at CFT, while fully engaged and supportive of the work thus far, may face continued other pressures that challenge the collaborative culture, notably the selection process for the new superintendent.

Two potential mitigating factors regarding these substantial challenges are the critical services the change agents are delivering to the district and the upcoming transition to a new GE program manager. The district has not had a permanent, locally based program

manager for much of the year. The upcoming hiring of a new local program manager should strengthen the partnership between GE Foundation and CPS and help smooth the transitions at the top of CPS and CFT.

Lessons Learned and Implications

The story of what CPS did to develop a new K–8 math curriculum and how they did it bodes well for further grant-sponsored work in CPS. Although there are clear challenges and risks ahead, CPS has established, with this single success, a model of how to move forward that should serve CPS well as the district pursues the shared vision of improved teaching and learning in math. There are larger lessons from CPS' success that can be applied more broadly by the GE Foundation as it moves forward nationally. The lessons of the Cincinnati math curriculum development work can be summarized as follows.

Integrate and align the GE Foundation grant and the district strategic plan. The CPS curriculum development work succeeded because the district—administrators, principals, and teachers—saw it as integral to the work of the district, not as an add-on or externally mandated activity. This was work they wanted and felt needed to be done, not merely a condition of the grant. The level of commitment that staff brought to bear would not have been the same had this been seen as a foundation-mandated nonnegotiable.

Maintain a true partnership between the GE Foundation and its grantee districts.

The CPS experience demonstrates that the GE Foundation's systems orientation, along with its emphasis on collaboration, responsiveness, and flexibility, fosters innovation and sustainable improvement. This approach capitalized on and enhanced the capacity of the district and supported growth in areas of need.

Build on the complementary strengths of the GE Foundation and the district. First and foremost, the GE Foundation and CPS shared a common vision of student success. Second, the GE Foundation provided substantial human and financial resources to support CPS. Third, the collaborative nature of the development work—emphasized in the GE Foundation model—will ensure a much more fluid implementation than would have been the case had the central office developed the curriculum in isolation from classroom teachers. Last, strong leadership from the superintendent to the deputy superintendent to the CFT president to the GE Foundation cemented the partnership.

The GE Foundation

The GE Foundation, the philanthropic organization of the General Electric Company, has worked for more than 50 years to strengthen educational access, equity, and quality for disadvantaged youth both in the United States and abroad.

The Foundation's Developing Futures™ in Education program reflects its innovative approach to philanthropy, helping to create effective, sustainable, and scalable social change. Since 2005 the Foundation has tripled its previous investments to more than \$125 million. This public education reform project seeks to increase student achievement using a systems change model that fosters collaboration among the districts' central offices, teachers' organizations, school administrators, local GE volunteers, parents and the community. The program creates positive social change using a systemic approach that involves the entire school district. It is designed to ensure that all students in targeted school districts are college ready and have the math and science skills and knowledge to succeed in their academic and career pursuits. The Foundation believes it can help secure the future for young Americans, preparing them for careers in a global economy.

For more information, please visit www.gefoundation.com.

