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## The Eighth Annual MTE-Partnership Conference: The Beat Goes On

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The Mathematics Teacher Education Partnership (MTE-Partnership) was formed by the Association of Public and Land-grant Universities (APLU) in 2012 to address a major problem in secondary mathematics teacher preparation: a shortage of secondary mathematics teachers entering the profession who are well prepared to ensure their students can meet rigorous state mathematics standards for college- and career-readiness, with an initial focus on the *Common Core State Standards for Mathematics* (CCSS-M) (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010) and other documents. This consortium of over 90 universities and over 100 school systems has a common goal of transforming secondary mathematics teacher preparation using the networked improvement community (NIC) design (Bryk, Gomez, Brunow, & LeMahieu, 2015). This paper provides a brief overview of the development of the MTE-Partnership and how the goals for the Eighth Annual MTE-Partnership Conference, held in June 2019, supported its continuing progress.

### An Overview of the MTE-Partnership

The APLU's 2011 Annual Conference of the Science and Mathematics Teaching Imperative (SMTI) focused on how higher education might respond to the just-released CCSS-M, with a particular focus on changes necessary in teacher preparation. A group of attendees at the conference submitted a white paper to the SMTI Executive Committee proposing the formation of an initiative focusing on secondary mathematics teacher preparation. This proposal was accepted, and a planning team was formed to organize the initiative, which became the MTE-Partnership, with the goal of transforming secondary teacher preparation with the following aim:

to build a national dialogue around guiding principles for the preparation of mathematics teachers; promote partnerships among all sectors throughout the teacher development process, with a focus on promoting institutional change; develop and coordinate a networked research and development agenda; serve as a clearinghouse for model programs and practices; and advocate for change at university, state and national levels. (MTE-Partnership, 2014, p. 1)

One of the central features of the MTE-Partnership is its focus on partnerships with secondary mathematics teacher preparation programs across its stakeholders. Representatives from university programs that wished to participate were asked to form teams including K–12 school districts and other partners involved in secondary mathematics teacher preparation, with a requirement that teams engage mathematics teacher educators, mathematicians, and K–12 personnel in their activities. As stated in the *Guiding Principles for Secondary Mathematics Teacher Preparation Programs* developed by the MTE-Partnership (2014), successful transformation requires a focus on “develop[ing] and promot[ing] a common vision and goals for how to best prepare teacher candidates who can promote student success in mathematics” within a program, as well as engaging in mutual learning and sharing responsibility across the MTE-Partnership (p. 2). There are currently 40 partnership teams across 31 states in the United States (see Figure 1).



