

Special Issues for Urban Mathematics Leaders

Special Interest Group Open Discussion

Hosted by the Urban Mathematics Leadership Network (UMLN)

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at the University of Texas at Austin

Urban Mathematics Leadership Network

- Currently involves the mathematics leaders in 21 large, urban districts
- Participating districts encompass roughly 50% of students in the nation's urban school districts
- Housed at the the Dana Center; funded by grants from the Dana, Gates, and Carnegie Foundations
- Partners include the Aspen Institute and Achieve, Inc.
- Activities include networking, tool development, and advocacy



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UMLN Participating Districts

- Atlanta Public Schools
- Austin Independent School District
- Baltimore City Public Schools*
- Boston Public Schools
- Charlotte-Mecklenburg Schools*
- Chicago Public Schools
- Columbus (OH) City Schools
- Denver Public Schools
- District of Columbia Public Schools*
- Houston Independent School District*
- Los Angeles Unified School District
- Memphis City Public Schools
- Milwaukee Public Schools*
- New York City Department of Education
- Pittsburgh Public Schools*
- Philadelphia Public Schools*
- Portland (OR) Public Schools
- Prince George's County Public Schools*
- San Diego Unified School District
- San Francisco Unified School District*
- Seattle Public Schools*
- Spokane Public Schools

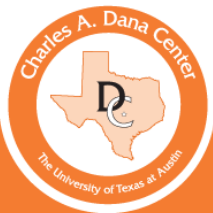
*New in 2008



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Goals for Today's SIG Discussion

- To provide a forum for mathematics leaders in urban districts to talk with each other about common issues and problems
- To raise and consider the possibility of developing an advocacy agenda regarding issues in teaching and learning mathematics in urban districts



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To Help Start Today's Conversation...

- ✓ Needs of urban districts are not distinct from needs of other districts, but the contexts of urban districts create special concerns.
- ✓ Some issues raised by mathematics leaders in UMLN districts are discussed on the following slides.

They fall into three basic categories:

- Teaching and learning
 - Schools and districts
 - Broader policy concerns
- ✓ These issues are raised here to begin open discussion of issues and concerns of urban districts.



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Struggling Math Students in World of Ramped-Up Requirements

- Most districts require three years of high school mathematics, beginning with algebra; there is an increasing movement to four-year mathematics requirement.
- Algebra I remains the most failed course in most districts; students who fail algebra are not likely to graduate. Graduation rates in urban districts are at 50%; they are lower for African-American and Hispanic students.
- Composition of ninth-grade algebra classes is changing; they now have a larger concentration of students who are underprepared in mathematics.
- Curricula and teacher preparation have not kept pace with changing needs. New approaches are needed for underprepared students.
- With increased requirements and a changing world, alternatives to current third- and fourth-year courses are also needed.



Students with Special Needs: Special Education and Response to Intervention

- Research base in mathematics is shallow.
- Mathematics teachers have little or no special preparation in special education and lack knowledge of how to provide effective accommodations.
- Special education teachers have little knowledge of issues in mathematics teaching and learning; they lack content knowledge.
- Increased emphasis on inclusion models and No Child Left Behind (NCLB) requirements means more students with special learning needs are in “regular” mathematics classes.
- Response to Intervention (RTI) is just now entering the radar screen of many districts.
- Historical collaboration among mathematics teachers and special education teachers is minimal.



Students with Special Needs: English Language Learners

- This population is growing beyond urban districts—multiple languages and cultures.
- Mathematics teachers have little or no special preparation in second language acquisition or effective ESL teaching strategies.
- Communication demands of standards-based mathematics classroom require special attention to the needs of ELL students.
- NCLB accountability requirements highlight the needs of ELLs, but districts often lack infrastructure for effectively supporting good mathematics teaching of ELLs.



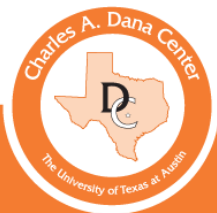
Teacher Shortage and Staffing Concerns

- Competition with surrounding districts means that urban schools are more likely to face a shortage of highly qualified mathematics teachers in grades 6–12 and higher rates of teacher turnover, especially in hard-to-staff schools.
- Good mathematics mentoring and induction programs are costly, and funding for such programs is inadequate.
- Urban districts are increasingly dependent on alternative certification programs to staff mathematics positions.
- Even the best alternative certification programs lack mathematics support infrastructure.



Developing Urban Mathematics Leaders

- Lack of advancement opportunities for classroom teachers discourage development of mathematics teacher-leaders.
- University graduate programs for mathematics teachers that focus primarily on teaching advanced mathematics courses or that lack specific attention to the needs of student in urban schools are not attractive to the new generation of mathematics teachers.
- Graduate programs in educational leadership or curriculum and instruction address mathematics generically and fail to address the needs of mathematics teachers in urban schools.



Developing Strong Mathematics Departments

- Highly functioning mathematics departments are essential for promoting strong professional communities among mathematics teachers.
- Many urban schools and districts lack the tools and infrastructure for promoting strong math departments.



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NCLB Accountability and Equity Concerns

- NCLB accountability requirements that are based on absolute percentages of students meeting or exceeding designated standards fail to recognize schools, often in urban districts, that have students who begin significantly underprepared but show significant growth in learning over time.
- NCLB accountability requirements for subpopulations highlight the needs of many students but also run the risk of blaming them for school or district sanctions.
- Similarly, discussions of mathematics achievement gaps should focus more attention on the gross inequities in students' access to high-quality instruction rather than on the failures of the students themselves or their families.



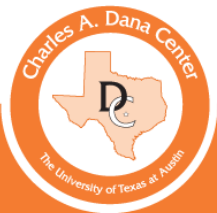
Organizational Concerns

- Positioning of district's mathematics curriculum leaders within the organization varies widely from district to district.
- Organizational relationship of mathematics curriculum office with principals and instructional support staff (e.g., math coaches, math specialists) is often murky.
- Accountability for mathematics improvement lies within the mathematics curriculum office, but resources and support personnel are distributed elsewhere.



Open SIG Discussion

- Discussion of the issues/concerns mentioned earlier or other issues/concerns that you would like to share
- Discussion of whether or not there is interest in development of an Urban Mathematics Advocacy Agenda and, if so, what it might look like
- General sharing and discussion among participants



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