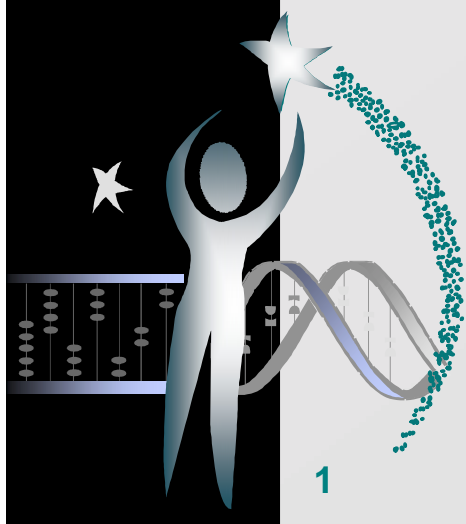


***Celebrating a Decade of
Science, Mathematics and
Technology Systemic Reform***

Floretta Dukes McKenzie

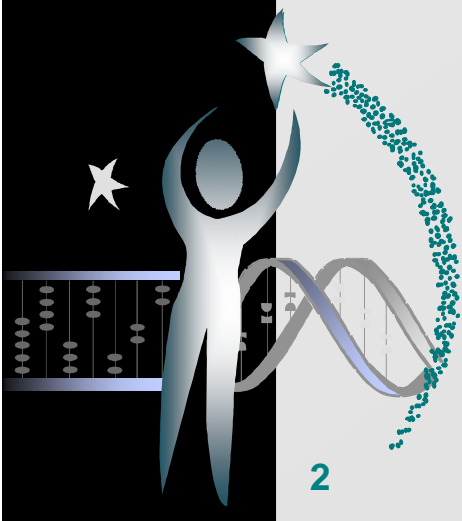
*Founder and President, The McKenzie Group
Senior Advisor, American Institutes for Research*

November 3, 2005



Purpose of the SI Leadership Institute

- ★ Review and discuss lessons learned, major accomplishments and milestones over the past decade of SMT reforms.
- ★ Review and discuss strategies for scaling up, sustaining, and institutionalizing SMT reform efforts with a special focus on data and evaluation, leadership development, and technology.
- ★ Discuss and share tools and techniques that have been developed by individual sites and technical assistance providers to support local SMT reform efforts.
- ★ Explore future technical assistance options for sustaining and supporting virtual communities of learners.



Systemic Initiatives: A Generation of Support

A Brief History of the Systemic Initiatives

★ Statewide Systemic Initiatives (SSIs)

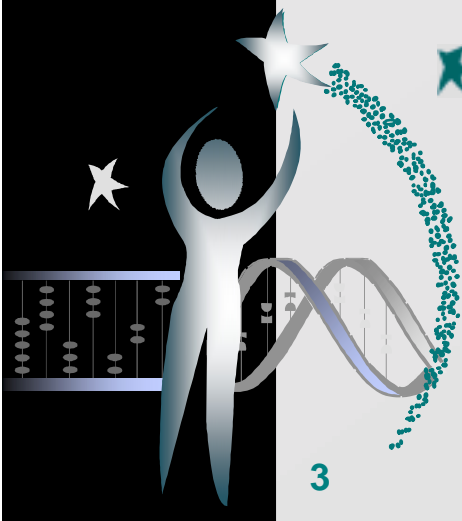
- ❖ Total of 26 states funded
- ❖ Launched in 1991

★ Rural Systemic Initiatives (RSIs)

- ❖ Regional collaborations targeting geographic or indigenous populations
- ❖ Total of 29 funded sites
- ❖ Launched in 1993

★ Urban Systemic Initiatives (USIs)

- ❖ 28 eligible sites - 23 funded in 4 cohorts
- ❖ Included all major urban school districts
- ❖ Launched in 1994



Systemic Initiatives: A Generation of Support

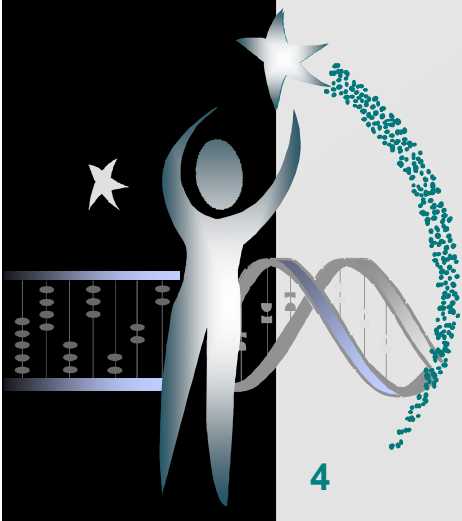
A Brief History of the Systemic Initiatives (cont.)

★ Comprehensive Partnerships for Math/Science Achievement (CPMSAs)

- ❖ Small urban and suburban districts (27 funded sites)
- ❖ Original focus on minority SMT enrichment and pipelines
- ❖ Began as smaller program in early 1990's

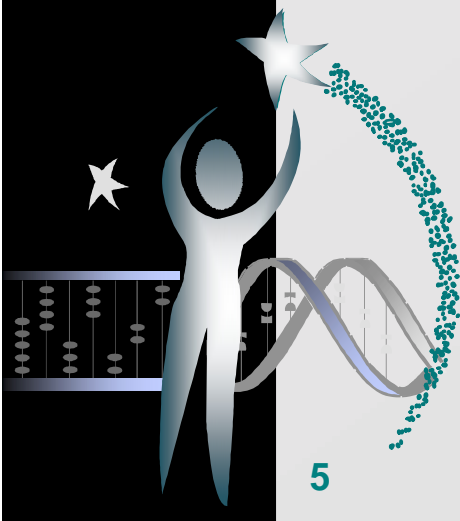
★ Urban Systemic Programs (USPs)

