**Creating Balance in an Unjust World**

**Sample Session Proposal**

**1. Session Title:**

Social Justice Mathematics and Critical Media Literacy: Children’s Toys and Body Image

**2. Session Abstract/Summary:** (Please describe your session in 100 words or less. Your session description will be used in the conference program.)

In this session participants will engage in a hands-on math activity in small groups investigating the proportions of the children’s dolls, such as the new "curvy Barbie" (and male dolls too, however gender is fluid and not binary, I could not find dolls to represent this) after a brief discussion of Social Justice Mathematics. The mathematics will be differentiated by participants’ choice to investigate either middle school math of ratio and proportion or high school statistics of normal distribution and z-scores. Participants will discuss how the media influences body image as well as discuss gender disparities in STEM achievement.

**3. Session Theme:** (Please describe how your session addresses the theme of Decolonizing STEAMM Education. STEAMM stands for Science, Technology, Engineering, Arts, Mathematics, and Making.)  
  
In this session participants will have the opportunity to discuss how media and capitalism influence how children, as well as adults, see themselves – their bodies as well as their gendered roles in society. The session invites discussion of dismantling patriarchy, dismantling the gender binary, and how we can engage students with similar activities to foster their critical thinking and develop their critical consciousness. This session also aims to build a community amongst participants to share activities through the Creating Balance resources site and via email, Facebook, and other social media outlets if participants wish.

**4. Maximum Number of Participants:**30 (materials and manipulatives are needed and I have enough for approximately 30 participants.)

**5. Session Outcome and Goals:** (Describe what participants will get out of the session and what your goals are for the session. You may include goals that go beyond the scope of this conference, ie: create a network of teachers who share lessons and engage in ongoing discussions/suggestions about teaching math and social justice.)

Participants will engage in a hands on math activity in small groups investigating the proportions of the new "curvy Barbie" (and male dolls too), discuss how media influences body image, and then consider ways to incorporate social justice and equity issues in their own curricula (of their own subject area).

* Allow participants to experience various groupwork formats and activities
* Engage in a social justice math activity through hands-on interactions.
* Discuss benefits as well as challenges of social justice mathematics.
* Discuss gender norms and breaking the gender binary.
* Create a network to share lesson plans and activities.
* Consider intersections of social justice mathematics and other subject areas.

**6. Brief Outline/Agenda:** (Please outline your ideas and describe activities participants will engage in.)

1. Team Builder Yarn Challenge: The workshop will begin with a quick icebreaker for participants to meet the people sitting at their table (or closest to them if there are chairs/desks rather than tables).
2. Review Agenda and Introductions
3. I will review what Social Justice Mathematics (SJM) is and dilemmas of engaging in SJM. This review will be based off of the attached paper: Kokka, K. (2015). Addressing Dilemmas of Social Justice Mathematics Instruction through Collaboration of Students, Educators, and Researchers. *Educational Considerations*, 42(3), 13-21. <https://www.researchgate.net/publication/283517192_Kokka_K_2015_Addressing_Dilemmas_of_Social_Justice_Mathematics_Instruction_through_Collaboration_of_Students_Educators_and_Researchers_Educational_Considerations_42_3_13-21>
4. Participants will then engage in a hands-on activity investigating the proportions of the new “curvy Barbie” <http://www.bbc.com/news/world-us-canada-35432314> and the proportions of the Ken doll and another male doll. Participants will work in small groups. I will introduce this activity with a brief discussion of media, body image, and disparities in STEM achievement. We will pick up this part of the discussion after engaging in the mathematics as seen in line 8 of this outline.
5. Participants will use ratio and proportion and will also use statistics to look at the z-scores of the doll’s measurements in comparison with data of American’s taken from the CDC. The activity will be differentiated because it is my understanding that the SFSU Metro faculty will be from different subject areas, some with and some without backgrounds in mathematics. I will bring dolls with me, and each group will choose which doll they want to measure. They will also be given measuring tape and string to help measure the doll. They will be expected to work in groups together on the task.
6. They will be asked questions such as: What would your doll look like if s/he were the height of the average American? What would the z-scores be of your doll’s measurements in comparison to the average American, according to the CDC data. (Groups will need to look up the height of the average American. I will give an abbreviated version of the CDC data. This data set includes Height, Weight, Head circumference, Waist circumference, Midarm circumference, Upper arm length, Upper leg length.) This activity is inspired by Mukhopadhyay, S. (2013). Deconstructing Barbie. In Gutstein, E. & Peterson, B. (2013). Rethinking Mathematics: Teaching Social Justice by the Numbers. Rethinking Schools (pp. 200-201).
7. After working in small groups we will engage in a whole group conversation about the mathematics and what we notice and wonder.
8. We will then engage in a discussion about critical literacy, media, body image, and disparities in STEM achievement by gender (and race, etc. if the group wants to broaden our conversation.)
9. We will then discuss how issues of critical literacy and/or social justice mathematics may be used in their own classrooms. Participants will talk and brainstorm in small groups before talking as a whole group. We will re-group into subject specific groups if participants wish.
10. We will conclude with reflections from the group. After small group time to reflect on what we’ve learned, what questions we still have, and what challenges we anticipate, we will come back to discuss as a whole group. Then we will stand as a whole group circle and go around the circle with one word that exemplifies what each participant is taking away from the session.

**7. Primary Audience:** (ie. high school math teachers, high school social studies teachers, elementary teachers, professors, parents, students, community activists, etc.)

This session is useful for classroom teachers of all subjects and all grade levels. Examples will be of middle and high school math classes but is applicable for any grade level. This session is also good for parents, professors, students, and community members to learn about and voice opinions about different approaches to math education.

**8. Audio-Visual (A/V) Equipment Needs**  
Specify any A/V equipment you will need (overhead projector, digital projector, TV, etc.)

A digital projector and speakers are necessary for the video viewing and Powerpoint. I can bring portable speakers if need be!

**9.** Will students be involved in *facilitation* of the presentation? \_\_\_\_\_ Yes \_\_\_\_*X*\_\_ No  
How so?

I would love to have students come in and explain their perspective about learning mathematics in this manner. At this time I cannot guarantee that this is possible but I will work on it!

10. Is the session intended for student *participants* (in addition to educators, parents, activists, etc.)? How so?

Yes, this is intended to have student participation for high school aged students and older. Students will have the opportunity to experience a math setting using group work as well as express their opinions about different learning opportunities they are presented with.