

Developing an Equity Leadership Lens

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TODOS 2014 Conference

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Kay Gilliland

Some Background

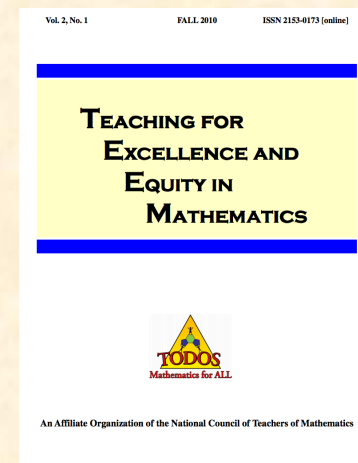
Equity in Mathematics Education
Leadership (EMELI) – Julian Weissglass

Equity in Mathematics

A definition of equity

Four dimensions of equity

- Access
- Achievement
- Identity
- Power



A definition of equity

Four dimensions of equity

- Access
 - Quality teachers
 - Rigorous curriculum
 - Adequate supplies
 - Technology

A definition of equity

Four dimensions of equity

- Achievement
 - Standardized test scores
 - Course taking patterns
 - Participation in math classes/courses

A definition of equity

Four dimensions of equity

- Identity
 - Meaningful in students' lives
 - Draw on culture and language

A definition of equity

Four dimensions of equity

- Power
 - In the classroom
 - Who gets to talk?
 - Who has the mathematical power?
 - How are contributions acknowledged?

Leadership

- Leadership is taking responsibility in what matters to you.
- How do we continue to develop our leadership in mathematics equity?
- How do we develop that leadership of others?

Equitable Practices in Mathematics Classrooms: Research-Based Recommendations

Moschkovich, Judit

Discussion and Reflection Enhancement (DARE)

Pre-Reading Questions

- What dimensions would you include in a definition of equity?
- What recommendations for equity in mathematics classrooms have you come across? Are you aware of research that supports these recommendations.

Post-Reading Questions

- Consider the four dimensions of equity (access, achievement, identity, and power) and discuss how each plays out in your classroom or in your school.
- What teaching characteristics are successful with students from non-dominant communities? Which characteristic do you think is the most essential and why? Which characteristic do you think is the most challenging and why?

Dyad Process

- One partner talks for 2 minutes.
- Second partner listens.
- Roles are reversed.
- What is shared stays between the partners UNLESS the person who shares decides to share with others.

Uncovering Bias in the Classroom

Dyad Process

- One partner talks for 2 minutes.
- Second partner listens.
- Roles are reversed.
- What is shared stays between the partners UNLESS the person who shares decides to share with others.

Dyad Prompt

Uncovering Bias in the Classroom

What are some thoughts that come to mind as you think about this story?

Note to attendees: The author of the booklet I read from is Maryann Wickett. It was published by the Center for Educational Change in Mathematics and Science at UCSB. Although the little booklet read is no longer available, I have found

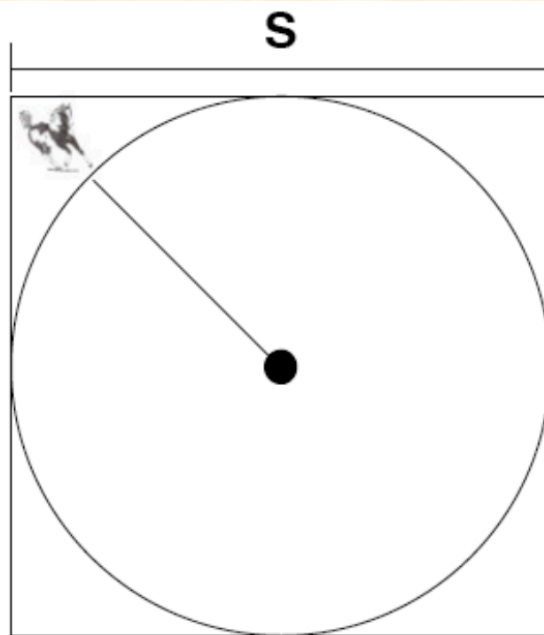
- it published in the NCTM 1997 yearbook: Multicultural and Gender Equity in the Mathematics Classroom: The Gift of Diversity.
- a version at

http://elem-math.wiki.educ.msu.edu/file/view/16_Wickett_NCTMYrbk97_bias.pdf/243095535/16_Wickett_NCTMYrbk97_bias.pdf

You might be interested in Wickett, M. “Nurturing the Voices of Young Mathematicians in Dyads and Group Discussions” in *Teaching Children Mathematics* (February 2000): 412-415.