- ❖ Merging of USIs & CPMSAs into one competitive grant program
- ❖ Total of 47 funded sites, including new sites as well as former USIs and CPMSAs
- ❖ Launched in 1999



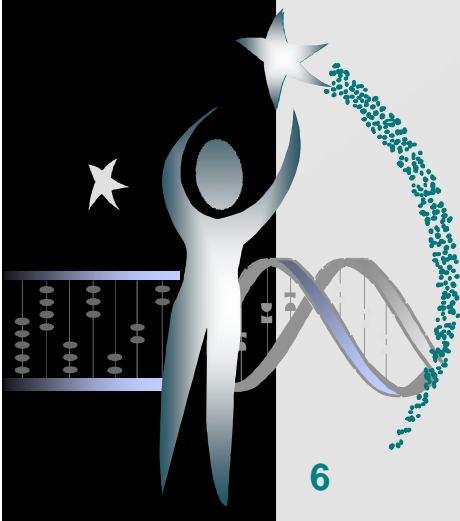
USP Program Goals

- ★ Improve and/or advance urban school districts' implementation of a standards-based, inquiry-centered SMT education for all students K-12
- ★ Substantially increase student achievement in the fields of science, mathematics, and technology (SMT)
- ★ Increase the competency and diversity of the science and mathematics instructional workforce
- ★ Promote collaborations with colleges and universities to improve their approach to teacher education



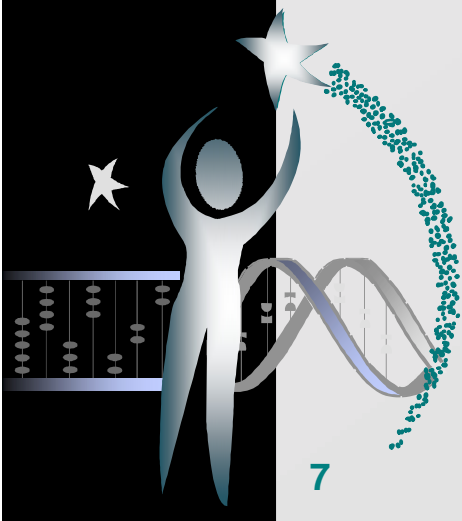
Curriculum and Instruction Successes

- ★ PK-12 SMT curriculum articulation and integration
- ★ Elimination of low-level courses
- ★ “Algebra for all” starting in middle school
- ★ Increased “opportunities to learn” in higher level math/science courses
- ★ Hands-on and inquiry-based teaching and learning
- ★ Aligned assessments



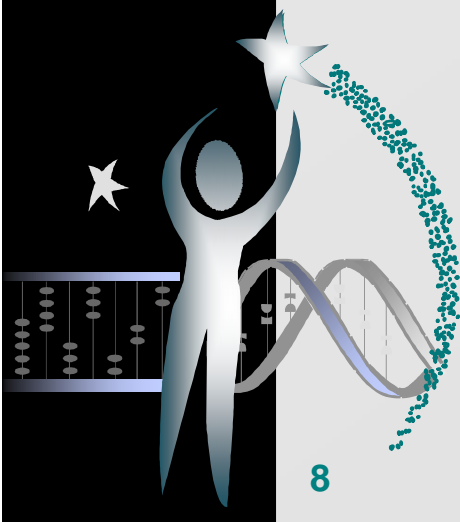
Professional Development Successes

- ★ Articulation and alignment of professional development offerings
- ★ Shift to school-embedded professional development
- ★ Development of teacher leader cadres
- ★ Support for ongoing communities of learners
- ★ Improved teacher content knowledge and math/science pedagogical skills



Systemic Change Successes

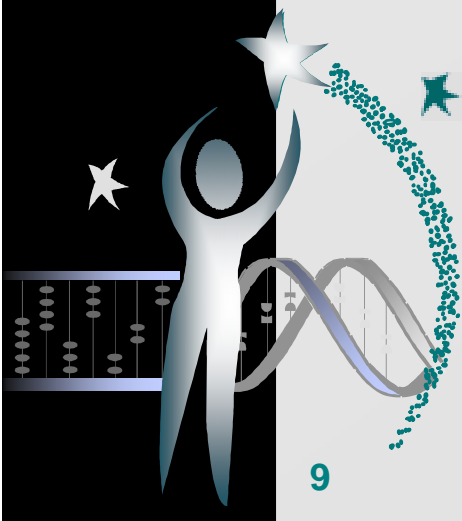
- ✦ Institutionalized policies raising math/science graduation requirements
- ✦ Central office reorganization, alignment, and coordination of SMT, professional development, and assessment units
- ✦ Increased role of teacher leaders and other scale-up efforts at school and classroom levels
- ✦ Data-informed decision-making processes
- ✦ Increased role of higher education and other partnerships
- ✦ Leadership development



Systemic Initiatives: A Generation of Support

Student Achievement Successes

- ★ Increased enrollments in Algebra I and higher level math/science courses, including AP and honors courses
- ★ Improved standardized test scores, including AP and SAT, with greatest progress at elementary grade levels
- ★ Statistically significant gains in elementary mathematics and science achievement
- ★ Progress in narrowing the minority achievement gap



Systemic Initiatives: A Generation of Support

“Celebrating and Sustaining Success” Discussion Questions

- ★ What has been the most successful impact of the Systemic Initiatives on your district?
- ★ What has been the most significant impact on you professionally?
- ★ What is the most daunting systemic reform challenge or issue for your district in the future?

