



Equity, Social Justice, and the Mission of TODOS: Connections and Motivations

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Abstract

Equity and social justice are shown to be intertwined with each other and with the TODOS mission. Also, Shaughnessy (2007) and the author's pilot survey of in-service secondary teachers suggest interaction (or even interference) between students' prior concepts of fairness and certain mathematics/statistics topics. Recommendations for exploration are provided.

Discussion And Reflection Enhancement (DARE) Pre-Reading questions:

1. How are equity and social justice different?
2. How are equity and social justice connected?
3. How are equity and social justice related to the mission of TODOS (or to the theme of this journal)?

“DARE” Post-Reading questions appear at the end of the article. This article (without DARE questions) originally appeared in Fall 2008 *Noticias de TODOS*.

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Equity, Social Justice, and the Mission of TODOS

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Equity Involves Social Justice

Equity has recently drawn much attention in mainstream mathematics education, as reflected by the first Mathematics Education Equity Summit (hosted by NCTM in February 2008 and also attended by representatives of Association of Mathematics Teacher Educators, Benjamin Banneker Association, North American Study Group on Ethnomathematics, National Council of Supervisors of Mathematics, TODOS, and Women and Mathematics Education), the first leadership principle of NCSM (2008b), the position statement by NCTM (2008), the inauguration of the Iris M. Carl Equity Address (at NCTM's 2008 Annual Meeting), the professional development focus for 2008-09 by NCTM, and classroom explorations (e.g., McCoy, 2008).

TODOS' mission advocates for an *equitable* mathematics education. Having to ask for something equitable, however, suggests that there have been inequities and that addressing them is a matter of social justice. Indeed, the first *Standards* document of NCTM (1989, p. 4) asserts: "The social injustices of past schooling practices can no longer be tolerated." Unfortunately, some inequities persist in varying degrees and forms. For example, public schools in heavily-minority neighborhoods are less likely to be well-funded or have teachers who are highly qualified or certified in the subject they are assigned to teach (Flores, 2008).

And the report by The Education Trust (Arroyo, 2008) shows that high-ELL districts generally receive less financial support than do districts with few or no ELLs.

Complete understanding and attainment of equity, therefore, is not possible without the perspective of social justice. An explicit connection between equity and social justice also appears in the position paper of NCSM (2008a, p. 1):

"We believe inequities caused by lack of student access to mathematical knowledge and the opportunity to learn this mathematics knowledge must be addressed using a systematic process. This can best be accomplished when all mathematics educators respond to equity as a meaningful process to address social justice issues of race, language, gender, and class bias."

The equity model of Gutiérrez (2008) [see first article of this issue] entails not just equality on conventional measures of access and achievement, but also empowerment of students to use their distinctive strengths and mathematics tools to address social problems or injustices where they live.

Exploring Social Justice

Nevertheless, some individuals express discomfort about connections between equity

and social justice, labelling the latter as unduly radical, communist, etc. So the aim of this article is to reflect on how social justice connects to the TODOS mission in more than just a narrow “radical” way. Last year, at the first annual Conference on Math Education and Social Justice (attended by over 500 participants from a broad spectrum nationwide), TODOS was an official partner/exhibitor and had members who gave talks, including plenary panel speaker Rico Gutstein. Gutstein is a prominent leader in social justice math and his work (e.g., Gutstein and Peterson 2005, Gutstein 2006) inspired the first comprehensive application to the context of statistics education (Lesser, 2007).

Those new to the topic could start with Murrey and Sapp (2008) and then move on to the aforementioned Gutstein or Lesser references. Two distinctive features of Lesser (2007) are its extensive, readily browsable resources (because the article is electronic) and also how it situates the topic among mainstream precedents -- as potentially neutral or apolitical as mainstream curriculum. Lesser (2007, p. 10) illustrates this claim with this question from Long Island University Professor Kathleen Kesson:

“Why is there an assumption that people who wish to bring real world social justice issues into the math curriculum are any more ‘ideological’ than teachers who teach from a math textbook in which the word problems feature product placement for Nike shoes, Barbie dolls, or Cocoa Frosted flakes? Both approaches claim that their goal is ‘relevance’. While the former might actually get students to think about housing patterns or the

incidence of asthma in their neighborhoods, the other seems geared to encourage mindless consumption. Now isn’t that just a tad ideological?”

In a related spirit, Eglash (2008, p. 11), while making a case for ethnomathematics in the classroom, states:

“While the political right has a tradition of covering up the human rights violations of capitalism, the political left has been guilty of avoiding critique of human rights violations of socialism....We need not worry about imparting some particular political line in order to convey social justice; it is enough to provide students with the tools of thought and the information about the world that will allow them to make their own decisions.”

