

BREAKOUT SESSION

Lessons Learned from an MSP: Invest in Leadership

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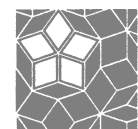
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2009 Math and Science Partnership
Learning Network Conference

**Research Findings
in Teacher Education:
New Approaches →
Transformative Possibilities?**

January 25-26, 2009 • Washington, DC



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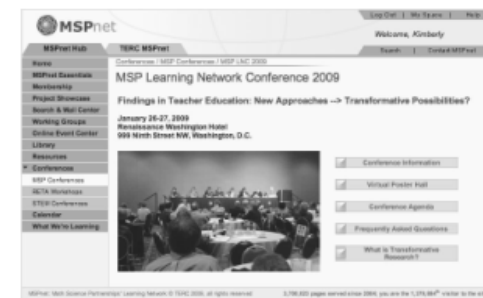
About This Summary

This documentation of the 2009 Math and Science Partnership Learning Network Conference offers a brief summary of the presentations that took place during one conference breakout session and focuses on questions, answers and discussions during the session.

Readers interested in pursuing information about the project discussed in this breakout session are encouraged to visit MSPnet to access the full PowerPoint presentation. The abstract for this presentation is posted in the Virtual Poster Hall.

Visit the MSP LNC 2009 Virtual Poster Hall

For all conference abstracts, as well as post-conference commentary and dialogues concerning the abstracts.



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LESSONS LEARNED FROM AN MSP: INVEST IN TEACHER LEADERSHIP

Presentation Recap

Cindy Callard opens the session with a recap of the original five-year, K-12, Targeted MSP project, Deepening Everyone's Mathematics Content Knowledge (DEMC). The schools involved represented a range of experience and knowledge in terms of mathematics reform. The project employed a combination of project-developed and preexisting materials to deepen content knowledge of teachers, support staff, parents, and community members. A unique component involved "evening chats," bringing together constituent subgroups in an open forum to engage in dialogue. The Leadership Development Program engaged lead teachers from the participating districts.

The DEMC project was relatively small compared to other MSPs and when the opportunity for supplemental funding was presented in 2007, the DEMC used that funding as an opportunity to not only collect and feed data into the MIS, but to maintain contact with key district personnel. District leaders were interviewed to identify what remained in their schools after the original MSP funding period. The DEMC is conducting a cross-site analysis to look for emerging themes from the interviews.

Callard offers participants the opportunity to envision what they would find if they went

Deepening Everyone's Mathematics Content Knowledge (2002-2007)

Partners:

- University of Rochester Warner Graduate School of Education
- University of Rochester Mathematics Department
- 2 suburban and 8 rural school districts

3 Primary Components

- A series of "reform mathematics courses" for teachers, school support staff, parents & community members
- "Evening Chats" involving various subgroups among the constituencies involved in school mathematics reform
- Leadership Development Program

Supplemental Funding 2007-2009

- What "remains" after original MSP funding and support ends?
- Conducted 20, 2-hour interviews that included 28 key district personnel across 10 partner districts during 2007-2008
- Interviews were audio-taped, transcribed and coded to identify themes

Questions for you as participants:

- What do you hope remains after your MSP is over ?
 - What are you doing to ensure it ?
 - How will you know what remains ?

through a similar process, and time to discuss these questions amongst themselves.

Learning Network Conference Breakout
Session Number: 1 - 4

MSP Project:

Deepening Everyone's Mathematics Content Knowledge

Originally a 5-year MSP Targeted project housed at the University of Rochester partnering with a number of suburban and rural school districts. Currently (2007-2009) working under a two-year extension of funding to learn more about the impact of the MSP initiative in participating districts.

PI:

Judi Fonzi

PD:

Cindy Callard

Discipline:

Math

LNC Strand:

Teacher Leaders

Presenters:

Judi Fonzi and Cindy Callard

Judith Fonzi and Cindy Callard



Seven Emerging Themes from Year One Interviews

1. Connections have been built “across buildings” in the district and continue to be strengthened.
2. Administrator attendance at professional development offered through the project has had lasting impacts in terms of support provided for math reform efforts; in particular, through the use of the observation process.

