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## Pre-Session on Equity and Social Justice

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One goal of the Fifth Annual Mathematics Teacher Educators Partnership Conference was to, “make equity and social justice more explicit as an essential component of the partnership aim.” On the first evening of the conference, a loosely structured gathering was organized to discuss the role of equity and social justice in the MTE-P work. To gain a perspective as to how MTE-P has focused on the issues, participants examined the Mathematics Teacher Education Partnership (2012), which includes several statements that indirectly support equity issues such as access and achievement. Two of the principles speak more directly to these issues. First, Guiding Principle 5: Candidates’ Knowledge and Use of Educational Practices, Section E calls for Attention to Diversity:

The teacher preparation program ensures that teacher candidates recognize that all students in their classes—including low-performing students; gifted students; students of different racial, ethnic, sociolinguistic, and socio-economic backgrounds; English language learners; students with different sexual orientations; and students with disabilities—have the potential to make important contributions, and that they maintain high expectations for all students.

Secondly, Guiding Principle 6: Professionalism, Advocacy, and Leadership calls for teacher preparation programs to ensure future teachers hold themselves and colleagues responsible for the mathematical success of all students. In particular, Section C: Sense of Justice states:

The teacher preparation program fosters a sense of agency in its teacher candidates so that through their actions, behaviors, and advocacy, candidates demonstrate a dedication to equitable pedagogy that promotes democratic principles by holding high expectations for all students, while recognizing and honoring their diversity.

The interests underlying the call for the MTE-P Equity and Social Justice working group was to consider if these two guiding principles were sufficient to guide efforts on this topic for the MTE-P project, and also to initiate discussions regarding the breadth of issues related to equity and social justice to be considered in relation to secondary mathematics teacher preparation.

From 6:30 to 7:15 PM on the first night of the conference, approximately 50 MTE-P members, slightly over half of those attending the conference, sat in small groups at tables while Drs. Lawler and Strutchens led the discussion. To prepare for this

conference pre-session, each RAC was charged to identify ways their work addressed issues of equity and social justice, or incorporated specific MTE-P Guiding Principles. The RACs presented their reports during this opening pre-session. Their reports are included in the appendix of this paper.

The work sessions attendees were asked to brainstorm additional issues related to equity and social justice that are important for the preparation of secondary mathematics teachers. Rich, intense conversations were held at each table and a few of the ideas generated in those discussions were reported to the full group. Group responses were organized into categories: children's mathematical identities, mathematics teachers' identities, biases and stereotypes in the discourse about people and mathematics, biases in the structures around mathematics education, and challenges to recruitment. Participant responses shared that illustrate each of these categories appear in Table 1.

Table 1

*Responses to table discussions about issues related to equity and social justice that are important for the preparation of secondary mathematics teachers.*

<b>Category with responses from the working group</b>
<b>Children's mathematical identities</b>
Mathematical identity (e.g. <i>Do children see themselves in curriculum?</i> )
What teacher actions cause positive or negative mathematics identities?
Better ways to assess mathematical potential, such as in early college experience
<b>Mathematics teacher identities</b>
Teaching mathematics is a sociopolitical act
Empower candidates to be agents of change
Maintain candidates' confidence in mathematical abilities as they take higher mathematics
<b>Biases in the discourse about people and mathematics</b>
Discourse (how people interact and the expectations they have for one another)
Preservice teacher awareness of deficit language, discourses, and practices
Deficit language among ourselves as Mathematics Teacher Educators (MTE)
MTE biases and beliefs, such as how we perceive students, or who should have access
Stereotype threat, for both faculty and preservice teachers
<b>Biases in the structures around mathematics education</b>
Tracking
Integration of diversity, equity, and social justice specifically to mathematics and specific domains
Institutional racism
<b>Challenges to recruitment</b>
Discouraging messages against becoming a teacher
Clinical experiences could attend to equity and social justice with equal importance to mathematics instruction
Structural challenges to recruitment that eliminate potentially good candidates, such as advising and some standardized tests (related to cultural capital)
Broadened participation to match local population (maybe recruiting earlier can help)

Table discussion groups were also asked to consider what sorts of actions might MTE-P take to address the direct and indirect challenges of equity and social justice. One topic frequently mentioned was the need for professional development (PD) within the MTE-P community; many of the participants indicated that they felt inadequately prepared to achieve goals related to equity and social justice as set forth in the Guiding Principles. Subsequent discussion on PD revealed that structures like a webinar would be insufficient for the complexity of the issues, for example the possible need to visit beliefs or values. One idea emerged recommending the development of modules including talking points for sharing with colleagues at our home institutions, as well as with district partners. Another suggestion called for the development of specific activities that could be used not only with preservice mathematics teachers, but also with other members of our local teams. Additional discussion centered on how MTE-P might provide a support system for the efforts on individual RACs to incorporate equity and social justice into their work.

A second element of this discussion was focused more on the content of potential support systems and PD. One suggestion promoted increasing awareness of how privilege works, and to identify the variety of ways people are privileged in this society. The Harvard Project Implicit ([implicit.harvard.edu/implicit/index.jsp](http://implicit.harvard.edu/implicit/index.jsp)) was identified as a specific example that can help an individual identify his or her biases. Dr. Karen King cautioned this effort, pointing to a body of research that has demonstrated that often in an attempt to teach diversity class, people come away with previous beliefs and biases hardened. Thus, it is important that we examine professional development programs around equity and social justice issues well before we implement them within the partnership.

