

Empowering Students: Social Justice Mathematics Teaching in Elementary Classrooms

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To have more equitable and socially just schooling,
we need to rethink mathematics education

(Koestler, 2012)

What is teaching for social justice?

Equity Pedagogy
(Banks & Banks, 2006, Cohen & Lotan, 2004)

Multicultural Education

(Nieto, 2000; Sleeter & Grant, 2009)

Anti-Racist Pedagogy
(Derman-Sparks & Ramsey, 2005)

Democratic Education

(Apple & Beane, 2000)

Critical Pedagogy

(Apple, et al., 2009, McClaren, 1998)

Culturally Relevant Pedagogy
(Ladson-Billings, 1994)

To teach for social justice...

- Teachers promote equitable practices. Equity
Pedagogies
- Curriculum includes current issues involving social injustices, including racism, classism, sexism, genderism, (dis)ability, etc. and uses students' life experiences on which to build. Compelling and
Responsive
Curriculum
- Students are engaged in critical thinking, dominant and critical Discourses, understanding alternative viewpoints, social action, and democratic decision-making; and supported in becoming empowered citizens. Critical Approach

(Gutstein, 2006; Ladson-Billings, 1994; Sleeter and Grant, 2009)

Why teach math for social justice?

- The Gaps
 - Achievement (e.g., Lee, 2005)
 - Resource (Kozol, 1991, 2005; Secada, 1992)
 - Opportunity (DiME, 2005; Oakes, 1985, 1990, 2004)
- Diversity of the U.S.
- Political nature of teaching and schooling
(e.g., Apple, 2003; Gutstein, 2006, 2007)
- Purposes of Education

The 3Cs (Gutstein, 2006, 2007)

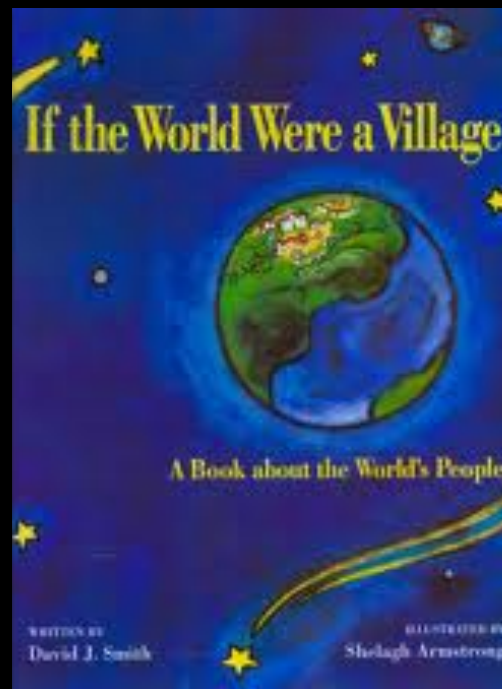
- **Classical Mathematics**
 - Formal, in-school mathematics (NCTM, 2000; CCSSM, 2010)
 - Learned *with understanding* (Carpenter & Lehrer, 1999; NCTM, 2000)
- **Community Mathematics**
 - Out-of-school mathematics (Civil, 2007; González, Moll, & Amanti, 2005)
- **Critical Mathematics**
 - Mathematics used to understand and/or analyze issues of equity and social (in)justice
(Frankenstein, 1995; Gutstein, 2006, 2007; Skovemose, 1994)

Teaching Mathematics for Equity and Social Justice

Teaching Mathematics

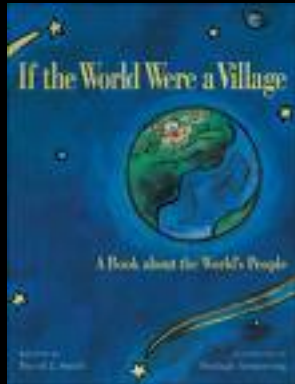
What might this look like in elementary classrooms?

If the World Were a Village



If the World Were a Village: A Book about the World's People

By David J. Smith & illustrated by Shelagh Armstrong



World Population: 6,750,000,000

32 countries have more than 40,000,000

11 countries have more than 100,000,000

China: 1,300,000,000

India: 1,100,000,000

Village of 100 people:

One person represents 67,500,000 people

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- ✓ Each group should sketch a few graphic representations of the data.
- ✓ Choose two to share on chart paper.
- ✓ Discuss the following:
 - What mathematics concepts were involved?
 - How does your representation communicate the data?
 - What questions do you have about the data?

Nationalities

- 61 are from **Asia**
- 14 are from **Africa**
- 11 are from **Europe**
- 8 from **South America, Central America (including Mexico), and the Caribbean**
- 5 from **Canada and the United States**
- 1 is from **Oceania** (includes Australia, New Zealand, & islands in the south, west, and central Pacific)

More than half
come from:
China (20)
India (17)
U.S. (5)
Indonesia (4)
Brazil (3)
Pakistan (3)

Languages

- 21 speak a **Chinese dialect** (16 speaking **Mandarin**)
- 9 speak **English**
- 9 speak **Hindi**
- 7 speak **Spanish**
- 4 speak **Arabic**
- 4 speak **Bengali**
- 3 speak **Portuguese**
- 3 speak **Russian**
- The rest speak almost **6000 different languages**

Religions

- 33 are **Christians**
- 21 are **Muslims**
- 13 are **Hindus**
- 9 practice **shamanism, animism, and folk religions**
- 6 are **Buddhists**
- 2 belong to **global religions, such as the Baha'I faith, Confucianism, Shintoism, Sikhism, or Jainism**
- 1 is **Jewish**
- 15 are **non-religious**

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- ✓ Each person should sketch a few graphic representations of the data.
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- ✓ Discuss the following:
 - What mathematics concepts were involved?
 - How does your representation communicate the data?
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Religions

Nationalities

Languages

Questioning the Text Itself

Nationalities: Why did the author decide to put Mexico with Central and South America, when it is “officially” part of North America?

Religions: Why do you think the author used the term “folk religions” and what connotations does the word “folk” have? Where do agnostics fit?

Languages: How does this data compare to the language diversity in the United States? Are there resources in U.S. schools (or in our school district) to address the language diversity of our students and are they equitable?

Reflection Questions

What does the task communicate about mathematics?

How are classical, community, or critical mathematics included?

Are there multiple entry points to the task?

How does this link to the content and process standards?

What are the advantages and disadvantages of the task?

Thank you!

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