

DG5 INTEGRATING EQUITY AND COMPLEX SOCIAL PROBLEMS IN MATHEMATICS TEACHER EDUCATION

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At PME-NA 26 (Hart & Alleksaht-Snider, 2002) the group discussed how research findings about equity might be used in mathematics teacher education and mathematics teachers' professional development and how additional research findings could extend our knowledge base about equity in P-12 education. Equity was related (1) to giving access to learning, understanding, and applying mathematics to all students and (2) to using mathematics as an entry point to change the world (Macedo, 1994) In this discussion group, we want to understand issues related to teacher preparation and professional development when social justice is a desirable outcome. We want to address these two overarching and complementary questions: (1) the extent to which the exploration of a complex social problem requires the use of sophisticated mathematical ideas in geometry, algebra, or calculus and develops a deep understanding of elementary mathematics; and (2) the kind of non-mathematical knowledge about the problem that teacher educators and future teachers need in order to be able to use the mathematics they already know to try to solve the problem.

To explore these questions we will consider Cochran-Smith's (1999) six principles for learning to teach for social justice through inquiry and the Detroit Summer Housing Rehabilitation Project (DSHRP) as an example of a complex social problem. Information about DSHRP will be available for participants prior to the meeting at a website. In the first session we will discuss Cochran-Smith's chapter and provide details about DSHRP. In the second session, participants will create activities using DSHRP that could be used in the preparation of future mathematics teachers.

References

- Hart, L., & Alleksath-Snider, M. (2002). Achieving equity and improving teaching in mathematics education through teacher education and professional development. In D. Mewborn (Ed.) Proceedings PME-NA 26 (Vol 1, pp.153-162). Athens, GA: UGA.
- Cochran-Smith, M. (1999). Learning to teach for social justice. In G. A. Griffin (Ed.), *The education of teachers. Ninety-eighth yearbook of the NSSE* (pp. 114-144). Chicago, IL: UCP.
- Macedo, D. (1994). *Literacies of power: What Americans are not allowed to know*. Boulder, CO; Westview.