
Reflections on the Partnership

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Figure 1. Opening slide of presentation.

Gary Martin has set a high bar for me with the video he put together [referring to a friendly spoof video of Ed Dickey]. Thank you, Gary! Nicole Joseph and Josh Males have also set a high bar for me to follow with their interesting insights. Nicole, with this being her first meeting, brings a new perspective and offers challenges, and Josh has been with us before, but he brings the perspective of a school-based person, and so I'm here to provide some personal reflections from my perspective as a member and higher education partner. I've been involved with the partnership since the beginning. I was not part of the original planners who envisioned this work, but I was involved at the early stages, so I'm going to review some of the places that we've been, and in some cases, it will overlap some of what Howard Gobstein did at the opening. And then I'll talk a little bit about where I think we are and also where we might be going, addressing the challenges Nicole Joseph has outlined and some of the directions Josh Males has suggested. The good news is I will finish quickly, and we will get on with other matters.

Where we've been: I want to remind you that we really started out of the Science and Mathematics Teacher Imperative (SMTI), and I really applaud the inclusion of the word imperative. Unlike our principles that might be ignored or may not always guide, imperatives are things we must do, so I applaud APLU in response to President Obama's recognition that we needed 100,000 new math and science teachers, that it is imperative that we recruit new teachers. I thought it was very forceful. As an example, I first met Howard when he came to my campus, and my provost and dean said "go see this guy, because this is important. It involves APLU, and we need to pay attention to them." Our provost and dean pay attention to that organization, and it had clout. I was impressed by Howard's passion for this initiative, so I began to attend the SMTI conferences. Gary Martin and Marilyn Strutchens were also attending these, and they had the insight that mathematics has its own unique needs. So they pushed the issue of a Mathematics Teacher Education Partnership (MTE-Partnership), announced it after the Cincinnati SMTI meeting, where I think some of this coalesced, and then in 2011, late 2011, they announced the partnership to the community of mathematics teacher educators. Applications went out in 2012 with the intention of building a consensus on guiding principles, a collaborative research agenda, and then working to transform programs. These were all the early visions from the outset of the program.

As Howard Gobstein pointed out this weekend, the first MTE-Partnership conference was in 2012 and developed the guiding principles. I want to point out that not only were the *Guiding Principles* reviewed as a draft and discussed extensively, but at the end of the conference, data was gathered and the membership, the hundreds of people who attended that first conference, voted on which priorities were going to guide our work. And out of

those priorities, the working groups, one on common vision, one on mentor teachers, one on mathematical knowledge, and one on recruitment and retention, emerged. That's not to say that those were the only things that were in the guiding principles, but it was part of a democratic, research-based process to establish our priorities. And at the same time, right after the first conference in Atlanta, the attention to use improvement science as a possible methodological means of achieving our goals was offered and accepted by the planning group.

As Howard Gobstein mentioned, some of us went to NIC (Networked Improvement Community) training with Carnegie and got involved in learning how to use this methodology. White papers were commissioned, and resources were provided to write the white papers. At the second conference (St. Louis in 2013), which I call the "50 Hours Conference," where in 50 hours -- and by the way, this has been the "44 Hour Conference" if we end on time -- but in 50 hours in St. Louis, we did a "*pivot to action*," which was I think the term we came up with as our theme. The Research Action Clusters (RACs) were formed as an outcome of that conference and once again a democratic process, this time using colored sticky dots as a voting mechanism, was used to establish the actual RACs. Participants went around the room reading posters with each RAC's prospectus and used color-coded dots to indicate first, second, and third priorities. From these votes, the first set of RACs emerged, and after the conference, we applied to join those RACs. We were generously supported by the Helmsley Foundation to get the work done.

The third conference (in 2014), which was in Milwaukee, had the RAC work in full swing. I would call our next stage "*growing capacity*." This is what we've been doing since that time. The Fullerton conference (in 2015) was infused with new energy from a huge group of California State University system institutions who also brought resources. California had support from the Bechtel Corporation and other groups, as well as the leadership and commitment of Joan Bissell, who is a force of nature who can get things done, so it was a wonderful infusion of energy and resources to help us grow our capacity for improvement and program transformation. The RAC were supported by funding, and results were coming forward. The second Atlanta meeting (in 2016) introduced new directions tied to equity and a more direct focus on transformation. I think another huge achievement was the Proceedings, so kudos to Bob Ronau, Brian Lawler, and Margaret Mohr-Schroeder, who took on the work and now provided us with an even higher level of academic recognition. And here we are at the sixth conference in New Orleans (in 2017).