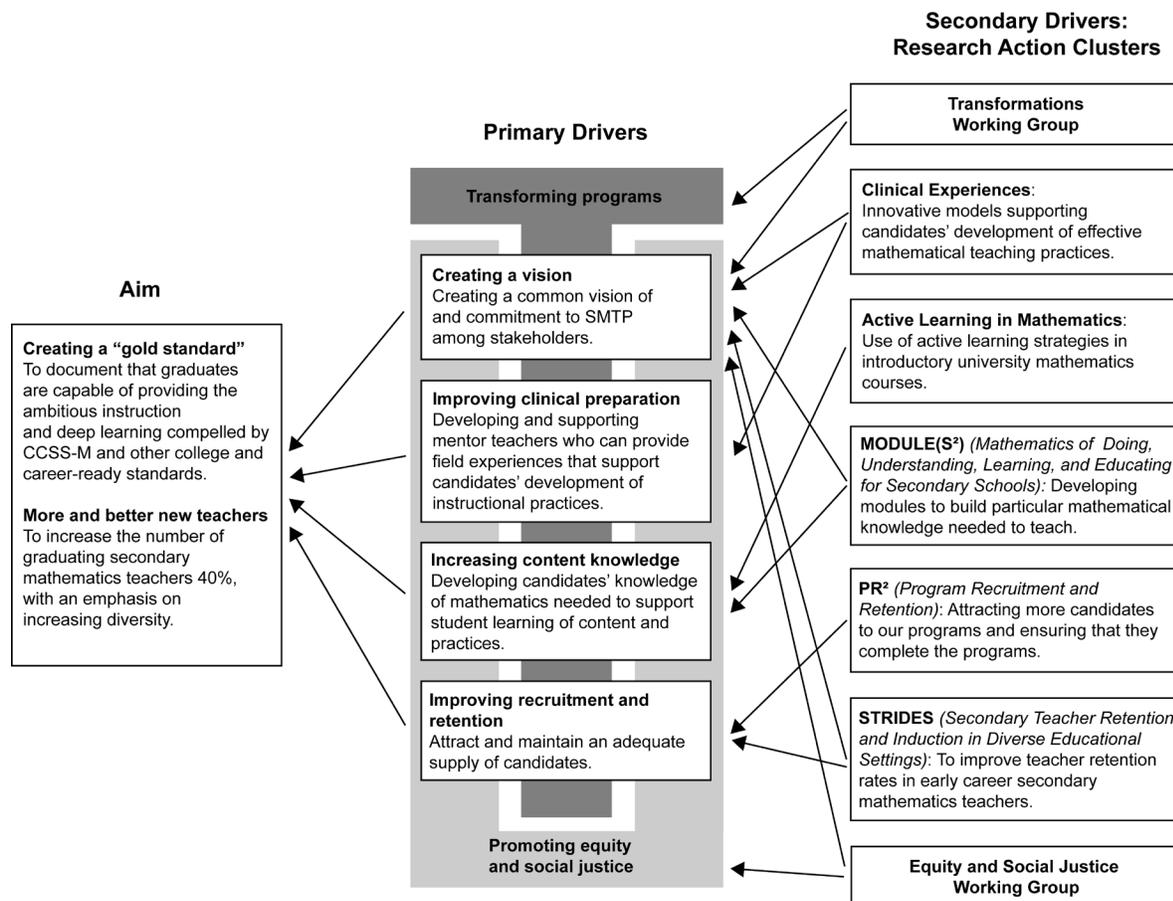


Figure 2. The MTE-Partnership driver diagram (Martin & Gobstein, in press).

Disciplined by the rigor of improvement science: The use of evidence to guide the development of interventions ensures that the changes being proposed are actual improvements. The RACs and Working Groups employ Plan-Do-Study-Act (PDSA) Cycles (see Figure 3) to iteratively prototype, test, and refine interventions; the use of PDSA cycles has the potential to lead to timely solutions to important problems (Bryk et al., 2015). Without the incorporation of evidence, changes may not actually be improvements.

Networked to accelerate progress: NICs are designed to marry precepts of improvement science with precepts of networked improvement, so that the improvement work is carried out across a range of contexts (Bryk et al., 2015). Thus, partners are mobilized to work in a parallel and coordinated manner to address critical sub-problems in secondary mathematics teacher preparation, as shown in Figure 2. The NIC design embraces variation across contexts to study how interventions need to be adapted to respond to the differing conditions under which they are used. As they are tested and refined, interventions can gradually spread across the network, supporting scale up (Bryk et al., 2015). The networked organization further allows a divide and conquer approach in which subsets of teams can address different problem areas.

### The Annual Conferences: A Trajectory of Growth

Beginning in 2013, the MTE-Partnership has convened an annual conference to further its work that brings together many of those active in the MTE-Partnership to reflect on the progress that has been made throughout the past year, make concentrated progress on specific issues, and set forth plans for the coming year.

