Spring 2013

EXAMINING MATHEMATICS COACHING

Coaching Chronicles

News and Events for EMC Project Participants

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The PI's Corner: EMC Research Making Progress

BY DAVID YOPP

Academic year 2012-13 has been a busy time for EMC researchers. With three complete years of data compiled (soon to be *four* years, as our spring assessments approach), our research team has run sophisticated statistical models to understand the relationships between coaches' knowledge and practice and teacher change.

The great news is that we are seeing improvements in almost all of the variables we track. For example, scores for both teachers and coaches on the Mathematics Knowledge for Teaching assessment have improved, and teachers and coaches are feeling more effective in their work. We've also seen improvements in our assessments of teachers' use of standards-based practices. (This is the data we collect during our annual classroom observations.)

EMC's primary focus is to investigate relationships between what coaches know and do and teacher changes in both content knowledge and classroom practice. *While we are not ready to make definitive claims,* we want you to know that we are finding evidence that several of our coaching variables do appear to be related to teacher change. These findings are very promising, and our researchers are excited to see what this spring's data will reveal. As we all know, coaching is a process that takes time, so this year's data, and next year's, will be critical for monitoring this change among our participants.

Not all of our work has been quantitative. We also have asked coaches what they valued in EMC's professional development opportunities. Coaches overwhelmingly commented on their chance to work and share ideas with other coaches. They also noted the role-playing opportunities we provided as a way to polish coaching skills. Our coaches who will attend their final PD this summer will be able to enjoy these benefits and more.

We also initiated new efforts to understand coaches' practices. Our researchers and staff members performed focused "shadowing" visits with a handful of coaches. During these visits, we followed coaches for an entire day. We learned a lot about innovative methods that coaches use to support teachers. We also learned that coaches have *very* busy days! On a single day, mathematics coaches wear many hats, navigate interesting challenges, and experience moments of joy and celebration as they help teachers improve student learning.

Dr. David Yopp
EMC Co–Principal Investigator
University of Idaho

As we near the end of Year 4 of our study, the research team sends you all heartfelt thanks for the time and effort you put into your annual assessments—coming later this month. And we thank you for opening up your classrooms and sharing your teaching practice during our springtime observations. Your willingness to participate will ultimately inform the entire nation on ways that coaching can be most effective. With each year's data collection, we move one step closer to understanding attributes that maximize the effectiveness of the coach-teacher partnership.

Thank you, and have a happy spring! ▲

As Year 5 Approaches, EMC Needs You Now More Than Ever

Why Your Continuing Participation Is Vital to the Project's Long-Term Success

(This article is based on another that first appeared in the Spring 2012 edition of the EMC Newsletter.)

No one knows better than teachers how much teachers' lives can change unexpectedly.

Teachers and coaches switch schools and grades. They move out of the classroom, or back into the classroom. They retire. They move to another district, sometimes out of state. They assume new and even more time-consuming responsibilities. They take leaves of absence to care for an infant or a sick relative. The list of possibilities goes on and on.

Attempting to follow a large and diverse group of teachers and coaches over *five years* amid all of this change is a tall order, but that's exactly what the EMC Project has set out to do. As you might expect, the project has had to adjust to its share of normal attrition among participants. These dedicated coaches and teachers who are no longer part of EMC had pledged to the best of their knowledge to participate for the duration of the project—until, well, life got in the way.

Now, as the project approaches the beginning of Year 5 of a five-year study, the continuing participation of our original coaches and teachers who remain in EMC, as well as participants who have joined more recently, has become more important than ever. So project researchers are appealing to coaches and teachers to stick with EMC through the entire 2013-14 school year, until the project's end.

"We are so grateful and humbled by the commitment that our coaches, teachers, and administrators have shown so far, and we really need everyone to take us to the home stretch," says EMC co-PI John Sutton. "The more information we can collect from our individual coach-teacher pairs over the full five-year study period, the stronger our conclusions about coaching effectiveness will be. And that should translate into an even greater impact on the profession at large when the study is all done."

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To date, about 87 percent of the project's active coaches and about 68 percent of its teachers have been with EMC since the very beginning in Fall 2009. When you include coaches and teachers who joined in Fall 2010, those percentages jump to 95 and 78, respectively. Compared to attrition in other similar research projects, the number of participants who have withdrawn from EMC is remarkably small, Sutton points out. In most cases, the effect of those withdrawals (in terms of lost research information) has been reduced by the coaches and teachers who have joined EMC as replacement participants. Even though these newer participants will serve for less than the full five years, they still contribute a vast amount of information to the study.

