



Take a minute....

Consider the world of
today....

What are our goals for
the education of our
children?

Living Contradictions:
Negotiating Practices as
Mathematics Teacher
Educators

“How do I improve my practice?”

Jack Whitehead (2007)

“It is living because, as people engage in understanding it, they learn more and their theory changes as they understand more. Further, because they are living what they learn, new knowledge emerges.” (Hamilton and Pinnegar, 1995 – quoted in Whitehead, 2007).

Who am “I”?

Becoming a math teacher

D'Ambrosio (my dad!)

Freire

Further development and growth:

Noddings – ethics of caring

Gutiérrez – political nature of our
work

Harkness – trust/believing game

What troubles me...
what is the big picture?

Goal of Education: to support and nurture all children to achieve their human potential

The approaches we have chosen to take limit the possibilities!

Living contradiction: Preparing mathematics teachers in light of the social cultural realities of school

What is creative problem solving and where do we teach that?

What is creativity?

Pope (2005)

“the capacity to make, do or become something fresh and valuable with respect to others as well as ourselves”

Steers (2009):

“a human attribute; most people regularly solve problems- and just as importantly pose problems that need to be solved—of all kinds in their daily lives with some degree of creativity.”

Still Steers (2009)....

“While human creativity may be directed to sustainable development, preventing disease, famine, and poverty, it may equally be directed at designing weapons of mass destruction, plotting crimes against humanity, exploiting the vulnerable or encouraging the profligate use of scarce natural resources for commercial gain.”

Creativity and schooling?

Values

Ethics

Morals

Solidarity

Responsibility

Creativity and mathematics teaching?

Preparing math teachers to consider creativity in mathematics

Gutiérrez – “Creative Insubordination” (responsible defiance)

Challenge myths ingrained in society

Myth 1: Education is schooling!

Learn from other societies that *schooling* is where children learn the ways of the “dominating people”... *education* they learn from the communities, families, and their participation in the world.

Myth 2: Teaching results in learning!

interest, motivation, intrigue
result in learning

Myth 3:
Kids will learn what we determine they
should learn!

Implications: all children learn
alike, since all children are equal!

*In fact, what do kids learn in
school?*

Myth 4:
Children's positive self-image should be
tied up with success in and love of
mathematics!

Noddings (1984): *Caring: A Feminine
Approach to Ethics and Moral
Education*

Harkness (2009): *Social
Constructivism and the *Believing Game**

A student “tells me that he hates mathematics. *Aha*, I think. *Here is the problem. I must help this poor boy to love mathematics, and then he will do better at it.* What am I doing when I proceed in this way? I am not trying to grasp the reality of the other as a possibility for myself. I have not even asked: *How would it feel to hate mathematics?* Instead, I project my own reality onto the student and say, *You will be just fine if only you learn to love mathematics.* [...] Bringing him to “love mathematics” is seen as a noble aim. And so it is, if it is held out to him as a possibility that he glimpses by observing me and others; but then I shall not be disappointed in him, or in myself, if he remains indifferent to mathematics. It is a possibility that may not be actualized.”

“What matters to me, if I care, is that he find some reason, acceptable in his inner self, for learning the mathematics required of him or that he reject it boldly and honestly. *How would it feel to hate mathematics? What reasons could I find for learning it?* When I think this way, I refuse to cast about for rewards that might pull him along. He must find his rewards. I do not begin with dazzling performances designed to intrigue him or to change his attitude. I begin, as nearly as I can, with the view from his eyes: *Mathematics is bleak, jumbled, scary, boring, boring, boring ... What in the world could induce me to engage in it?* From that point on, we struggle together with it.”

Living contradiction: Holding visions of good teaching and honoring the vision of others

My visions of good teaching – shapes what I do with my future teachers

- I expect them to act like me in their interactions with children!
- I have failed to honor their voice, their identity, and their visions of good teaching.
- I have failed to honor their personal/professional projects for themselves.

Living contradiction: What counts as success?

How might I hold a vision of success aligned with my beliefs and values?

Living Contradictions: Scholarship of Teacher Education

- Writing for publication
- Reviewing and judging the work of others
- Conducting research (protocols for IRB)
- Applying for grants and funding

Hope and hopelessness

Freire

“Hopelessness and despair are both the consequence and the cause of inaction or immobilism.” (p.3, Pedagogy of Hope)

Still Paulo Freire....

The struggle to bring dignity to the practice of teaching is as much a part of the activity of teaching as is the respect that the teacher should have for the identity of the student, for the student himself or herself, and his or her right to be. (pg. 64, Pedagogy of Hope)

Final Thoughts

Mathematics education has been remiss by attending exclusively to the goal of improving students' scores on standardized tests rather than engaging in the reflections needed for realizing the goal of achieving education that prepares humans to partake in creating a better world.

A society with equity and justice begins in classrooms. Classrooms today mirror the ills of society at large, with oppression of students, power relations that segregate students, evaluation procedures that add to the anguish of students and further differentiate those who will lead and those who will be oppressed.

Teacher education and leadership preparation that changes the social order in classrooms and prepares teachers in the ethics of diversity is a first step. Building classrooms where the social order is one of respect, solidarity, and collaboration will go a long way towards the education of children who can envision these human relations in the world around them.

Next Steps

That Mathematics Teacher Educators explore our **living contradictions** and creatively collaborate towards the preparation of teachers and leaders who are willing to take risks and who strive to create educational environments that foster and nurture the development of every child as a thriving, viable, creative, responsible, moral, confident, collaborative, loving and caring human-being.

United Nations (July 26, 2013)

No person should go hungry, lack shelter or clean water and sanitation, face social and economic exclusion or live without access to basic health services and education. These are human rights, and form the foundations for a decent life.

Thank you!