



Math in the Middle

March 2007



Math in the Middle welcomes fourth cohort

The following teachers have been accepted into the Math in the Middle Institute Partnership and will begin their studies this summer. They'll learn more math than typical middle school teachers are expected to know and learn how to transfer this knowledge into their classrooms. The 25-month program leads to a master's degree.

ESU 1:

Billie Graham, Wausa Public Schools
Gretchen Long, Umo Ho Nation Public Schools
Ryon Nilson, Creighton Community Schools

ESU 2:

Teena Anderson, West Point Elementary School
Michael Bomar, Wahoo Middle School
Edie Ronhovde, Fremont Middle School
Cathy Schultz, West Point Elementary School

ESU 4:

Brian Johnson, Nebraska City Middle School

ESU 5:

Jeremy Fries, Tri County Jr.-Sr. High School
Marilyn Hein, Diller-Odell Jr.-Sr. High School

ESU 6:

Michelle Looky, Seward Middle School
Lindsey Sample, Pleasant Dale Elementary

ESU 7:

Katherine Bohac, East Butler Public Schools
Marcia Ostmeier, Cross County Middle School

ESU 8:

Lori Pierce, Verdigre Attendance Center

ESU 9:

Michaela Goracke, Harvard Public Schools
Sheila McCartney, Lawrence/Nelson Elementary
Jessica Thompson, Lawrence/Nelson Jr.-Sr. High
Lexi Wichelt, Hastings Middle School

ESU 10:

Terri Casper, Gothenburg Public Schools
Mindy Fichtner, Gibbon Elementary School
Amy Solomon, Lexington Middle School

ESU 11:

Mike Ford, Bertrand Community School
Stephanie Fuehrer, Holdrege Middle School
Mary Schneider, Holdrege Middle School
Geri Steinbrink, Arapahoe-Holbrook Public School

ESU 15:

Scott Johnsen, Medicine Valley Public School

ESU 16:

Shayne Hite, Perkins County Elementary School
Brandee Wilson, Arthur Elementary School

Lincoln Public Schools:

Allison Arndt, Lux Middle School
Mary Alice Carlson, Mickle Middle School
Marlene Grayer, Park Middle School
Corie Lubash, Park Middle School
Maggie Pickering, Irving Middle School

Professional development opportunities offered to mathematics teachers

NU-Teach, an outgrowth of the Math in the Middle Institute Partnership, will offer the following summer math courses.

Math 825T - Topics in Real Analysis for Secondary Math Teachers (3 cr.), taught by Dr. Gordon Woodward, 8 a.m. to noon, June 18-22 and June 25-29, UNL.

TEAC 880P - Instructional Technology for Secondary Math Teachers (3 cr.), taught by Dr. David Fowler, 1 p.m. to 5 p.m., June 18-22 and June 25-29, UNL.

Math 802T - Functions, Algebra and Geometry (3 cr.), taught, in conjunction with Lincoln Public Schools, by Delise Andrews, Kristin Johnson and Dr. Jim Lewis, 8 a.m. to 3:30 p.m., June 18-22 and June 25-29, Lux Middle School.

Math 808T - Concepts of Calculus for Middle Level Teachers (3 cr.) taught, in conjunction with LPS, by Dr. Michelle Homp and Sherry West, 8 a.m. to 4:30 p.m., June 11-15, Lux Middle School.

An expedited graduate application form and enrollment process will be online soon. Please e-mail Kim Quade at kquade@math.unl.edu for more information or to be notified when registration is available.



Alternate assessment collects important data

At its first meeting, the Math in the Middle National Advisory Board challenged project investigators to find ways to assess whether students taught by Math in the Middle teachers were developing the mathematical habits of mind the M² Institute was stressing in its courses for teachers. Nebraska's approach to statewide assessment and the tendency toward short answer questions on such assessments made it difficult, if not impossible, to use statewide assessments to study this issue. University of Nebraska-Lincoln professor Ruth Heaton and her team developed an alternative assessment to study students' abilities to answer open-ended problems.

"We want to examine the link between increasing teachers' capacity through professional development and raising the level of student achievement," Heaton says. "But the independent nature of Nebraska's assessments makes it difficult to aggregate data or conduct any kind of comparative analyses."

To meet the project's need to understand student learning across the students of all Math in the Middle teachers, who teach in many different schools using many different assessments, Heaton and other project personnel created an alternative assessment as a means of collecting data on the performance of the Math in the Middle teachers' middle level students on a common set of problems.

The alternative assessment offers students the opportunity to think about problems from multiple viewpoints and asks them to communicate their thinking effectively. The problems were borrowed from reform mathematics curricula; the wording and format have been adapted to fit the project's needs.

In 2005-2006, the project administered two problems to students in one class of each Math in the Middle teacher, both in fall 2005 and spring 2006. This year, just Cohort 1 and Cohort 3 teachers are administering the assessment. The next round of assessments will be given in April 2007.

Heaton and her research assistants began analyzing the fall 2005 data—both the students' work and the problems themselves. "This study of student responses to the alternative assessment and the problems themselves offer us new direction in terms of the professional development we offer teachers, the ways in which we help teachers translate their learning into classroom practice, and how we evaluate and interpret students' mathematical understandings," she says.

(continued in next column)

(continued from previous column)

The alternative assessment is helping Math in the Middle principal investigators make strides toward meeting the challenge given by the National Advisory Board at the outset of the project.

Action research papers available online

In the November issue of this online newsletter, we featured a story on the action research projects Math in the Middle teachers conduct in their classrooms. The final papers from many of the Cohort 1 participants are now available to read online at:

<http://scimath.unl.edu/MIM/researchproj.html>.

Education items of interest

NSF meeting highlights available

The highlight document from the recent annual meeting of the Math Science Partnerships (MSP) is available online at: <http://scimath.unl.edu/MIM/concover.pdf>. Math in the Middle personnel presented at the annual meeting.

Student success in school and workforce

Which states provide the best opportunities for young people to succeed in school and the workforce? The *Education Week's 2007 Quality Counts* report has developed a Chance-For-Success Index that details this information. The index tracks states' efforts to connect education from preschool through postsecondary. The report also includes a special focus on states' K-12 performance through a new State Achievement Index; it ranks each state based on whether its students are significantly above or below average or are making progress on 15 indicators. Look for the index at: <http://www.edweek.org/ew/toc/2007/01/04/index.html>

Closing achievement gaps

The Education Trust recently released state-by-state summaries of student achievement and the condition of education in order to help states close the achievement gaps that separate poor and minority students from their more affluent peers. The summaries include data on student performance on state and national tests, high school and college graduation rates, teacher qualifications and funding. The link to the summaries can be found at:

<http://www2.edtrust.org/edtrust/summaries2006/states.html>.