"We're really pleased with where we are right now," Sutton says, "and we're excited about the potential we have with our current team of participants."

As the project continues over time, that "potential" becomes increasingly significant, meaning that each withdrawal of a teacher or coach can be more detrimental to the study's research aims. For that reason, now more than ever before, project leaders are more likely to try and persuade a coach or teacher to stay involved, even if only in a limited capacity, when something unexpected comes up.

"We know there will always be exceptions," says Project Director James Burroughs. "We can't expect someone to postpone retirement, for example, and in today's budget climate, we know districts are having to make some tough decisions about staffing that we must accept. But in many cases, we're going to try to work with a coach or teacher, and administrators, to see if we can't keep them involved in at least a limited way instead of dropping out altogether."

In the end, Sutton says, the outstanding service to the profession that EMC's coaches and teachers provide should result in an enormous feeling of accomplishment. "To have been part of this study for the full five years, or even three or four? That will feel really special as the impact of EMC becomes apparent across the nation," he says. "So our message to our amazing participants is, 'Let's do this together and finish the great work we've started.'" ▲

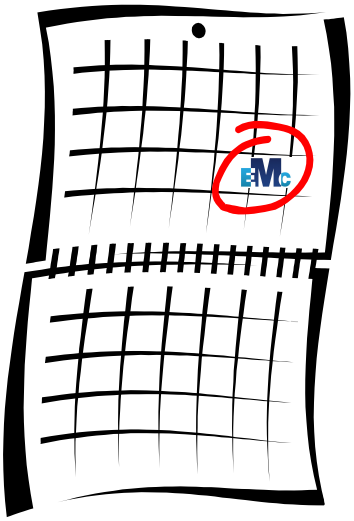
Did You Know?

The EMC Project now has participants across eight states: Colorado, Georgia, Idaho, Montana, Nebraska, North Dakota, Washington, and Wisconsin. Of these, Montana, Idaho, and Colorado have the most participants.

Lots of EMC Activity Scheduled For Spring and Summer Months

Spring and summer are always busy for EMC participants, so here is your quick rundown of project activities for the last half of the 2012-13 school year. If you ever have questions related to the project, just send us an e-mail or check the Participants page on our Web site.

Coaching sessions wrap up. Project coaches should continue toward the goal of



completing a total of *eight* three-part coaching sessions with each project teacher during the 2012-13 school year. At least half of these sessions should cover mathematics content focused on number and operation. Coaches also should start rounding up notes on the year's sessions, which will help as they fill out the EMC Coach Reflection and Impact Survey sent later this month. Questions? Please contact James Burroughs at emc@math.montana.edu.

Teacher observations soon underway. This month EMC Project observers are contacting all teachers to arrange their annual classroom observation at each teacher's convenience. These observations are separate from coaches' classroom observations and occur only once each year in the spring. *(For more info, see "Teacher Observations: What Are They For?" on page 4 of this newsletter.)*

Please note that teachers who joined the project last fall (and were observed at that time) will be observed *a second time* this spring with the rest of our project teachers.

Assessments coming later this month. Like last spring, project teachers will take all of their online assessments near the end of the school year. (Thank you for completing them promptly, before school finishes!) The usual $100 stipend will apply. In addition, coaches will complete the annual "EMC Coach Reflection and Impact Survey," which reviews the year's coaching sessions with each EMC teacher. *(See article on page 5 of this newsletter.)*

Professional development for "Group 2" coaches: Coaches in Group 2 (PD 2011/2013) already have received and confirmed their assigned week for their second and final EMC professional development workshop, this time in Mathematics Content, to be held July 15-19 in Denver. These coaches will receive detailed information about the workshop in late April, followed by travel arrangements later in the spring. If you have any questions, contact James Burroughs at emc@math.montana.edu. ▲

EMC COACH PROFILE: DEANNA WIATT

Name: Deanna Wiatt
District: School District of La Crosse (Wis.)
EMC participant since: September 2009
EMC teachers: Denise Fisher and Jesse McKinney, both at Hintgen Elementary.
Family: "I live with my husband, John, and my beautiful daughters, Elizabeth and Annalea. Elizabeth *(pictured, far left)* is 19 and is interested in going into the field of radiography, while Annalea is 17 and is still in high school. She is still unsure what area she would like to study after high school."
Years as a teacher: "I've taught for 18 years in the School District of La Crosse. I started out teaching in our English Language Learners program for three years before moving into the regular education classroom. The last 15 years I've been teaching in the fourth- and fifth-grade classrooms."