I do want to point out and do so in all sincerity (despite the humorous video shown at the outset) that I've introduced Gary Martin as the hardest-working man in mathematics education, and I say that in part because my favorite South Carolinian is James Brown, known as the hardest-working man in show business. And while Gary Martin doesn't dance like James Brown, though I tried to help him do that [referring to the video of Gary dancing to the University of South Carolina Gamecock at the AMTE 2016 annual conference opening session], he is -- and I have to give him a huge amount of credit for being -- the intellectual tour de force that brought the MTE-Partnership into being and shepherded its work over the years.

So in all stages of our work, and in each piece of what we do, Gary Martin's leadership and commitment serves to move us forward. It just brought me to tears today when I opened up my Facebook feed this morning to find that today is Gary and my sixth friendversary. [Ed and Gary embrace in a bro hug.]

I think I can go on. So Gary Martin, thank you for all you've done, and I would be remiss if I didn't point out that Howard is equally involved, and it's a wonderful example of shared leadership. I once co-directed an NSF project where you're not allowed to co-direct. You're allowed one PI, and we argued that we could have two, well that was early in my career and I learned better -- you can't co-do anything. There's got to be one person in charge. Well, here's the counter-example: Gary Martin and Howard Gobstein truly have modeled collaborative leadership. They bring different dimensions, and I think we really benefit from the two perspectives, and I've changed my own view that you can't have two co-leaders. You actually can, and they've done it very well.



Figure 2. Gary Martin, MTE-Partnership Co-Director, throughout his career.



Figure 3. Ed Dickey and Gary Martin Facebook Friendversary. Gary with Randy Philipp, Christine Thomas, and Marilyn Strutchens.

Howard Gobstein



Figure 4. Howard Gobstein, MTE-Partnership Co-Director, throughout his career.

I wasn't sure if Gary Martin or Howard Gobstein would be kind enough to thank Mary Leskosky for everything she has done and is still doing to support this conference and the partnership. I do know, having been involved with this with Katherine Hazelrigg who held Mary's position at the outset of the MTE-Partnership, that it's a huge amount of work. There's Mary (see Figure 5), not sitting down at her desk but out working, helping as always. I had to go find her and she and Margaret Mohr-Schroeder were together. So--we've got to thank Margaret too, but I do want to acknowledge that this leadership team is a triumvirate of people who get things done.

Mary Leskosky



Figure 5. Mary Leskosky with Margaret Mohr-Schroeder.

So, where are we? I think we are a solid mature partnership. We're national; we're diverse in the many definitions of diverse. We're respected and impactful. Our guiding principles -- I don't hear discussion about changing them -- I think they're very sound, and I encourage you to go back and read them. I commend Nicole Joseph, who actually did read them, and picked up on one that is extremely important. But I think the principles are sound, and they should continue to guide us, and I'll remind you that we aren't doing everything listed in the principles-- Nicole Joseph reminded us of this, but I think overall the principles are comprehensive, very sound, and in good shape.

We have a RAC structure. We even have subgroups of RACs, and we have had situations where we recognized that some RACs might not be needed allowing for a “sunset-ing” of a RAC. We now have five very well-established RACs with the potential of two emerging, new ones. And our partnership is well known. Jennifer Lin Russell talked about our place. If you haven’t read the *Kappan* article she mentioned “The right network for the right problem” [<http://www.kappanonline.org/right-network-right-problem/>], you should read it. I saw it come up in different sessions. People had gone and found this article that mentions our organization, and it shines a very positive light on our work. The *Kappan* is not a refereed journal but it is an impactful journal that is widely read and respected, and we are front and center along with the Math Forum, which is also a network of a different type.

