

History of the PME-NA Gender and Mathematics Working Group

Members of our Gender and Mathematics Working Group have maintained a continuous commitment to scholarship fed by our involvement in the group since 1998. We initiated our discussions with a review of the scholarship around gender and mathematics, defining research strands, needs and absences, and committing to the integration of our work. We also defined future directions. Eventually, we generated a visual representation of the field as we conceptualized it, where we acknowledged and represented the complex dimensions of the elements with which we were trying to work (Damarin & Erchick, 1999; Erchick, Condrón & Appelbaum, 2000).

In the years following our first session we met at each PME-NA meeting, shared papers, redefined immediate and long-range goals, solicited feedback from the more open PME-NA audience through discussion groups, and focused and refocused our work. We formed peer groups and critiqued participants' developing papers and discussed the papers as a whole body of work. Some members of the Gender and Mathematics group elected to conduct research exploring practice; others chose to theorize or to apply research. What all members had in common was a commitment to research that was, as suggested by Fennema and Hart (1994), feminist and qualitative in nature.

From the early days of our work together, a guiding agenda for our working group has been the development of a monograph on gender and mathematics. At working group sessions at the annual PME-NA meetings we organized themes and

developed a structure for our work. Through the Gender and Mathematics Working Group monograph project, working group participants have committed themselves to an interpretation of the field of gender and mathematics as complex and nonlinear. We have chosen to investigate the absences we encounter with a respect for the reflective voices of the researchers, teachers, students, women and girls who contribute to the work. In the papers and processes of this project, we worked consistently to respect the structure and voices that emerged.

We organized around multiple perspectives that included those of the researcher, teacher, and student; history, critical theory, and feminism; and methodological, self-reflective and empirical standpoints. We compiled the work of 8 scholars for our monograph project, a project near completion. We are prepared to move forward on a next agenda, and developing that agenda, as discussed below, will be a primary goal of this years' Working Group sessions.

Issues in the Psychology of Mathematics Education to be a Focus of Our Work

Researching around topics that would allow us to impact classroom practice has been a goal of the Gender and Mathematics Working Group since its inception. Inherent on that goal is direct connection to the PME goals to further a deeper and better understanding of the psychological aspects of teaching and learning mathematics and the implications thereof; and to promote and stimulate interdisciplinary research, with the cooperation of psychologists, mathematicians, and mathematics teachers. We also find that with technology an increasingly present and important component of the

mathematics classroom, we wish to pursue the inclusion of technology-related issues in our work. Learning from research on gender and technology is expected to contribute to our work in new and exciting ways.

A third goal of PME, to promote international contacts and the exchange of scientific information in the psychology of mathematics education, is one to which we are committed in terms of our growth and exchange of ideas. As we redefine new directions for the Working Group, we are committed to an increased inclusion of international perspectives on gender. Thus, our plan for this year's session and our agenda for this coming year together address that goal. We expect the development of this component of our focus will allow us to develop collegial connections and integrate diverse perspectives into our research agendas.

Our work is further connected to the PMENA XXVI conference theme of "Building Connections Between Communities." Both our overarching goal of bringing research on gender and mathematics into the classroom and having that research emerge out of the practice of teaching are inherent elements of the concept of making connection between communities. Additionally, the Gender and Mathematics Working Group commitment to broaden the scope of our perspectives to include international experiences also enriches the concept of connection between communities.

Plan for Active Engagement of Participants

As has been true each time that we have met, the Gender and Mathematics Working Group remains committed to an initiative that depends upon participant voices for direction and support. As always, the sessions we conduct this year will be active

with discussion, decision making, and work activities. In this years' sessions we will

- begin with an introduction of new and returning members, a short synthesis of the work to date, and an update on the status of our monograph project;
- have invited scholars lead 3 panel discussions to inform the whole of our group on topics intended to support the goals iterated above. Panels are described below;
- close with the group forming subgroups for study, planning for independent work in the coming year, and determining additional work sessions, both electronically and through other professional organization meetings such as IGPME, NCTM, and AERA.

The three panels, with leadership to be announced, will address what research in the following areas has to offer our scholarship around gender and mathematics.

- Panel I, International Perspectives on Gender: Panelists are expected to address issues such as globalization; the relationship between school mathematics and its associations with "western"/euro-american culture and thus imperialism; ideas about gender issues involved in "appropriate" mathematics literacy and academic learning in different cultural contexts (e.g., "developing/emerging" nations, and the connections between math, technology and war).
- Panel II, Research on Gender and Technology: Panelists may choose to address issues such as the gendered nature of technology and conceptual connections between technology and mathematics. It is expected that research on gender and technology has much to offer and inform our scholarship on gender and mathematics.
- Panel III, "Problems" of the Field: Panelists are expected to apply a critical lens to

questioning gender as a "problem" to be solved. Some possible questions to be addressed are: What is behind assumptions that the "problem" **is** solved? What do statistics really tell us about gender and mathematics? How does one focus on gender as a scholarly agenda in environments that do not value such perspectives? How can one maintain a focus and value on gender while recognizing the complex connections to race, class, sexuality?

Anticipated Follow-up Activities

As in the past, we will maintain electronic communications in the following year as we work on the projects decided upon in the sessions of PME-NA XXVI. Additionally, as discussed earlier, we intend to work collaboratively through other professional meetings, such as IGPME, NCTM and AERA. A goal of a next publication will be pursued.

Building Upon Previous

Gender and Mathematics Working Group Initiatives

When Suzanne Damarin and Diana Erchick started this project in 1998, an early result of the working group sessions was a graphic, cited above, that revealed two conceptions determined by the scholars working within the group, the complexity of the field and apparent absences in the scholarship. It is a part of our mission to pursue scholarly inquiry in directions that would begin to contribute to the field in the areas of those absences. Our monograph project satisfies a part of that agenda. That project continues and is nearing completion. Reflection upon that culminating project now reveals more absences, all of which are foundational is our decision on panel topics in

this year's sessions.

Closing

In pursuing inquiry around Gender and Mathematics, the PME-NA Gender and Mathematics Working Group participants have committed themselves to an interpretation of the field of gender and mathematics as complex and nonlinear. We have also chosen to investigate the absences we encounter with a respect for the reflective voices of the researchers, teachers, students, women and girls who contribute to the work. In the papers and processes of this project, we work consistently to respect the structure and voices that emerge. Original absences apparent in 1998 have grounded our work since then. Newly emergent absences now ground our new directions, and our commitment to addressing absences in the field continues.

References

Damarin, S. K. & Erchick, D. B. (1999). Gender and Mathematics Working Group: Explorations of Absences in Research. In F. Hitt & M. Santos (Eds.), Proceedings of the Twenty First Meeting of the Psychology of Mathematics Education ñ NA XXI, 1, Cuernvaca, Morelos, Mexico, 170-175.

Erchick, D. B., Condrón, L., & Appelbaum, P. (2000). Gender and Mathematics Working Group: Emergent Themes. In M. L. Fernández (Ed.), Proceedings of the Twenty Second Meeting of the Psychology of Mathematics Education ñ NA XXII, Tucson, AZ, 1, 53-57.

Fennema E. & Hart, L. E. (1994). Gender and the JRME. *Journal for Research in Mathematics Education*, 25,(6), 648-659.