Years as a coach: "I've been a coach for four years through this project, since our district doesn't have coaches of its own."
What do you find most rewarding about being a coach? "I've really enjoyed being a coach, especially in the area of mathematics. With the Common Core State Standards and Professional Learning Communities being implemented within our district, math coaching has been a very valuable resource for teachers, as well as for my own personal growth."
What are you reading right now? "One of the books that I've recently read is *Developing Readers in the Academic Disciplines* by Doug Buehl. Developing more disciplinary literacy within my math instruction is one of my main goals as an educator at this time and throughout my upcoming school year."
Any big summer plans? "During my summers, I participate in two federal grants. In our science/physics grant, we help design and implement more science units for our classrooms, while during our math grant, I am the leader who helps do the same for our math classrooms. I also teach ELL Science Adventures during the month of July. I teach with my good friend and fellow fifth-grade teacher Jenny Ruetten, and I absolutely love it! Unfortunately, my summer always flies by."
Favorite pastimes away from school: "I enjoy volleyball and spending time with my family and friends. Most of all I enjoy traveling as much as I can. I just spent our spring break in Orlando with my two girls. Time away from our busy life schedules is always precious time well spent." ▲

Final Coach Professional Development Coming This Summer

Coaches in EMC "Group 2," or roughly half of all project coaches, will attend their second of two professional development workshops this summer—this time in Mathematics Content.

The single event, to be held July 15-19 in Denver, will mark the fourth consecutive summer in which EMC has staged professional development and will be the final workshop offered as part of the five-year study.

"We haven't presented the Mathematics Content workshop since the summer of 2010," says EMC co-PI Beth Burroughs. "Our professional development team has been hard at work in preparing this summer's event. By the time the week is over, we'll have shared with all EMC coaches the full complement of materials that we've prepared, as teacher educators and researchers, about two important areas of knowledge for mathematics coaching."

According to the project's research design, coaches were sorted randomly into two professional development groups at the beginning of the study. Two summers ago, coaches in Group 2 received their first professional development, in Coaching Knowledge. Group 1 coaches completed their first workshop, in Mathematics Content, in 2010, followed by their second workshop, in Coaching Knowledge, last summer.

Topics covered during the five-day Mathematics Content workshop will include number sense, computation, fraction concepts, fraction operations and ratios, and proportional reasoning and percents. "The team has made sure that we're addressing content that supports the implementation of the Common Core," Burroughs says, "and we've added some video cases and scenarios, as well, that we're certain our coaches will enjoy."

Group 2 coaches have confirmed their plans to attend this summer. Later this month, Project Director James Burroughs will contact each coach with complete information about this summer's event, followed by individual travel arrangements later in the spring. ▲

Coaches in Group 1 were the first to attend EMC's workshop in Mathematics Content, in July 2010.

Classroom Observations: What Are They For?

(This article first appeared in the Fall 2010 edition of the EMC Newsletter.)

Last spring, EMC staff visited each project teacher and conducted a classroom observation, and the process will repeat this spring, when observers return to schools during the months of April and May. But just what are these observations all about?

In addition to being a great opportunity for project staff to visit with teachers in their element, the observations are used to collect very important information for our study. The EMC Project wants to determine how specific kinds of knowledge among coaches may influence mathematics teaching. Eventually making those connections in a scientific way means measuring a teacher's practices in the classroom over time using a standardized assessment created for that purpose. All EMC observers are trained in using this assessment and have established "rater reliability" to ensure consistency across observers and school sites.

So, in effect, when an EMC staff member observes a teacher, she or he is actually collecting data about the teacher's *coach*. That may help answer one question we've heard from several teachers: "Why can't my observer give me some feedback at the end of my class?"

"I understand the desire for feedback," says David Yopp, EMC co–principal investigator. "When I'm observed while I'm teaching, I always ask the observer to give me comments. I love to hear the impression of that 'other set of eyes.' However, because EMC is a research project, the observers can't give feedback because they would then be coaching, not observing." And that would taint the project's measures of the coach's effectiveness, Yopp explains.

