

East Metro Mathematics Leadership Project



Part 1: An Overview of the Grant

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IN DECEMBER OF 2014, Mark Freed, Mathematics Education Specialist at Oregon Department of Education (ODE), announced that a three-year grant had been awarded through a federal fund that supports math and science education in elementary and secondary schools. The \$1 million grant provides funding, over three years, to create the East Metro Mathematics Leadership Project (EaMML MSP), a collaborative project between Portland State University (PSU), David Douglas School District (DDSD), Centennial School District (CSD) and Multnomah Education Service District (MESD). The K-12 project is geared toward enhancing math instructional practices and developing teacher leadership.

The original idea for the grant came from Nicole Rigelman, who teaches math methods in PSU's Graduate Teacher Education Program and coordinates the Elementary Mathematics Instructional Leadership (EMIL) program and Amy McQueen, David Douglas School District math specialist. They began the arduous process of completing the grant application in the summer of 2014. Through the fall of 2014, the grant leadership team continued to refine, revise and trim the budget. The focus would be on developing mathematics instructional leaders across the districts.



Leadership Project trifold brochure

The project, as envisioned by Rigelman and McQueen, involves teacher leaders from both school districts in three layers of learning:

- Mathematics Leadership Cadre (MLC), develop leadership knowledge and practices so they can design and present professional learning to colleagues.
- Mathematics Leadership Team (MLT), including the MLC members, engage in ongoing learning about research-based math instructional practices through book study groups and lesson study cycles. The MLT members select, adapt, and develop resources to support effective classroom instruction across the district.
- Mathematics Professional Learning through graduate coursework made available to deepen teachers'/leaders' math content and pedagogical knowledge through graduate courses.

The grant also ensures that funding is available to support participation in the EMIL coursework for teachers in other MESD partner districts and private school teachers within David Douglas and Centennial School Districts. The classes, which are held in classrooms in East Multnomah County rather than at PSU's downtown campus, began in March 2015 and other coursework will continue throughout June of 2017.

In January, the grant leadership team met to collaboratively plan grant activities. Their first task was to design the application process. Tri-fold brochures were designed and distributed throughout the two districts.

Informational meetings were also held in each district. Both the brochure and informational meetings described the opportunities available and the process for getting involved. Professional learning opportunities identified as part of the grant included:

- Professional Learning (best practices in mathematics teaching & learning)
- Book Study (mathematics pedagogy and leadership)
- Lesson Study Cycles (co-planning, focused observation, debrief)
- Deepened understanding of adult learners and collegial learning
- First rights to PSU Mathematics Coursework at a significantly reduced rate

The following quote from the brochure provides a call to action by encouraging teachers to step up to leadership roles within their districts.

“We’re calling on leaders not to settle for the current state of ‘is-ness’ in mathematics education, but rather to lead the pursuit of a better future for every child.”

—NCSM, 2008

Thirty-five teachers from David Douglas and twenty-one teachers from Centennial participated in a variety of grant activities. The rest of this article will look at the grant activities implemented in the first year of the grant, starting in January and continuing through the summer of 2015. These activities included a Kickoff held in March for each district, an in-depth study of the book, *Principles to Actions* published by NCTM in 2014 and participation in a Lesson Study cycle. Twenty-four teachers also participated in “Building a Systems of Tens,” the first course in the series of the EMIL Specialization Courses. Several took middle school or high school math courses on the campus of PSU. There will be additional recruitment of K-12 teachers to join this year’s grant participants, for grant activities in the 2015-16 school year, to assure broad representation of grade levels and schools within the MLTs.

Book study facilitators drew from a variety of resources available on the NCTM website (<http://www.nctm.org/PtA/>) to enhance the professional conversations of the book study sessions. The reflective feedback was overwhelmingly positive and teachers expressed appreciation of the fact that the conversation was occurring K-12. Teachers shared comments, like the following, prompting consideration for future sessions.

