Critical Education in Science, Mathematics, and Technology Group (CESMT)

University of San Francisco, School of Education

Nathan Alexander, Ph.D., University of San Francisco
Jacob Williams, 10th Grade, Oakland School for the Arts
Mariflor Medrano, Middle School Math/Science, Masters Candidate, University of San Francisco
Rick Ayers, Ph.D., University of San Francisco

2016 Creating Balance Conference

CESMT Mission Statement

The Critical Education in Science, Mathematics, and Technology Group (CESMT) brings together a community of pre-service and in-service teachers and critical scholars committed to developing social justice pedagogy in K-12 mathematics, science, and technology-related education. Through a critical reexamination of the foundational purposes and meanings of Science, Mathematics and Technology (S,M,T) fields, we work to reframe and reimagine these disciplines in ways that are rooted in values of political, economic, environmental and social justice. We work to construct a home-place for reflection and practice in science, mathematics, and technology education through ongoing relationships between students, teachers, communities, and researchers.

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Today's Plan

Part 1:   CESMT at USF's School of Education

"What are some conceptions of critical education?"

Part 2:   Critical Lesson Engagement + Action

"A mathematical model of gentrification"

Part 3:   Community Discussion

"Being reflective, critical, and creative in math"

definition

critical theory

/ˈkridək(ə)l/ ˈTHēərē/

noun

1. a school of thought that stresses reflective assessments and critiques of society and culture by applying knowledge from the social sciences and the humanities.

definition

gentry
/ˈjentrē/
noun

1. people of good social position, specifically the class of people next below the nobility in position and birth.
2. well-born, genteel and well-bred people.
3. people of a specified class or group.

definition

gentrification
$\,$ \ˌjen-trə-fə-ˈkā-shən\
$\,$ noun

1. the influx of middle-class or affluent people into deteriorating areas that often displaces poorer residents through an accompanying process of "renewal" and "rebuilding".

Two types of gentrification:
$\,$ **food** gentrification, **housing** gentrification

index of dissimilarity

$$\frac{1}{2} \sum_{i=1}^{N} \left| \frac{b_i}{B} - \frac{w_i}{W} \right|$$

The index of dissimilarity is a demographic measure of the evenness with which two groups are distributed across component geographic areas that make up a larger area.

community discussion

Being reflective, critical, and creative with mathematics

What is a social justice approach to what we think mathematics is…