3. Teacher leader expertise has continued to have lasting impacts.

“I will miss the learning opportunities - all of them, every one of them I walked away just so full of great stuff - and I would like more people to have that opportunity. Everything I’ve learned - it’s still alive everyday when I sit down and work with a teacher and try to help them to look at math as not just being a teacher manual...” (Rural district lead teacher).

“I think the leadership training that we had is not going to go away. Everything that we’ve learned and experienced, even if people are not in the same position they were in, it’s part of what we do now, and if I wasn’t a teacher on special assignment I’d still be doing those same kinds of things” (Suburban district Lead Teacher).

4. Administrators have recognized the value of math teacher leadership

“Staying power is the fact that I have Tony and that he can do this work with staff because I can’t—it’s impossible for me...but Tony and the training he received is going to keep this going, because he is a key person who has the ability” (Rural District principal).

Callard and Fonzi then share what the DEMC project has found regarding what remains of their MSP project beyond the original funding period. Interview questions were based on beliefs that originally informed the project (below).

Semi-structured interviews based on the following beliefs that informed the design of the project:

- Supportive context: Parents and community play a crucial role in teaching and supporting students to learn mathematics;
- Knowledge: Teachers’ content knowledge and pedagogical content knowledge plays a role in what and how mathematics is taught;
- Vision: Mission and vision are crucial to the development of a cohesive program;
- On-going learning: In order to maintain high quality, a school/district must be a “learning organization”;
- Leader: All important work needs consistent and on-going leadership/shepherding/attention by someone;
- Math program: High quality K-12 mathematics programs foster knowledge of the big ideas of mathematics and mathematical habits of mind.

“If there’s one thing that you pull from today, I hope its that you are hearing me say and Bonnie say that critical to our whole math movement was the development of a key math person for the district. I would venture that anybody that climbed on the program that didn’t have somebody that trained internally or that opted out or that didn’t do the full thing - they’re not going to have the same level of success that we did” (Rural district Superintendent).

5. District/building leadership has recognized the need to institutionalize math leadership positions

In a number of the MSP partner districts, either while the project was taking place or afterwards, district and/or building leadership put forth proposals to institutionalize math leadership positions so that they were not directly tied to the project.

From the first year of interviews, seven themes are emerging (sidebar and below). All of the themes but the first two are directly related to the work of the teacher leaders. The results indicate that the MSP work has been transformative both for the districts and teacher

6. Developing teacher leaders’ expertise in working 1-on-1 with colleagues directly around the work of teaching math has had lasting impacts on the work that teacher leaders have continued to do beyond the project

“We’ve had great success with a coaching model. We can see the validity of it. Having release time for a teacher who has a strong background to be able to look at it, work with, coach teachers and move them in that direction is very helpful” (Rural district Principal).

7. Lead Teachers value and continue to utilize the learning community that was established through the project.

“The other piece is the peer group that you created...[we are] still in contact and [we] could help each other out with problem solving - what do you think - which has been phenomenal to set up that network” (Rural district lead teacher).

leaders involved. After looking at these emerging themes, the question arose: What themes haven't been seen that might have been anticipated? Callard notes that they haven't seen districts that have stopped working on their mathematics programs after the MSP project ended. Nor did they hear those involved talk about struggling to figure out how to proceed. Another thing they didn't hear was that it was specific initiatives or small features that were lasting, instead it was the broader learning.

The question now is, why are these the themes that are emerging? What had the DEMC project done to promote and support the lead teachers to enable them to be strong enough to continue to work on mathematics reform in their various contexts? At this point, Callard reports, the DEMC project is attempting to look reflectively at their program and their beliefs, trying to unpack what led to teacher leaders feeling competent and able to continue the work of math reform. One piece of that is taking a closer look at the components and structure of the Leadership Development Program.