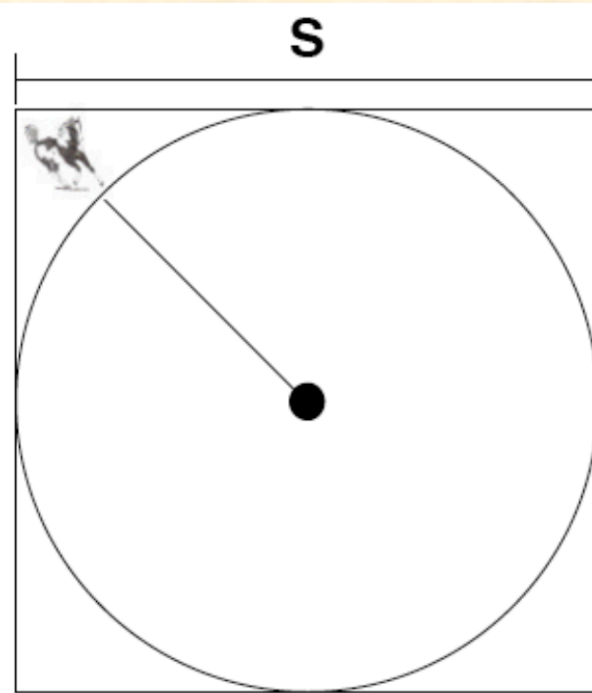
Let's do some math

Sa bukid, mayroong isang kayumangging kabayo na ang pangalan ay Travieso. Lumalakad ito sa pinakamalaking pasabilog na daan sa loob ng kuwadradong bakod. Ang sukat ng harapan ay “s” kahaba. Ito ay nakatali sa polo na nasa gitna ng bakod. Magsulat ng algebrang pahayag para mairepresenta kung gaanong kalayo ang nalakad ni Travieso pagkatapos ng tatlong ikot.



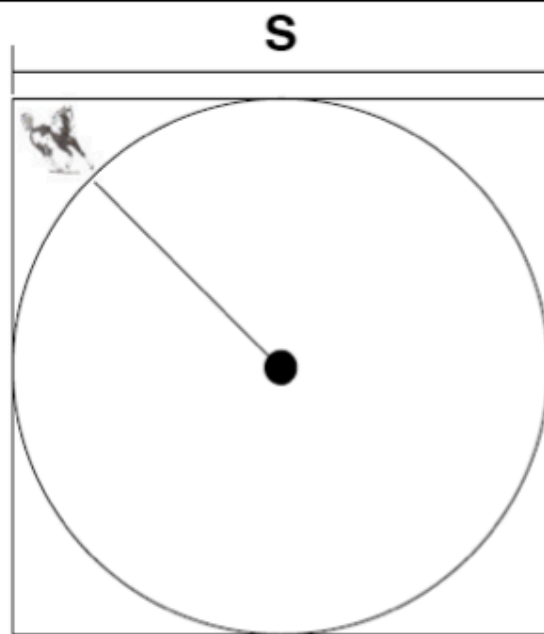
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On a farm, there is a brown horse named Travieso. He walks the largest circular path possible inside his square corral. The front side of

his corral measures “ s ” units long. He is tied to the center with a pole. Write an algebraic expression to represent the distance Travieso covers after walking around the corral three times.



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Barnga

- An interactive game
- Participants experience cultural shock
- They move from their group to another group who appears to be playing the same game
- The differences among groups hinder a person's ability to function in the new group.
- Participants are led to the realization that, in spite of surface similarities, people from other cultures have differences in the way they do things.
- A person has to reconcile these differences to function effectively in a cross-cultural group.