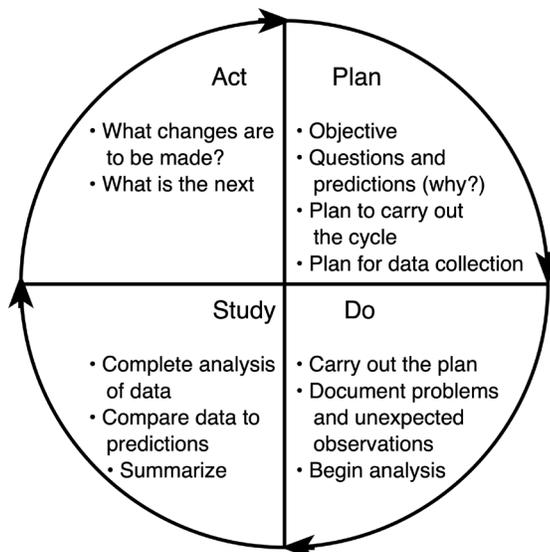


Figure 3. The Plan-Do-Study-Act (PDSA) Cycle. (Adapted from Langley, 2009)

With the Eighth Annual MTE-Partnership Conference held in June 2019, we are proud to say that the work is progressing. A brief outline of the growth of MTE-Partnership through the lens of its annual conferences follows; which builds on an account given in the 2018 *Proceedings* (Martin & Gobstein, 2018).

2012 Conference: The first conference, held in April 2012, focused on creating an initial draft of guiding principles for the MTE-Partnership, which led to *Guiding Principles*, since updated in 2014. A first attempt was also made at identifying central challenges in meeting the guiding principles; follow-up work led to the identification of the four initial areas of inquiry, shown as primary drivers in Figure 2. The decision to adopt the NIC design followed this conference.

2013 Conference: The second conference focused on learning more about the NIC design, which had been adopted following the 2012 conference, and developing the problem space in alignment with that design. Initial concepts were written for a set of 13 RACs, which were later narrowed down to an initial set of five that were launched in the fall following the conference. Teams were invited to join the RACs, and an initial boot camp organized by representatives of the Carnegie Foundation was convened in the fall following the conference to initiate their work. The Carnegie Foundation played a key advisory role throughout the launch of the RACs.

2014 Conference: The third conference was focused on establishing the work of the RACs. RAC members met in small groups to review their initial work in forming an aim and driver diagrams and to begin planning specific improvement efforts to be undertaken in the coming year using PDSA Cycles in which evidence would be gathered to guide their continued development and refinement. Additional sessions focused on increasing understanding of the NIC design and exploring issues related to secondary mathematics teacher preparation. The RACs continued their work throughout the following year.

2015 Conference: The fourth conference continued a primary focus on accelerating the work of the RACs. A new RAC on improving the retention of program graduates in the profession also was launched, replacing an earlier RAC. This conference saw the incorporation of all 22 campuses of the California State University system that offer teacher preparation, greatly increasing the capacity of the MTE-Partnership. The 2015 conference also introduced an emerging emphasis on program transformation, reflecting the challenges programs face in moving beyond making changes based on the one or two RACs in which they are actively engaged, to aggregating the

findings of multiple RACs to undertake the broad-scale changes needed to ensure both the necessary quantity and quality of secondary mathematics teacher candidates.

2016 Conference: The work in the RACs was again the focal point of the fifth conference. A newly formed working group on program transformation presented a panel discussion of issues related to transformational change and continued its work throughout the following year. In addition, a new focus on equity and social justice was launched; while these issues are embedded in the *Guiding Principles* and in the work of many of the RACs, members of the planning team noted that this was not visibly a part of the Partnership aim or drivers. A work session was held at the conference to discuss how to make equity and social justice a more explicit focus of the MTE-Partnership. In addition, a series of refereed brief research reports were included in the conference to enhance the sharing of ongoing work across the MTE-Partnership. For the first time, Conference Proceedings (Lawler, Ronau, & Mohr-Schroeder, 2016) were released to provide an accessible record of the work of the MTE-Partnership at the conference and throughout the past year.

