

**THE SPECIAL INTEREST GROUP OF THE MATHEMATICAL ASSOCIATION OF
AMERICA ON RESEARCH IN UNDERGRADUATE MATHEMATICS EDUCATION
(SIGMAA ON RUME)**

POSITION STATEMENT ON EQUITY

Prepared in January 2018 by the Committee on Equity and Mentoring

Purpose and Rationale

This document articulates the Position Statement on Equity from the SIGMAA on RUME, and is a companion to the Position Statement on Mentoring. It reflects the commitments and perspectives of the community in advancing equity in undergraduate mathematics education with respect to: 1) participation within the community; 2) teaching practices; and 3) research. For purposes of this document, *equity* is defined as a state in which all participants are enabled to fully participate and become successful in a community of practice. This document is intended to guide current and future efforts by members of the organization to address educational inequities, and inform parties interested in learning about the stance of the organization on equity. The statement reflects the current consensus of members of the organization at the time of the writing of this statement, which is established through public discussions of the statement.

We recognize that the broader principle of inclusivity is a critical part of the charter of the SIGMAA on RUME:

SIGMAA on RUME is formed for the purpose of encouraging quality research in undergraduate mathematics education (RUME) and its application in teaching practices. SIGMAA on RUME provides organizational support for researchers conducting RUME and to those interested in using the results of RUME. It also provides organizational support for the dissemination of the results of this research.

For the organization to enable quality research and provide effective organizational support, it needs to be inclusive. This is because quality work happens when researchers have full access to professional resources as they carry out investigations, and develop ideas that enable all students to fully participate and become successful in mathematics. Thus, inclusivity focuses on enabling full participation in different communities, particularly for those who historically have been marginalized. Equitable practices are then efforts that are involved in enabling such full participation.

An important step towards inclusivity involves identifying and removing barriers for full participation, and recognizing the unique needs and contributions by members of marginalized groups. These groups include but are not limited to: people of color, women, people living in poverty, people with disabilities (hidden or otherwise), individuals who identify as LGBTQ+, and individuals who identify as part of a religious minority. We recognize groups that historically have been disenfranchised in education, and groups who are impacted by contemporary policies and prejudices (e.g., refugees and DACA students). We respect and affirm each person's right to express and present themselves while engaging within the RUME community. We recognize that in our community inclusion also needs to be extended to scholars and educators from underrepresented types of institutions, many of whom are members of the aforementioned groups. In practice, the organization values and prioritizes voices and concerns of members from these groups. More broadly, the community and its leadership will continue to

reflect on efforts to make the community more open, inviting, and sustaining for scholars who might otherwise be excluded or marginalized to fully participate in the community and in leadership.

In order to address equity at the multiple levels relevant to the RUME community, we organize this document by first identifying ways in which goals of equitable practice can be furthered in the context of mathematics instruction. We then identify ways in which the SIGMAA on RUME aims to increasingly value and cultivate research on issues of equity in undergraduate mathematics. The Statement on Equity elaborates on specific barriers in research and practice, and offers calls of action to the community to begin to remove or circumnavigate these barriers.

Statement on Equity

The SIGMAA on RUME advocate for and support equity research and equitable practices in mathematics education. This means that we support efforts in understanding of practices that expand participation and learning opportunities in mathematics from members of marginalized groups. At the local institutional level, this involves turning undergraduate mathematics classrooms into spaces where all students can thrive - personally, intellectually, and professionally - as they critically engage with and learn high-quality mathematics. Achieving this goal necessitates our commitment to challenging and dismantling systemic marginalizations (e.g., racism, sexism, heterosexism, classism, and ableism).

As a community of educators and researchers who seek to be more engaged with equity work in undergraduate mathematics education, we propose the following perspectives as important points of consideration specifically related to educational practices in undergraduate mathematics classrooms:

- **Deficit perspectives about students, their communities, and their mathematical dispositions are detrimental to students' participation in mathematics.** Teachers who hold deficit views of students have been shown to engage in lower-quality forms of instruction by reducing the rigor of mathematical tasks. Further, teachers may unknowingly link their views of student ability to various demographic markers such as race and gender, and thus provide structurally different supports and learning opportunities to different groups of students in ways that do not benefit all students. Members of the SIGMAA on RUME must continue to be critical of language and perspectives in describing learners in research and practice, particularly those from underrepresented groups. The SIGMAA on RUME affirms that all students are capable of learning mathematics, and that supporting students' learning involves building on their current understanding and not solely focusing on identifying their misconceptions and deficiencies in understandings.
- **Equitable practice is distinct from equal treatment for all students.** Equitable practice relies on an understanding about the critical roles students' backgrounds and social identities have played and continue to play in their experiences in education. Treating all students the same gives the illusion of fairness, but upholds the status quo and perpetuates systemic oppression. The notion of equality is useful in thinking about equal access as a result of removing systemic barriers in education. The SIGMAA on RUME supports efforts towards equity that ensure all students are able to successfully engage

with mathematics at the highest level of rigor and enjoyment, which may require different supports for different students.