Sophie

<http://kjzz.org/content/223/sophies-teacher>

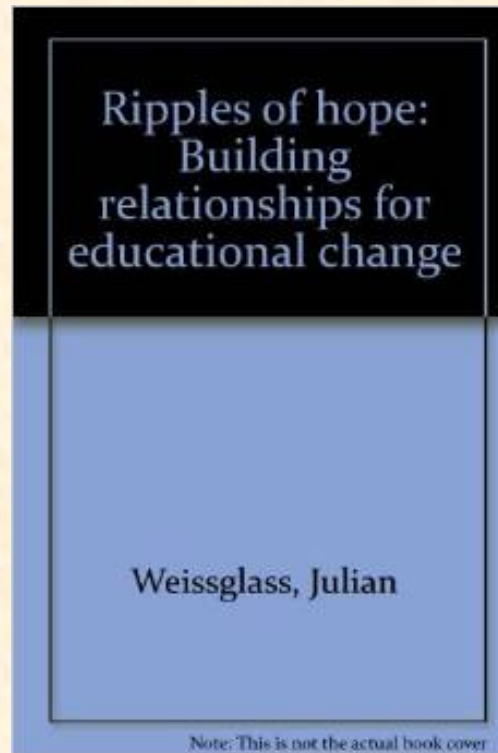
THE ROLE OF ASSENT IN LEARNING

*I Won't Learn
from You!*

Herbert Kohl

Thistle Series of Essays

Telling Our Stories: Afraid to Take Risks



Ripples of Hope: Building relationships for educational change

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IN THIS ISSUE:

- Developing Culturally Responsive Mathematics Teaching (Part I), p. 2
- News from the President, p. 2
- Honoring Susie Håkansson, p. 4
- TODOS LIVE! Session 3, p. 5
- The 2012 TODOS Elections are Coming up!, p. 5
- Support TODOS with a Donation, p. 5
- TODOS Mission: Are We on Target?, p. 5
- TEEM Vol. 4 Now Available!, p. 5
- Developing Culturally Responsive Mathematics Teaching (Part II), p. 6
- The NCTM News, p. 7
- TODOS' Iris Carl Award Nominations, p. 7



An Affiliate Organization of the National Council of Teachers of Mathematics

TEEM

The mission of TODOS: Mathematics for ALL is to advocate for an equitable and high quality mathematics education for all students—in particular, Hispanic/Latino students—by increasing the equity awareness of educators and their ability to foster students' proficiency in rigorous and coherent mathematics.

Fall 2012

Noticias de TODOS

Noticias

Developing Culturally Responsive Mathematics Teaching (Part I)

By Julia Aguirre
Assistant Professor, University of Washington Tacoma



Culturally Responsive Mathematics Teaching (CRMT) is effective mathematics teaching that advances students' understanding of mathematics while affirming their intellectual, cultural, linguistic, political, and emotional contributions. Gay [1] states that it is designed to empower "ethnically diverse students by simultaneously cultivating their cultural integrity, individual abilities, and academic success" (pg. 44). To implement CRMT, teachers must develop specific pedagogical knowledge, dispositions, and practices that privilege mathematical thinking, cultural and linguistic funds of knowledge, and recognize issues of power and social justice in mathematics education [2, 3, 4].

Through research and professional development experiences with k-8 pre-service and in-service teachers, my colleagues and I have identified six dimensions of CRMT related to the two main goals of CRMT, which are student development of *mathematics thinking* and *equity in the mathematics classroom* [2, 3, 4].

Dimensions of CRMT and Guiding Questions

Among our previously published articles, we describe each of the dimensions and propose a *CRMT-Lesson Analysis Tool*. The tool, organized in a chart format, includes, for each dimension, a guiding question for teachers to think about when designing and critically reflecting upon their mathematics lessons. The full version in the TEACH MATH public website includes a rubric with specific descriptions of each dimension [5]. In this article, I only include each guiding question followed by answers to help get a grasp of how to develop each dimension of teaching in a culturally responsive manner. The goals and dimensions are:

Mathematics Thinking

1. Cognitive Demand
2. Depth of student knowledge and understanding
3. Mathematics Discourse

Equity in the Mathematics Classroom

4. Power and Participation
5. Academic Language Support for ELLs
6. Cultural/community-based funds of knowledge/social justice

Aguirre, continued on p. 2

CEMELA CPTM TODOS Conference Proceedings

CEMELA-CPTM-TODOS Conference Practitioners and Researchers Learning Together: A National Conference on the Mathematics Teaching and Learning of Latinos/as

Mathematics of the Americas

ACTIVITY BOOKLET



Activities to use with the poster set



MATHEMATICAL NOTATION COMPARISONS BETWEEN U.S. AND LATIN AMERICAN COUNTRIES

Other Resources

- Chapter 1 of *Beyond Good Teaching: Advancing Mathematics Education for ELLS*
Celedón-Pattichis, Sylvia and Ramirez, Nora G. (Authors, Editors). Reston, VA: NCTM. 2012
- NCSM and NCTM position papers on equity

Next Steps -- Equity