2017 Conference: The overall trajectory of work by the MTE-Partnership continued at the sixth conference. The work of the RACs was highlighted, along with the themes of program transformation and equity and social justice. The theme of program transformation was addressed in a keynote by Jennifer Russell, fellow at the Carnegie Foundation for the Advancement of Teaching, who discussed the power of networks for program improvement, and a working dinner organized by the Transformations Working Group. A panel discussion addressed various aspects of equity and social justice related to secondary mathematics teacher preparation; Nicole Joseph, noted scholar on issues of equity, served as a reactant to the panel and to the conference at its conclusion. A new working group of social justice and equity was launched prior to the conference, and work sessions were organized by both the Transformations Working Group and the Equity and Social Justice Working Group (ESJWG). The series of refereed research reports was expanded, again appearing in a Conference Proceedings (Smith, Lawler, Bowers, & Augustyn, 2017).

2018 Conference: These themes continued at the seventh conference, with a focus on the work of the RACs along program transformation and equity and social justice. The conference was kicked off by a keynote in which Susan Elrod, noted author in the area of institutional change in the STEM disciplines (cf. Elrod & Kezar, 2016), interacted with Marilyn E. Strutchens, noted scholar in issues related to equity in mathematics education on the two conference themes and their interaction. Work sessions were organized by both the Transformations Working Group and the ESJWG. The series of refereed research reports was continued, again appearing in a Conference Proceedings (Smith, Lawler, Strayer, & Augustyn, 2018).

### **Goals of the 2019 Conference**

A new approach was taken to enhance the work of the 2019 Conference: a series of eight webinars were presented in the two months prior to the conference. These webinars were designed to provide information about the MTE-Partnership, including its RACs and Working Groups, prior to the conference. The webinars were intended to enhance understanding of what is happening across the MTE-Partnership, as well as help to orient new participants to the ongoing work. Each webinar consisted of a 20- to 30-minute presentation, followed by time for questions and discussion, to allow for easier entry into the work of the conference.

While in many ways the themes of the past several conferences were continued in the eighth conference, this conference marked a heightened focus on program transformation, corresponding to the launch of NIC-Transform. NIC-Transform is a new NSF-funded project (DUE-1834539 and DUE-1834551) in which five MTE-Partnership teams are focusing on how to better promote and document local program transformation. The slide in Figure 4 was shown in the opening session and every general session throughout the conference. Over the past

few years, much of the energy of the MTE-Partnership has focused on the work of the RACs to provide solutions to problems of practice in secondary mathematics teacher preparation; the message in Figure 4 is that transformation of local programs must become a co-equal aim. Until local teams begin to utilize the solutions developed by the RACs, the aim of the MTE-Partnership will not be fulfilled.

## Achieving the MTE-Partnership Aim

Achieving the MTE-Partnership aim is a two-sided coin:

- Building solutions to particular problems of practice through the RACs
- Supporting the work of local teams to transform their secondary teacher preparation program



19

Figure 4. Slide depicting the foci of the 2019 Eighth Annual MTE-Partnership Conference.

Including program transformation, the Eighth Annual MTE-Partnership Conference had four primary goals that are discussed in turn, along with how the structure of the conference supported each goal.

Partnership/institutional teams will plan next steps in transforming their programs: As aforementioned, program transformation was a central focus of the 2019 Conference, supported by four sessions throughout the program. A working dinner Sunday evening included a keynote presentation by Kathryn Chval, dean of education at the University of Missouri Columbia, who offered reflections on how to approach program transformation from an administrative point of view. Her talk was paired with a presentation by Etta Hollins, a distinguished researcher into equity issues in teacher preparation, who addressed the infusion of equity across efforts to improve mathematics teacher preparation. The theme of program transformation was picked up in a panel discussion Monday morning, which consisted of participants from NIC-Transform sharing their efforts at local program transformation. The panel included time for reflection and discussion within and across teams on how they might enhance their efforts at program transformation. Monday late afternoon included a set of breakout sessions focusing on issues related to program transformation, such as stakeholder engagement and policy, how the NIC design can support these efforts, and equity as the focus. The closing session on Tuesday included time for local teams to develop an action plan for furthering their efforts toward program transformation, both prior to the start of the new school year and by the end of the first semester.