MTE-P is KNOWN:

A NIC takes off

Let’s look at the genesis of one networked improvement community, the **Mathematics Teacher Education Partnership (MTEP)** (LeMahieu, Edwards, & Gomez, 2015). **W. Gary Martin**, a leader in the mathematics education community, and **Howard Gobstein**, an executive vice president at the American Association of Public and Land-Grant Universities (APLU), are working to catalyze a NIC focused on the redesign of secondary mathematics teacher preparation programs (Martin & Gobstein, 2015). Their goal is to bring together university faculty and classroom teachers from participating school districts to meet the challenges of the Common Core State Standards for mathematics. In particular, they seek to develop strategies that help new teachers effectively and reliably implement ambitious Common Core learning tasks in their classrooms. This, then, is the *problem of practice* the members will come to share. The story of the formation of this partnership illustrates how catalyzing a NIC is different from forming a sharing community.



Figure 6. Excerpt from *Kappan* article.

But we’re there and there’s specific mention of why we’re there and who we are with examples of our work. So this is indeed national and very positive recognition. I participate in different groups. There’s huge interest nationally in the efficacy of the NIC approach. And often this organization is pointed to as: “here’s a place that’s doing it and doing it right.” And I think you experience that whether you are new to our partnership or are a veteran.

We are referenced in the AMTE Standards (2017) and this diagram has shown up in various different sessions throughout this conference, and that’s straight out of the standards:

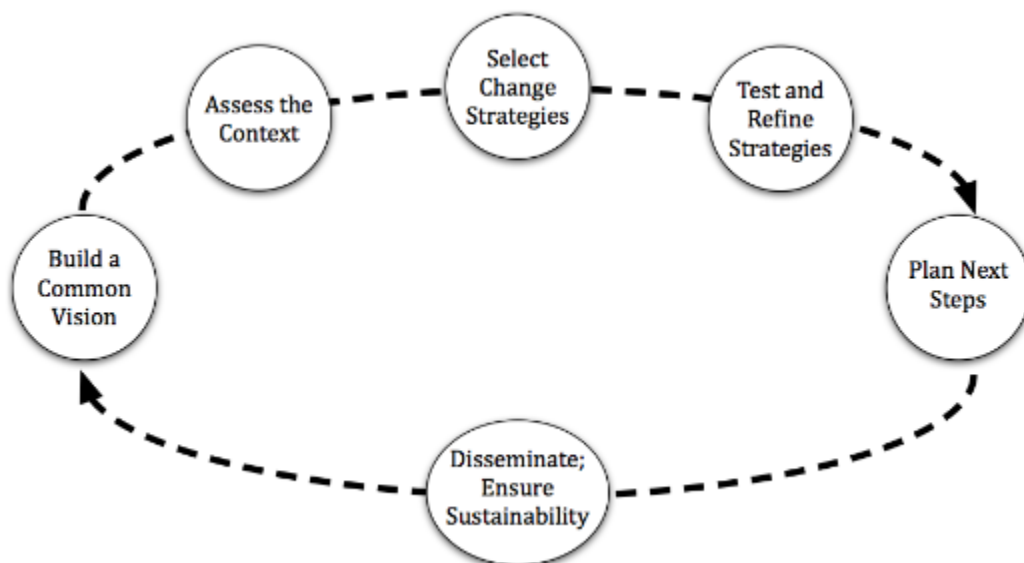


Figure 7. The ongoing and cyclic nature of improving mathematics teacher preparation programs.

There is also a specific action item in chapter nine of the AMTE Standards that addresses improvement and the process of improvement:

Action #4. Faculty in programs preparing teachers of mathematics must build collaborations with faculty in other programs preparing teachers of mathematics. Learning from and with colleagues from other institutions and providers can accelerate progress in their improvement efforts, with faculty benefitting from experiences and results of each site. The *networked improvement community* model proposed by Bryk, Gomez, Grunow, and LeMahieu (2015) may be particularly useful in building knowledge across programs (cf. Martin, W. G., & Gobstein, 2015).