Judi Fonzi describes the workings of the DEMC Leadership Development Program, beginning with selection of participants. The project had a set of criteria they hoped the district administrators would apply in selecting teacher leaders. Instead, administrators selected whomever they wanted. Thus, Fonzi observes, this did not start out with a perfect set of teacher leader candidates. Fonzi relates that in over twenty

years of working with teacher leaders, they have never had what they thought were going to be a perfect set of teacher leaders. However, in every case by the end of the project they did have what they considered a perfect set of teacher leaders.

Fonzi explains that the Leadership Development Program is now being used as a way to focus their lens to see if it contains answers to why the seven emerging themes are elements that are being carried on in the project's absence.

MSP Leadership Development Program Goals

- Develop a supportive learning community focused on fostering and sustaining systemic reform
- Increase our understanding of mathematics reform
- Deepen our mathematics content knowledge
- Deepen our understanding of what it takes to design and implement professional development
- Develop leadership skills

She shares a diagram that depicts components of the Leadership Development Program. Fonzi explains that those involved in the DEMC project have a history of working with and developing teacher leaders. In addition, they conducted a literature search and did a "mountain" of reading on teacher leaders in pursuit of answers to the following: What does it mean to develop teacher leaders? What does it mean to have a leadership development program?

Amount of Time/Work Needed to Assure Lasting Results

- It seems like your teacher leaders have been so successful. I'm wondering how much actual workshops and training they get over time. It turns out that there's a critical mass of work that you need to do with people and if you don't, it just disappears when you leave. It seems like that's not happening here. • Participant
- We're about to cover that. • Judi Fonzi

Primary components of the Leadership Development program appear inside the blocks in the diagram.

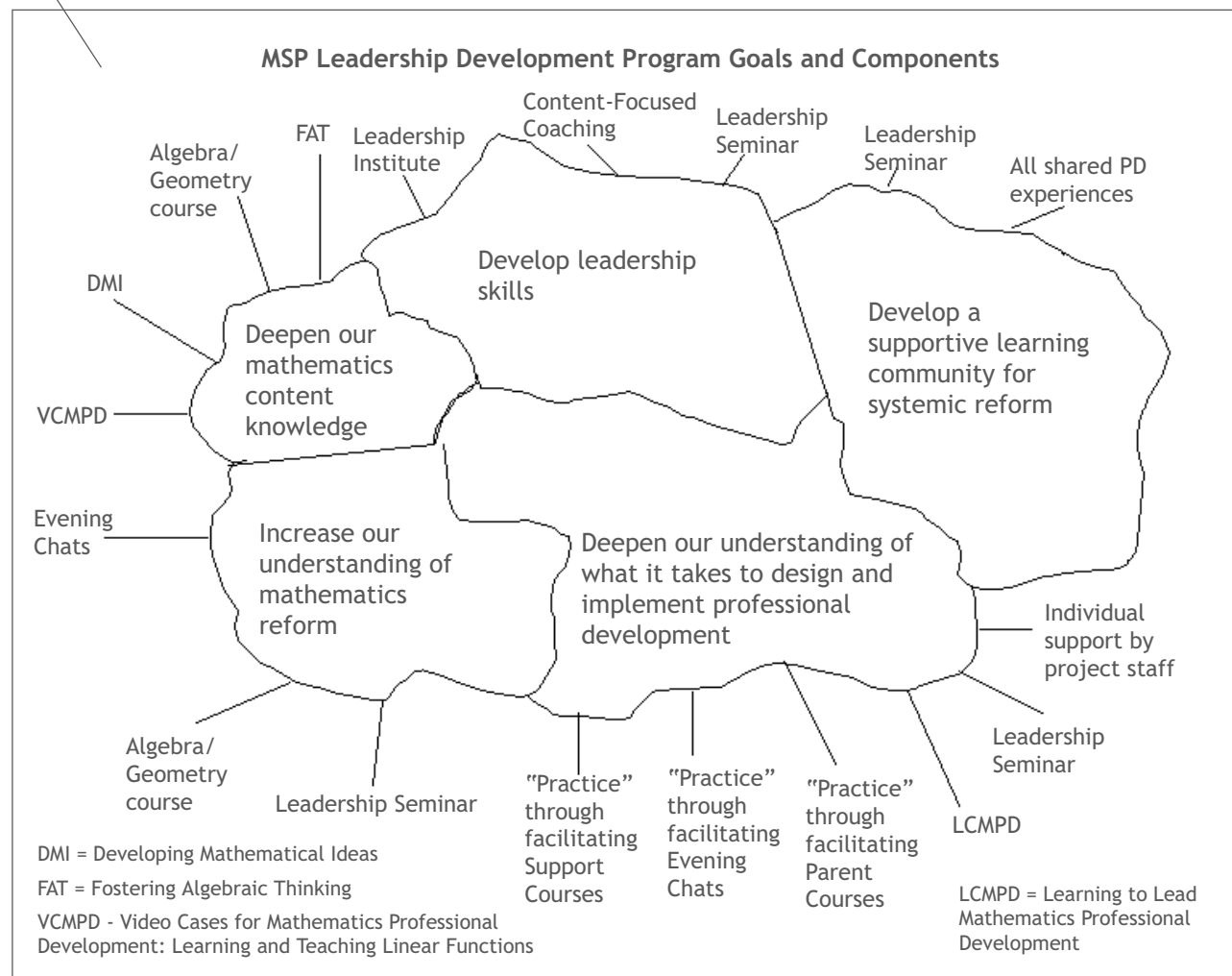
In each case the teacher leaders are encouraged to exercise their initiative and think about what makes sense in their individual contexts and about what it takes to design and implement their own professional development. This was accomplished by doing some PD with them, and also by encouraging them to become informed consumers of commercially available PD materials.