Instead, he says, the best source of guidance about a teacher's work in the classroom is the teacher's coach.

Teachers: Do you have any questions or concerns about EMC's observation of your class? Let us put your mind at ease! Contact your district's EMC observer, or e-mail Project Director James Burroughs. ▲

Next Assessments Coming This Month

Beginning in mid-April, all EMC Project teachers and coaches will receive their annual assessments/surveys—project instruments that are a central part of EMC's research efforts. To date, the project has collected more than 3,300 completed surveys from its participants.

"By any measure, that's a lot of data," says EMC Co-PI David Yopp. "Our analysts are already hard at work examining it, and we have a lot of work yet to do. That wealth of information really makes our project unique and should help us draw some very scientific conclusions about coaching when the project is done."

This spring teachers will again receive a group of four instruments: the EMC Teacher Survey, the Mathematics Knowledge for Teaching assessment, the EMC Teacher Reflection and Impact Survey, and the EMC Teacher Needs Inventory. The Teacher Needs Inventory will again apply to the coming school year as an important tool that helps coaches tailor coaching sessions to each teacher's needs.

As usual, the project will issue a $100 stipend to each teacher upon completion of all four surveys. (Please note: If you've moved since the last time EMC mailed you a check, you must notify us of your address change: emc@math.montana.edu. The Post Office does not forward or hold our stipend checks.)

"We give these surveys near the end of the school year so that coaches and teachers will have completed most of their coaching sessions for the year," says Project Director James Burroughs. "We know it's a busy time for everyone, but for the past three years, our participants have come through and completed everything on time. It's an amazing record that is testament to the commitment of our coaches and teachers."

Also this spring, coaches will again complete their final survey of the year, the EMC Coach Reflection and Impact Survey, on which they will report the year's coaching activity.

The surveys will go out to both teachers and coaches via e-mail in three separate waves during April 15-29, based on participants' final day of school. "As usual, our goal is an average completion time of about two weeks after teachers and coaches get the surveys," Burroughs says. "We're always very grateful for everyone's time." ▲

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EMC TEACHER PROFILE: TONYA DENT

Name: Tonya Dent
School: Bennett Elementary, Grade 5; Fargo Public Schools, Fargo, N.D.
EMC participant since: October 2009
EMC coach: Robin Wacha
Principal: Tricia Erickson

Family: "My husband, Bill, is also a teacher. He teaches science at Davies High School in Fargo. We have three sons who attend West Fargo Public Schools. Todd is a senior and attends West Fargo High School. Ross is a sixth-grader at Cheney Middle School, and Jack is a fifth-grader at Eastwood Elementary School."

Years as a teacher: "This is my 22nd year of teaching. I taught first, second, and third grades at Turtle Mountain Community School in Belcourt, N.D., for 11 years, and fourth, fifth, and sixth grades in Language Arts and Social Studies in Lancaster, Minn., before coming to Fargo seven years ago."

What do you find rewarding about teaching mathematics? "One thing that I find most rewarding is when students master a skill or concept. I love witnessing the 'a-ha' moment in their eyes and faces. I also enjoy when students realize the relevance of a skill or concept and its importance for further math or life skills."

What's one way that you and your coach work together on mathematics? "Robin and I spend a great portion of our lunch time discussing school issues and problems. We've been able to solve many teaching and other concerns during that time. I feel that those 20 minutes each day have created a bond among all of us as co-workers, friends, and teammates."

What, in your opinion, is one of the biggest challenges we face today as mathematics educators? "Some of the biggest challenges that I've discovered teaching mathematics are that students haven't mastered their addition, subtraction, multiplication, and division facts, and that they don't understand place value. Many parents also don't know the different algorithms that are being taught and used in school. This creates a struggle for the parents and student as the parents feel inadequate and unable to help their child at home."

Favorite pastimes away from school: "In my free time, I love to read, go to the gym, and watch my sons as they participate in various sporting activities. As a family, we also enjoy attending North Dakota State University football games."

What are you reading right now? "The past month I've been reading various novels by Tatiana de Rosnay. The first novel by her that I read was *Sarah's Key,* and I've been hooked on her books ever since."

Any big summer plans? "We don't have any vacation plans for this summer as of yet, but my husband and I will be doing something special for our 20th wedding anniversary, which is July 31." ▲