The RACs will continue their work to improve aspects of secondary mathematics teacher preparation, including considering how they share their work in order to contribute to additional teams' transformational efforts and to the knowledge of the field: Despite the sharper focus on program transformation, the work of the RACs continues to be important to the progress of the MTE-Partnership. The RACs spent more than eight hours working across the conference, central to their work in progressing toward their respective aims. However, increased focus was placed on how they might begin to disseminate their work, both within the MTE-Partnership to support teams' transformation work and to external audiences. In the closing session, RACs were asked to

present opportunities for other teams to engage in or learn from their work. Updates on their progress can be found in the Research Action Cluster Reports section of these proceedings.

The Partnership as a whole will grow its sense of joint purpose and identity as a NIC-supporting program transformation: While engagement in the specific work of the MTE-Partnership in the RACs and locally may be at the forefront for MTE-Partnership participants, it is also critical that the MTE-Partnership maintains a sense of common purpose and identity across these efforts in order to thrive as a community focused on improvement (Martin & Gobstein, 2015). The project co-directors emphasized the defining characteristics of the MTE-Partnership as a NIC in the opening session, again emphasizing the importance of those characteristics for the continuing success of MTE-Partnership. The webinar series presented prior to the conference was designed to build that cross-cutting purpose and to enhance communication across the RACs, and a roundtable discussion following the opening session provided opportunities for participants to follow up with several of the RACs in which they are not involved. Brief research reports were included to build understanding of the work going on across the partnership, both by the RACs and working groups and by local teams. The closing session included a celebration of the progress made by MTE-Partnership over the past eight years and reflections on where the MTE-Partnership might continue to grow.

Specific focus on equity and social justice will be included throughout the proceedings: The theme of equity and social justice was threaded throughout the conference. As previously mentioned, this focus was included in the working dinner and was included as one of the foci in the Monday late afternoon breakouts. The ESJWG is continuing to build a liaison structure in which members of ESJWG, who are often also members of a RAC, are specifically designated to provide a link between ESJWG and the RACs in which they are engaged. For the 2019 conference, these liaisons were asked to highlight two issues within the RAC worktime at the conference: (a) initiating critical conversations about equity issues, and (b) confronting deficit ideologies. All of the RACs included a discussion of their response to these issues in their reports in the closing session. Finally, a number of research sessions focused on work around equity and social justice.

### **Moving Forward: MTE-Partnership 2.0**

The closing session launched the need for the MTE-Partnership to re-examine its underlying framework as a NIC—its aim, driver diagram, and priorities. Adjustments to this foundation have been happening incrementally, but the MTE-Partnership has reached “a pivotal moment where its foundations need to be reconsidered rather than tweaked to both incorporate what MTE-Partnership members have learned as a community over the past years and to address the changing circumstances that programs face” (Martin, Lawler, Lischka, & Smith, in press). New foci may be needed to infuse the knowledge generated by RACs into program transformation efforts, as well as to support efforts by local teams at program transformation. In addition, new foci may be necessary to address the dramatic changes that have occurred in the landscape for secondary mathematics teacher preparation since the launch of MTE-Partnership: the significant national decrease in students entering teacher preparation, the rise of non-traditional programs for teacher preparation, and new technologies that might be addressed, such as virtual teaching and learning environments (Martin et al., in press).

To begin this process of reformulating the foundations of MTE-Partnership, its leadership will be engaging members in critical conversations over the coming months. The following questions were posed in the closing session to launch that discussion: *What is most needed to support program transformation efforts? What new RACs are needed? What former foci can diminish?* It is our hope that these efforts will launch a new era of work by the MTE-Partnership to promote the improvement of the preparation of secondary mathematics teacher preparation—the “MTE-Partnership 2.0” ready to thrive for another eight years.

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