And regardless of an educator’s own beliefs about any particular context, she can always play devil’s advocate to encourage students to develop their own reasoning skills by asking questions like “What other interpretations are consistent with this data?” or “What further data would you need to collect to investigate that conjecture you just made?”

Educators can integrate social justice into curricula in a variety of ways and there is a continuum of levels of involvement, ranging from having students apply predetermined statistical methods to predetermined datasets to offering students opportunity to discuss the context, choose the social justice topic(s), and find (or even collect) the data.

Additional Motivation

While offering equal opportunities to learn is itself a matter of social justice, social justice can also play a role in helping engage less-motivated students by offering curricular contexts authentically and perhaps connected intimately with their own reality. For example, there was recently a story in the *El Paso Times* with the headline “Study: Hispanics, blacks pay more for mortgages.” Students seeing such articles should feel empowered to apply their mathematics knowledge to explore what this story says and doesn’t say. Perhaps this is one way to move students toward “rigorous and coherent mathematics” as the TODOS mission demands. When Kitchen (1999, p. 321) asked his pre-service high school teachers to look at each day’s local newspaper over a two-month period to examine what types of articles incorporate statistics, they found the most common theme in the articles was race or ethnicity and that “the more relevant that the data were to the students, the more willing that they were to analyze the data.”

Finally, all teachers – regardless of their level of commitment to social justice – must be prepared to address how students’ concepts of “fairness” may impact how they encounter standard mathematics concepts. For example, consider the “fairness” of random assignment of treatments in the context of doing experiments. Vogt (2007) presents a counterargument some students may believe that treatment resources should be assigned to be neediest students or patients, not the luckiest. Also, Shaughnessy (2007, p. 985) reports on research by himself and others that shows that precollege students do not value randomization in

surveys because they find it “unfair” that each student doesn’t get to choose whether to be in the survey or if a random sample does not happen to pick students from all possible subgroups.

Even when $N = 8$ inservice secondary school teachers in the author’s graduate mathematics education research class were asked to evaluate the results of a random sampling process from a given hypothetical school population, five of them gave answers that focused not on the purpose of the survey or on the randomization in the process, but on the bottom line of whether all demographic groups were represented or represented in proportion to the population. So, the values of social justice people already have when they enter the classroom can impact the learning process.

In summary, social justice is not only a goal consistent with TODOS’ call for equity, but can also be a vehicle, through supplying meaningful real-world contexts that motivate commitment to mathematics/statistics as a set of tools (e.g., proportional reasoning, expected value, probability, regression, etc.) that allow us to identify and quantify inequities that help us understand (and maybe even improve) some of our society’s most profound or pressing problems. Engaged by these topics, students may want to be more meaningfully engaged with our subject and with our world and thus help make our subject matter (Lesser, 2007).

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“The vision of equity in mathematics education challenges a pervasive societal belief in North America that only some students are capable of learning mathematics.”

—*Principles and Standards of School Mathematics* (NCTM, 2000, p. 12)

Discussion And Reflection Enhancement (DARE) Post-Reading Questions

1. What are some specific ways in which social justice can be a vehicle for introducing and engaging specific mainstream mathematics topics? [hint: see Lesser(2007) from the References]
2. Watch <http://www.amstat.org/education/webinars/UsingSocialJusticeExamples.wmv> (a half-hour ASA webinar recorded live November 25, 2008 on teaching K-12 mathematics/statistics using social justice examples) or browse the collection of social justice examples at <http://www.radicalmath.org>. Discuss how you might adapt one of the examples for your classroom.
3. Is Timothy Chambers' letter about expected value on p. 172 of the October 2009 *Mathematics Teacher* another example of Lesser's claim that "the values of social justice people already have when they enter the classroom can impact the learning process"? Explain.
4. What might be some specific ways in which, as the article says, your students might "use their distinctive strengths and mathematics tools to address social problems or injustices where they live"?
5. How can social justice examples readily involve all six levels of Bloom's Taxonomy, the "use real data" recommendation of ASA's *Pre-K-12 Guidelines for Assessment and Instruction in Statistics Education* (<http://www.amstat.org/education/gaise/>), and, in general, offer an opportunity for learning mathematics at a high level of quality, rigor, coherence, and excellence?
6. Is incorporating awareness of equity and social justice into one's teaching a neutral, "value-free" act? Why? Is ignoring equity and social justice a neutral, "value-free" act? Why?
7. What actual and potential roles for equity and social justice awareness do you see at your school or in the mathematics education organizations to which you belong?
8. Why do you think equity and social justice have recently received such increased attention?

"DARE to Reach ALL Students!"