- **Equitable practice involves balancing ways that mathematics contributes to students' lives and ways in which the discipline benefits from the perspectives and ideas from students who historically have been excluded.** Mathematics as an institution benefits from students by way of the new mathematics that they produce. Mathematics as a discipline also benefits from understanding and removing aspects of mathematics that serve as barriers for some students. Thus, the work of addressing inequities in practice involves providing access to the rigor, utility, and the elegance of mathematics, and ensuring that all students have the opportunity to succeed. At the same time, equity work also involves critically examining mathematics as an institution (e.g., its norms, accepted values, and practices) in order to make it a more inclusive and affirming discipline of students with different backgrounds.

The above perspectives inform our views on how to address equity in our actions as practitioners. We encourage a future committee to make more explicit calls to action related to the above perspectives. Below, we articulate ways to address equity in our actions as a research community.

The SIGMAA on RUME recognizes that equity issues are present and relevant in our research and practice. The SIGMAA on RUME affirms that as an organization we are committed to being critical and introspective about the ways that equity can be more meaningfully integrated into our discipline. With the goal of broadening and affirming SIGMAA members' participation in equity research and creating space for and supporting the legitimacy of equity research, we as a community will dedicate efforts to:

1. Recognize equity research as valid, rigorous, and significant work that adds important perspectives to the community. The community values equity research as a legitimate and important area of scholarly inquiry within RUME, and views this research as adding to -- rather than competing with -- existing RUME research. We are careful about prioritizing traditional research methods and the proximity of research to mathematics in determining the validity and significance of research. We acknowledge that equity research involves particular epistemologies, methods, perspectives, and theoretical frameworks that might not be familiar to all members of the RUME community. The SIGMAA on RUME encourages efforts to develop resources for improving researchers' abilities to attend to issues of equity in well-informed ways (e.g., learning communities around these issues, shared readings about equity in instruction and research). We encourage RUME members to seek out opportunities to learn about how tools, theories, and methods from equity research can be informative to their own work.

2. Support and promote RUME research focused on equity issues. Recognizing the contributions of equity research, the SIGMAA on RUME aims to be a space that supports scholars and work in this area. We continue to look for ways to invite and engage researchers and past participants at the conference who have done work related to equity in undergraduate mathematics education. Inviting more equity scholars and experts into the RUME community will greatly enrich the community's ongoing work and other equity-related initiatives. In addition to utilizing and supporting existing infrastructure, like the Equity in Undergraduate Mathematics Education Working Group, the organization will continue to seek ways to develop

supportive communities and provide mentoring opportunities for new scholars interested in equity work.

3. Embrace equity as a value of the entire RUME community recognizing that equity concerns are present in all educational research. All work in RUME can inform and be informed by equity research, even if equity is not the main focus of the study. Ensuring that all students can have access to and thrive in undergraduate mathematics is a challenging task, and all of us can contribute to efforts toward this equity goal. We need to recognize that the teaching and learning of mathematics and the research about those topics occur in context. The teaching and learning of mathematics are influenced by issues of power, identity, and social discourse, as is research on those issues. The main concern is not about the adoption of a particular theoretical perspective, but instead the recognition that our research and practice have implications to and are influenced by social and political contexts, particularly due to their relationship with mathematics. For example, we should not take for granted the identities of the participants in our studies, and their implications on data collection, analysis, theorization, and ultimately the conclusions we draw from our studies.

Concluding Remarks

The SIGMAA on RUME has adopted this position statement to make explicit the commitment of the community to inclusive practice - as researchers, teachers, and community members - and to explicate how this commitment relates to attention to equity in RUME. We charge the community to continue working towards the creation of an inclusive environment. This relates to both equity, within our research and our broader professional work, and mentoring, by supporting and valuing all of our community members, especially those who come from marginalized populations. Further, we charge the community to find meaningful and measurable ways to continue our ever-developing commitment for equity and inclusion.

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