As the working group wrapped up, several participants suggested that MTE-P might support an Equity and Social Justice Working Group. Dr. King raised challenges to keep in mind as the group moved toward planning activities. For example, she reminded the group that equity, diversity, and social justice are not the same things and that the terms often get used interchangeably. To prevent confusion about these terms in the group's activities, she advised to first tease out distinction for each. Dr. King posed a question that speaks to the nuances of the terms, recognizing that our educational system is more segregated now (Rothstein, 2013) than at the time of *Brown vs. Board of Education: Can schooling be separate and equitable?* Dr. King also cautioned against the draw to essentialize children (and people) due to membership of a particular group. Another common issue related to equity and social justice in mathematics education is that a task on its own does not make for equity, but also the enactment—the teaching—of that task is critical to how it is perceived by learners. Her final advice was to study research outside mathematics education to more fully understand these challenges. For example, there is a considerable literature on how diversity training is often ineffective. Similarly, there is robust literature in the business community about recruitment, especially related to recruiting people for something they may not know they want to do—such as become a high school mathematics teacher.

Dr. Gary Martin reiterated that challenge for us, members of MTE-P, to consider and learn how we can educate ourselves and our institutions. Specifically, what might or should our teacher education programs do to develop skills, knowledge, and dispositions aligned with the charges of equity and social justice; what is it we hope our preservice teachers will leave us

prepared to do as high school mathematics teachers. Dr. Marilyn Strutchens challenged us more broadly to consider how to we raise consciousness in the community of the complexity of these challenges. How can we create change agents? And how can MTE-P leverage its role to make change?

The Equity and Social Justice work session concluded with a very strong expression of interest to create some structure within MTE-P to pursue these challenges. As complex as these issues are, they are certainly core to preparing high school mathematics teachers. A first step may be to heighten the recognition that these issues are core to the work of mathematics education.

### References

- Mathematics Teacher Education Partnership. (2012). *Guiding principles for secondary mathematics teacher preparation*. Washington, DC: Association of Public Land Grant Universities. Retrieved from [www.aplu.org/projects-and-initiatives/stem-education/SMTI\\_Library/mte-partnership-guiding-principles-for-secondary-mathematics-teacher-preparation-programs/File](http://www.aplu.org/projects-and-initiatives/stem-education/SMTI_Library/mte-partnership-guiding-principles-for-secondary-mathematics-teacher-preparation-programs/File)
- Rothstein, R. (2013, August 27). For public schools, segregation then, segregation since. *Education Policy Institute*. Retrieved from [www.epi.org/publication/unfinished-march-public-school-segregation](http://www.epi.org/publication/unfinished-march-public-school-segregation)

### Appendix: RAC Reports on Connections to Equity & Social Justice

#### **Active Learning Mathematics—ALM**

- ALM in undergraduate mathematics contributes to improved engagement, access and success of all students (e.g. Freeman et al., Laursen et al., etc.)
- Explicit attention being given to problematic features of instruction in undergraduate mathematics that have been institutionalized in departments & university
- Student Engagement in Mathematics through an Institutional Network for Active Learning (SEMINAL): Explicit focus on characteristics of productive math departments and studying the process of institutional change

#### **Clinical Practices**

- One of the primary drivers of the RAC is: Focus on access and equity
- Organize mentor selection and support around deepening expertise with math content, math standards, MTPs, and mentoring strategies
- The preparation of each new teacher of secondary mathematics represents an opportunity to disrupt long-standing teaching practices that contribute to inequities in learning outcomes.
- Ensure that requirements for student teaching and feedback during student teaching emphasize the responsibility of TCs to advance mathematics learning among secondary students through collaboration with more expert mentors in use of MTPs.
- Ensure mutual agreement between district(s) and university about what quality teaching of secondary mathematics looks like and how to further skills of all teachers (including TCs) and see mentor teaching as part of career ladder.
- Use the NCTM *Principles to Actions* eight core teaching practices to promote deep learning of mathematics

- *Change Ideas (How)*
  - The development of a PD program related to mentoring mathematics teachers
  - Provide ongoing PD and course work related to the Common Core State Standards and NCTM's Mathematics Teaching Practices
  - Convene either face-to-face or online meetings to plan field experiences, articulate expectations, and reflect on norms and cultures within the class settings.

### **MODULE(S<sup>2</sup>)**

- Provide representations of teaching practice and teaching scenarios which incorporate research-based knowledge about culturally and mathematically diverse students' learning and their conceptions of the specific content topics.
- Include historical notes which include contributions of all peoples to the development of mathematical ideas
- Develop Preservice Mathematics Teachers' professional noticing skills

### **Marketing to Attract Teacher Hopefuls—MATH**

- *Past activity:* Implicit strategies to target underrepresented populations
- *Possible directions:* More overt, direct, and targeted strategies tied to local communities and institution to increase number so under represented populations