Preparing Teachers for Democratic Mathematics Education

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The Need for Democratic Mathematics Classrooms


Math is so boring that if we never had math because it is too hard. Who ever came up with math, I'm going to choke them so that they can't breathe.

PERSONALLY I THINK THERE IS NO POINT FOR MATH I MEAN ALL YOU GOTTA KNOW IS HOW TO COUNT FORWARDS AND BACKWARDS I MEAN THERE IS NO POINT FOR VARIABLES AND ALL THAT BULL COME ON NOW I HATE MATH AND I WILL NEVER GET IT I KNOW THAT FOR A FACT!! (www.gurl.com)
Word Association

- List three words that come to mind when you think back to your experiences doing/learning mathematics as a middle or high school student.
- List three words that describe how you best learn (mathematics or otherwise).
- Share your lists with 3-4 others. What themes do you find? Similarities? Differences? Recurrences?
- Discuss as a whole group.
Undemocratic Math Education

• Reasons that students reject or are rejected by mathematics are numerous including:
  • teacher/societal perceptions of ability,
  • cultural discontinuity in learning and instruction,
  • academic tracking,
  • poverty and school finance, and
  • low expectations of teachers, parents, or society
• ...practices that are inherently undemocratic.
• (Gutierrez, 2007; Malloy, in press; Volmink, 1994)
• “If children are taught mathematics well, it will teach them much of the freedom, skills, and of course the disciplines of expression, dissent and tolerance, that democracy needs to succeed” (Hannafrord, 1998, p. 186).

• But this is not democratic if offered only to privileged students...
Qualities of Democratic Mathematics Education

Democratic education...

• is accessible to all students,

• rests on the assumption that all students can learn given the right circumstances,

• provides students with an avenue through which they can learn substantial mathematics, and

• helps students develop the tools to become productive and active citizens.
Features of Democratic Mathematics Classrooms

- problem solving curriculum
- inclusivity and rights
- equal participation in decisions
- equal encouragement for success
The Complementarity of Preparing Teachers for Democratic Education

- Students had to navigate between the authority of the teacher and the authoritarianism of the school as they spoke out against undemocratic practices.
- The relationship between democracy and authority is a complementarity in that “pupils learn about democratic values, attitude and competence precisely when they show a lack of these” (Vithal, 1999, p. 33).
- As students experienced the tension between democracy and authority, they developed deeper insights into each of these concepts and became more reflective about the degree to which their own actions were democratic.
Some Key Activities

- Problem of the Day
  - Prove in two different ways why the area of a trapezoid is equal to $\frac{1}{2}(B_1 + B_2) \times H$
- Math Autobiography
- School, Community, Family Profile
- Reading Facilitation
Your Ideas and Questions

- What do you think?
- What experiences do you have to share?
References