All participants work through a scaffolded set of experiences, learning to do all of the things described in the diagram blocks. They then decide what combination suits their own strengths, preferences, schools and districts.

This took place over a five-year period, and in each of those years different goals were foregrounded or backgrounded. The project learned it was more effective to emphasize one block at a time rather than attempting to tackle everything at once.

They came to a decision that the goal was to have the students become mathematical thinkers and engage in mathematical habits of mind. The goal is bigger than the course or the details of the course, which are simply the vehicle for developing mathematical thinking. The project had an analogous goal for teacher leaders: to enable those in the teacher leadership program to develop leadership habits of

mind. "We want them to be empowered and to have the capacity to think like a leader, to make decisions about what is important in their context, what needs to happen, and then to believe they can figure out how to make that work," Fonzi explains. There are content learning goals for both students and teacher leaders, she notes, but the emphasis was on these overriding larger goals.



Questions and Answers

About Administrators Recognizing the Value of Teacher Leaders

- Was that as true at the elementary level as well as the high school level? • Participant
- Yes. The quote is actually from an elementary school principal. • Cindy Callard

Variation in Responses across Grade Levels

- Did you see any significant differences across the grades in the kinds of responses that you got? • Participant
- Not that we can pull out; nothing that struck us. • Cindy Callard

Type of Districts

- I know you had several rural districts. Did you have a large urban district? • Participant
- Not in this MSP. We do work closely with one, but not as part of this project. • Cindy Callard

Selection Criteria for Teacher Leaders

- Though you noted the selection criteria are ignored by administrators, what were those selection criteria? • Participant
- I haven't looked at them for quite some time, but the general criteria are that they should be teachers who are recognized by their peers as being thoughtful and passionate teachers; they don't have to be the best teachers in the school district. They should be teachers

interested in deepening their knowledge of mathematics and the teaching and learning of mathematics. They need to be teachers who have the time, energy and willingness to put forward for this work.