There is also direct mention of the MCOP² in reference to the work of Jeremy Zelkowsky and his colleagues Stefanie Livers and Jim Gleason. So right there in the standards is another example:

Finally, although many assessments related to mathematics teacher preparation may be mandated by university or state policy, significant benefits may ensue from including measures used across many universities. First, such common measures can be designed to align to the standards in this document, utilizing expertise across universities to provide economy of scale in their development, validation, and perhaps even scoring. Second, having common measures allows for comparisons across programs to better assess the progress being made in particular areas. For example, the **Mathematics Teacher Education Partnership**, a collaboration of secondary mathematics teacher preparation programs, has adopted several measures that include a **common classroom-observation protocol** (Gleason, Livers, & Zelkowsky, 2015), a Partnership-developed survey in which candidates self-assess their readiness to teach, a Partnership-developed program self-assessment of progress along various dimensions, and a survey of the number of candidates produced by programs. These common measures are incorporated into each program's existing assessment system to provide information about the progress of the Partnership as a whole as well as the progress of individual programs in comparison to progress of the Partnership as a whole (Martin, W. G., & Gobstein, 2015). Such work also **provides a foundation for collaboration on ways of using information** provided by assessments and approaches to enhance teacher preparation in areas for which assessments across institutions show similar performance (joint work to design new efforts) or difference in performance (one institution with an area of strength could help partner institutions at which performance is less robust).

And the MATH RAC, the recruitment and retention RAC, has also been cited and leaned on to give some guidance on recruitment. Nicole also challenges us to change the perceptions of teaching. So those are in there. And again, I point out that those are places that were respected. These are some of the things that we are doing well.

As described in Chapter 3, the **Mathematics Teacher Education Partnership Research Action Cluster** (Ranta & Dickey, 2015) on recruitment has identified effective recruitment strategies for mathematics teachers. Here we revisit these strategies as they apply to attracting high school and college students to middle level majors, where they exist, or to programs leading to middle grades mathematics certification or licensure include.

- Offering field experiences in middle school mathematics settings with exemplary teachers
- Providing scholarships specific to middle level programs
- Promoting the need for middle grades mathematics teachers that exceeds the need for elementary teachers as well as for middle level English/language art or social studies teachers
- Highlighting the integrated and active-learning curriculum intended for middle grades learners
- Building a connection to the unique emotional and cognitive needs of middle grade learners
- Providing career counseling to elementary and secondary education students as well as to mathematics majors about major changes and certification options specific to middle school teaching



Figure 8. Excerpt from AMTE Standards about MTE-Partnership RAC work.

I think our partnership has a deep understanding of the problems of practice, and I think that's embedded in our driver diagrams and in our guiding principles. I truly see that we have embraced an evidence-based culture, and, using some of the terminology that Jennifer used in her opening, I definitely think that we have the social dimension piece of it. I think a lot of what we've gained from this is a very positive interaction among our peers that we respect -- and Josh talked about the different cultures among us -- but I think that conferences especially are a good way to foster interaction. We have shared narratives through our *Partnership Pipeline* newsletter, through the Proceedings, and through other articles that we work on collaboratively.

I attended different sessions at this conference of each of the RACs. I got a chance to see the work, and I clearly see vibrant work going on in all those different groups.

What still needs more attention? Clearly funding, and this is something the MTE-Partnership planning group has talked about, so be aware that this problem is known. Many of the RACs are securing grant funding, but that doesn't necessarily sustain the hub or the central functions of the network. So, I see that as a huge area of need. I think our working theory of improvement -- using Jennifer Russell's term -- is valid, but it continues to need review and possible modifications. And one piece that I noticed as I visited different sessions is: what is our vision of a well-prepared beginning teacher? What is our gold standard for the candidates we prepare? I'm not sure we have complete agreement on this standard. I heard some discussion in the transformation group yesterday of this and coming to terms with what our gold standard actually means is important. I use the "well-prepared beginning teacher" because that's the phrase in the *AMTE Standards*, and I think we can set what that gold standard is for our partnership, but I think at this time it is not something we clearly understand or can articulate.

The public visualization of our work, I think, is something that also needs attention, at the level of our provosts within our own institutions, as well as across the broader education community. I think we're getting notice, but I think there are other and different venues for telling our story. I heard comments from both Josh

Males and Nicole Joseph, who talked about how this could be addressed, so that there's a need for more notice of the work that's being done.



