EQUITABLE MATHEMATICS CLASSROOMS

WHAT DO THEY LOOK LIKE & WHY ARE THEY SO DIFFICULT TO ACHIEVE?

STANFORD SCOPE

BROWN BAG SEMINAR

MONDAY 25 FEB 2013
CERAS 101 LEARNING HALL

SKETCHNOTES BY
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STUDENT
MATHEMATICAL
PATHWAYS

RELYING ON RULES
MAKES PROBLEM SOLVING
MORE COMPLICATED.

STUDENTS DON'T
FEEL SAFE
EXPLORING THEIR
OWN IDEAS

LOW ACHIEVING STUDENTS...

LEARNING A HARDER
FORM OF MATH

LESS LIKELY TO VIEW
MATH AS A SET OF
NUMBERS OR SHAPES THAT
THEY CAN USE FLEXIBLY.

COMPRESS IDEAS
LESS

SEE MATH AS
AS A SET OF
RULES.

DO THIS...

NOT THIS...

AND THEN
DO THIS...
EXPLORATORY
ALGEBRA CLASS - 5 WEEKS

ALGEBRA AS A PROBLEM SOLVING TOOL

4 TEACHING PRINCIPLES

1. ENGAGE STUDENTS AS ACTIVE & CAPABLE LEARNERS

2. TEACH MATH PRACTICES
   - REASONING
   - REPRESENTING
   - GENERALIZING

3. DEVELOP A COLLABORATIVE MATH COMMUNITY

4. GIVE OPPORTUNITIES FOR EXPLORATION

RESULTS

- ACHIEVEMENT
- ENGAGEMENT & ENJOYMENT
- FUTURE SUCCESS

WHY ARE EQUITABLE MATH CLASSROOMS SO DIFFICULT TO ACHIEVE?

- DAMAGING MATH PATHWAYS
- FIXED MINDSET THINKING
- PARENTS & SOCIETY
- WIDESPREAD CONSERVATISM
  (EG. KHAN VIDEOS)
- COCOONING OF RESEARCH KNOWLEDGE