We also said up front that they have to be willing to hang with us for the entire five years. We didn't want any ins and outs. This is something that we've learned from our previous history is both important and doable. We've never had teachers leave us and want to roll in and out. Even though people told us we'd never get people to join us for five years, I would say the vast majority of our teacher leaders from 1993 are still working with us in one way or another from different districts in our region. So it's not true that they want to go in and out. • Judi Fonzi

Teacher Leader Attrition

- Although we have had some attrition, of course, and people who the principals selected for the wrong reason, who are looking at us like deer in the headlights. • Cindy Callard
- But that number is in the single digits, and in our work over time we've had projects with more than a hundred teacher leaders. Occasionally we will have one who moves out to finish graduate work for a semester or to have a baby and then comes back, but they never really leave. • Judi Fonzi
- Do you keep teacher leaders if they move out

A Regional Approach

- Something I think is important that you need to know is that Cindy and I are employed in our faculty positions in a center. At the University of Rochester we have a Center for Professional Development and Education Reform. I'm the Director and Cindy is the Director for Mathematics Outreach. This gives us the potential and the capacity to work much wider than just our MSP project. That's one component of a larger portfolio of work, and we capitalize and leverage all of those projects all of the time. We haven't had a teacher leader move far away or to another state, so we've never had to say, "See ya" to a teacher leader yet.

Over twenty years we have developed what we think of as a regional collaboration, so we might have forty school districts who are working with us in varying capacities. So if a teacher goes into a school district where they are already working with us, they continue. If they're in a new district that hasn't worked with us and they say, "You know what? I think we've got an in," then of course we'll work with them. • Judi Fonzi

of a partner district into a different district?

• Participant

- We don't keep them in the MSP unless it's an MSP district. We do, however, keep them in our larger regional work. • Judi Fonzi

Attrition Comparison to Urban Contexts; Need for Leadership Renewal System

- I'm not sure if it would be different or not if you were in New York City. One of the issues you're not facing, at least today, is a process

for creating new teacher leaders after you leave because your teacher leaders are staying and they're wonderful, in place and respected. So you don't have to worry that there isn't this process for renewal. In some urban centers, teacher leaders leave much more frequently. • Participant

- I think that's partially true. We have had some teacher leaders who retire and other people who pick up the baton and continue to move on. We do work in the largest suburban district in New York State, and it's a first ring suburb, so we have a bit of teachers moving. We do have a federally funded project with our urban school district, the Rochester City School District, which is not huge, with only 35,000 kids. We see some of that movement of teacher leaders but not a lot. We have a fairly stable group even there. • Judi Fonzi

- That in itself might be a great finding. • Participant

- It might be. Once we figure out what's going on in this MSP, it would behoove us to then expand to what's going on in our other sites, and are we seeing similar kinds of things. We haven't done that, but my gut says we're the same people, whether we're in the city school district, in this consortium, or in another school district. • Judi Fonzi

- I would add that in each of our interviews this has also come up. The administrators have asked for more leadership development and recognize that they do need people who are

District vs Project Attrition; Young vs Old Teacher Leaders

- Do you know how the rate of teacher attrition in your project compares to teacher attrition in the districts overall? Are you working in districts that just have very low teacher attrition to begin with, or is there some indication that the project activities are contributing to making them stay?

• Participant

- I would answer yes to both of those questions. First, we do have a remarkably stable teacher population in our region. Rural teachers might move around, going from a single K-12 building to the community next door where they might have an elementary and secondary building, but they're pretty stable. And our suburban and urban teachers are pretty stable. Our attrition rates are pretty low, and we do have a remarkably stable teacher workforce.

But the second part is also true. There is something we hear often from lead teachers, not just

in this project but across the board. You know how they say it's the young people who want to make change and the older people who are set in their ways? That's not true in our case, and I suspect it's not true in any case. You look at our teacher leader group and they go from fresh out of college to thirty-five years of experience and retiring next year and everything in between.

What we heard often early on from our older teachers is, "This leadership work is keeping me here. I might have retired at twenty or twenty-five years, but this is so cool that I'm going to hang out for a little while longer." And then many of them come and work with us in the center afterwards, which is really nice and continues to build our capacity to do that work on a larger scale. I don't know that I've heard this so much from younger teachers, but we're really talking about anecdotal information now.