Figure 9. Five RACs at Work during 2017 New Orleans Conference, clockwise from upper left: Clinical Experiences, Program Recruitment and Retention, MODULES(S^2), STRIDES, and Active Learning Mathematics.

I also think it's very important to have some type of social connection that we experience at our annual conference over the year. This too needs some attention. I was struck by Jennifer talking about the core part of the work we do, of how important that is. And one of the things that I noticed in visiting and being part of the different RACs at the conference is that in RACs like Active Learning Mathematics, MODULE(S^2), and Clinical Experiences, the work of those RACs is very closely tied to its members' day jobs. They're school or university employment work is very closely tied to the work of the RAC. In other words, they teach calculus or pre-calculus or supervise interns and student teachers, and their teaching or supervision relates directly to the RAC work. But I also noticed that both in STRIDES, and I know from my own experience with recruitment RAC, that the RAC work for those members is on top of their regular school or university duties. We are all supervising interns or teaching methods classes, and recruitment, that's something that I'm really passionate about and care about, but I do that on top of my other duties. So I think figuring out a way to make the work of the partnership better fit the core duties of members is something that requires some level of attention.

I'll bring up -- this is kind of like a selfish personal reflection -- when I decided to join this partnership, my passion and purpose for joining was tied to the use of technology for teaching mathematics. However, technology did not percolate as a priority through our democratic process, but I continue to believe it's important. I also think that the role of mathematical modeling, certainly the Common Core, did not define that very clearly of how that would take place, so I think addressing how modeling receives more attention in secondary mathematics education could use attention from this partnership along with technology.

Where are we headed? Stay true to the continuous network improvement approach. I don't hear any debate of that. I think that has great efficacy. I encourage work with NCTM to impact the significant changes in high school mathematics. Clearly this was a priority of the Council and it clearly overlaps our work, so I think it's a wonderful opportunity. There is an Association for Middle Level Education (AMLE <https://www.amle.org/>). They are not a math organization, but it is an important group that works in middle-level education and secondary education includes middle grades. I encourage us to reach out and find some partnership with that AMLE. I think it would be mutually beneficial and the needs of middle-level students and teachers are different from those of high school students, so we are clearly concerned with secondary, and that includes both of those areas.

I think we need to continue to grow our connections to schools and districts, and I think Josh addressed that really well. We are really well-represented in mathematics education, but to a lesser degree in schools and districts, and we need more opportunities and partners in those areas.

I'm going to close with a lesson learned from my own university's long-standing professional development school network work:

https://www.sc.edu/study/colleges_schools/education/partnerships_outreach/oce/schools.php. Our PDS network has been in place for some 20 years. We had leadership that was very committed to school and university partnerships. We joined the Goodlad National Network for Education Renewal (NNER), and we adopted the NNER Principles that became the Nine Essentials of the National Association of Professional Development Schools (<http://napds.org/nine-essentials/>), so we have a huge amount of experience in this area. One of the things that we learned in that process was: professional development schools at the high-school level are extremely difficult to establish and maintain. High schools are very different from elementary schools. So the culture of high schools in developing the professional development school network or any school improvement partnership is extremely challenging. The goal is inherently good, but there are so many different agendas involved. The history department is very different from the science department, and the school is departmentalized. One of the things that we learned is that the work in any partnership must percolate from the interests and passions of the network members, so in our professional development school network schools, we had leaders trying to say "well this is what we need to do," "we need to do this and we need to do that." And the membership didn't necessarily agree. So it's important that the leadership help focus and facilitate the priorities, but the agenda has to grow from the working members. It must grow out of the needs as well as the duties of those involved.

If we embrace Nicole Joseph's call for us to address some of the critical issues that we are facing in mathematics education, our actions must percolate from our passions. Nicole Joseph can help us focus and bring our attention to needs, but if it's not a passion for you, if this is going to be forced, it's not going to work. We have the systems in place to identify priorities and catalyze our work. So I will borrow the words that I've heard from Nicole Joseph: we will Stay Woke and we will Push Back, and I encourage you to do that.

STAY WOKE



Figure 10. Final slide of presentation.

Thank you for giving me this platform. Thank you for your collegiality and collaboration over the years.