“I think the format offered was very useful. I enjoyed the opportunity to reflect on my practice and to hear the strategies that others have used. Sometimes the grade-level gap was too big to be really effective. I enjoyed hearing a different perspective, but I think pairings of Middle-High, or Elementary-Middle would be more productive. Elementary-High pairings could have interesting conversation[s], but strategy sharing was limited.”

The following is a need, indicated by a number of participants, that the EaMML Project Leaders discussed as an important consideration for future book study sessions.

“More time between sessions for discourse as we implement in our classrooms what we are discussing in book study.”

Based on the teacher reflections in post-PD surveys, the ideas of paying attention to the makeup of the group (both size and teaching assignment) and the timing of the sessions should be considered for the second and third years of the grant.

Participating in Lesson Study was another significant grant activity. A follow-up article will look at this activity in depth, so we won’t go into much detail about this activity. The following quote by a teacher is similar to many of the responses in the survey following the Lesson Study cycle,

“The lesson study was one of the most useful professional learning opportunities I’ve ever had! I love being able to watch other teachers teach, studying student interaction/learning/discourse, and having the opportunity to analyze the discourse. Learning by doing is much more effective for me than listening to a presentation or reading literature! Lesson Study is awesome!”



If there were a way to break this into two parts — maybe the foundational pieces of lesson study and pre-meeting one day, actual lesson and debrief another day, I think my stamina and full engagement may have been higher.

Participants also reflected upon the amount of time involved in the lesson study aspect of the project. Here’s another typical comment,

“If there were a way to break this into two parts — maybe the foundational pieces of lesson study and pre-meeting one day, actual lesson and debrief another day, I think my stamina and full engagement may have been higher.”

Comments like these inform the continued planning and development of grant activities in the 2015-16 school year.

Both districts have also had grant participants work on district mathematics projects during the summer. The kick off events, and book and lesson study sessions, were designed to support participants with developing a shared vision for effective mathematics instruction. This vision informed the summer curriculum, assessment, and vision setting work.


In David Douglas School District, the summer work centered on supporting teachers to gain a deep understanding of the CCSS-M standards progressions. Participants read and discussed each of the progression documents. Then, they utilized these documents and the standards to determine what students are asked to know, understand, and be able to do. Participants then created standards maps to articulate the CCSS-M both within and across grade levels. As part of the mapping process,

grade levels have also looked at open educational resources such as Illustrative Mathematics (<https://www.illustrativemathematics.org/>) and Howard County Public School System Office of Elementary Mathematics Curricula Projects (<https://grade2commoncoremath.wikispaces.hcpss.org/Grade+2+Home>) to identify possible grade level common assessments.

In Centennial, summer work centered around revising curriculum maps to focus instructional time on critical areas at each grade level, and deepening the depth of knowledge levels on district common assessments. A smaller group of Math Cadre members also developed a District Guide to Effective Math Instruction that was based on Jo Boaler’s Positive Classroom Norms for Math and the eight Mathematics Teaching Practices from Principles to Actions. The purpose of this guide will be to:

- Identify and support teachers in the implementation of a common set of high-leverage practices that underlie effective teaching.
- Provide a common lens for collectively moving toward improved instructional practice and
- Support teachers in becoming skilled at teaching in ways that ensure successful mathematics learning for all students.

Next year, Centennial Math Leadership Cadre members will develop professional learning opportunities for district teachers. These PD opportunities will be based on each of the elements from the guide they have developed.

The grant project’s hypothesis is that improving teacher leaders’ professional learning and the subsequent implementation of that learning will increase students’ understanding and achievement in mathematics and support the (re)visioning of the collaborative professional work within schools. This hypothesis will be measured through student and teacher assessment data, classroom and professional learning community observation, and participant interviews. RMC Research Corporation of Portland, OR will collect data throughout the life of the grant. The strategies and materials developed through the grant will be shared publicly through a website and at professional meetings and conferences in the hopes that this might spread the grant’s impact to other districts around the state. 

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