• Judi Fonzi

well provided with tools. In the rural districts, because they are so small and the math department has one teacher at each grade level, if that, we have seen a teacher move to another district and the whole school really felt the hit. They had one person who was really knowledgeable who moved on, and they were left with a hole. So our administrators continue to ask, "What can you do for us?"

• Cindy Callard

Attrition Due to Moving On to Formalized Leadership Positions

- There's another good-news/bad-news type of attrition, which is teacher leaders moving on to formalized leadership positions with states, districts and so on. It's great to have them there, but we really miss them. • Participant
- We've had exactly the same thing. In fact, people said the same thing about each of us. I taught K-12 for fifteen years before I went to the university, and I did that with a lot of mixed feelings. Cindy actually refuses to leave K-12, so she works 80% at the university and 20% in a middle school, where she's still teaching. It is a mixed blessing and we say that all the time, but what we try to do is make sure that we hold onto them in the culture and try to think of it positively. Now that they're the principal of a building, they can really work with the whole building, or they have an in with the administrators we're working with and will talk differently in that group. We've had seven or eight of our

teacher leaders decide to go on to their doctorates, which is kind of scary as well because we then worry they're going to leave. So far they haven't, they're still staying in K-12, but we haven't had any of them graduate yet.

So yes, those are all issues that are sort of bittersweet, but that is why we love having the center and being able to develop this regional kind of work. We have now started a New York State consortium for high quality mathematics education for all kids, so we're now working with the whole state and we

Reform Materials

- We weren't about implementing specific reform materials. We had a variety of reform materials and other materials being used across all of our districts. It wasn't about implementing it. We were trying to help them support this bigger, broader picture: What does it mean to teach mathematics differently? And if that moved them, we helped support them in looking at reform materials. • Cindy Callard

Mathematics Content and Pedagogy

- How much Algebra/Geometry content did the teacher leaders get over the five-year project period? • Participant
- We actually designed the Algebra/Geometry Course—the lead teachers on special assignment, Cindy and I, and three mathematicians from our university—with very specific goals in mind. It turned out to be three different modules, and the modules are now three eight- to ten-hour days. This is where we really worked on teaching mathematical content that was tangentially related to the mathematical content they were going to teach. So they have the big ideas in common for K-12 mathematics, but this was about deepening their own mathematical content knowledge. All teacher leaders went through this, and then as many teachers as could possibly take it over the course of five years.

Those of us who developed the course co-taught it. The focus was on engaging them in technical mathematical content, but it was taught using an inquiry-based approach to teaching and learning as opposed to a didactic approach.

Others—the DMI, the FAT, that whole batch of things—were really about doing both, deepening their mathematics content but also beginning to challenge their pedagogical content notions and their understanding of student learning. In Algebra/Geometry it was all about them. In DMI it was about them and their students.

So all teacher leaders had the Algebra/Geometry course for eight or nine days, and then a few DMI courses (1-3). Secondary also had Fostering Algebraic thinking. Lots of math went on in the Leadership Seminars as well. • Judi Fonzi

Pivotal: Teacher Leader Independence

- It's fascinating listening to you because one of the things you mentioned was like an "of course," something you're taking for granted. I think it's something you shouldn't be taking for granted. It's that you had a very open notion of what teachers would do when they got into their districts. You said, we don't live in their districts and we don't live in their lives. You also said it's about moving from dependence to independence. A lot of this is about empowering them, but not having a vision that you expect them to carry on.

I think that might be very pivotal to your success because when people measure how many people are carrying on a project's vision after the project ends, they're inevitably going to be disappointed. You had a much broader agenda going in. You were saying take it where it makes sense to you, given your personal strengths and your district's strengths. I think this is a real lesson to be captured. • Participant

- I do believe that and it is at the core of everything we do. • Judi Fonzi

keep bringing in these people who have moved on to other places. • Judi Fonzi

Developing a Supportive Learning Community

- In "Develop a supportive learning community" in your diagram, was that going to be in their own home school when they went back? Did they get practice doing that? Did the district agree that they would let them run a learning community as part of the program? • Participant
- We don't think of "learning community" in the way that it is being currently used in the literature. We don't think of it as an "it." Small "L," small "C" would make the most sense. Deepening mathematics content knowledge and developing a supportive learning community were the things we were working on all the time. It was first engaging them in such a way that they were beginning to feel like a community of learners together and the idea that there was something powerful in that.

Then we started talking about what it takes. What are the benefits of this kind of grappling together, this kind of inquiry into our practice or our situations? Then, who would you want involved in your own districts? It always got back to, who would be appropriate in your district, or what would you do with it? Then we had Lead Teachers on Special Assignment (LTSA) that we were able to pull in half-time the first couple of years of the project.

Anybody in the project could ask them or us to sit in on a meeting with their administrators or help them think of what to say or whatever the case may be. We were creating the experiences together in a lead teacher group and then asking them to think, if this feels powerful to you, what would it look like in your own district? And they all looked different. • Judi Fonzi

Not Continued: Parent Courses

- I have to tell you that we are a little disappointed that no one is still using the parent courses we worked so hard to develop and hone and make powerful, and that all the parents loved. We have amazing survey and interview data about how effective they thought those were. • Judi Fonzi
- Why do you think that is? It seems like they would naturally use them. It mirrors some of what our experience has been. • Participant
- Part of what we're doing with this second round of interviews is going in and asking why. You do a little of that when you do your first round of interviews because you're a little shocked that none of this stuff is happening. You don't realize at first that you're not going to hear it from anybody. Then you say, let's go back and see if we can't push on that, so we hope we're going to figure that out. • Judi Fonzi
- I wonder, with the parent courses, if the teachers feel they've already done that and

need to do something different. I have a program for parents in our project and they'll say, "We want different books for the next year in our project because parents have already been through this." They're not thinking about new parents coming in. They're focusing on older parents and don't want to repeat the exact same thing the next year.

- Participant
- That certainly could be a piece of it. We looked at Ruth Parker's work and the MAP work for parents and they didn't quite fit, so we ended up developing our own, with some sort of combination of MAP and Ruth Parker's work. We created two classes, and then our larger district said we needed more because parents want to come back, so we developed five classes for parents. But it is true that there was this ongoing desire to create more,

and of course we didn't; we weren't in the business of creating parent courses. We are the smallest MSP on record. You can't create everything if you're the smallest MSP. • Judi Fonzi

Continuing Through the Center: Mathematics Courses

- Cindy and I and a couple of the teacher leaders and professional development providers that we hired through the center are still offering the Algebra/Geometry Course in a modular way, and we have teachers who have volunteered to take it. I'm teaching a module in geometry that has a focus on alternative geometry to develop a deeper understanding of Euclidean geometry for three solid days during February break. Every week they've called me and asked, will you take four more?

Impact on Districts

- I'd like to ask about the districts and the amount of impact there. Are you working with all schools in the districts or just certain ones? How does that play out? • Participant
- All schools in all districts, K through 12. • Judi Fonzi

Breakout group participants



Right now we're up to 36 teachers who are coming in for three days on their break in February to take a course in alternative geometry so you know they like it and find it valuable and yet...

We still offer DMI and that kind of work through the center, but that's paid work. You have to pay to come and take that now because there is no money in the MSP. • Judi Fonzi

- So you expected, at the district level, that maybe the districts would offer ongoing DMI training courses and that the teachers at a school would say, let's keep doing this?
 - Participant
- Yes, and we are a little disappointed that they aren't. I mean, that's powerful stuff. They are still doing work and they are still providing professional development, but it's custom-made for their teachers and administrators. And in some cases they're still meeting with parents, but it's not like our work. • Judi Fonzi

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Take Away Thoughts

Judith Fonzi concludes the session by asking participants to look back at the initial questions for participants (page 3) regarding what it is that projects hope will remain after their funding ends. She encourages participants to e-mail and share their ideas (see sidebar).

Questions for participants revisited:

- Review what you wrote—your hopes for what will be carried on after your MSP ends.
 - What are you doing to make it happen?
 - How will you determine if it does happen?

Breakout group participants

