**Teacher Learning Co-Op 2015 – Overview of Tasks**

**“Arts-Based Approaches to Mathematics Instruction in the Junior Classroom”  
Robyn Ecclestone & Sarah Hill**

Transformational Geometry

* 6 word memoir- Reflection
* Discussion came out of read aloud “Glory Be” re: Ally Stance vs. Saviour Complex
* Students discussed the motivation of Glory and Laura and whether or not they thought they adopted an ally stance or a saviour complex
* Some students thought Laura (from Ohio) was acting more like a saviour than an ally because of the fact that her mother was coming to “help/save” the Negros, poor people
* In math, we were learning about transformational geometry and so we made this link
* Students will create a 6 word memoir that shows an ally stance
* Using the 6 word memoir, they were reflect it to make a kaleidoscope design

Movement Lessons

* Students created a chain of movements to show various transformations and then drew their movement sequence on a grid and described the transformations
* Students created a chain of movements to represent a fraction being reduced to simplest form (e.g- started with 10 kids moving out of 15, then reduced to 2 moving out of 5)

Number Sense: Fractions, Decimals & Percent

* Mini-lesson- Equivalent Ratios
* Read the students “If the world were a village..”
* Divide students into teams—population, wealth, infant mortality, literacy rates, etc and students will take the % (out of 100) and create an equivalent ratio out of 25 to see how many students in our class would be….and create a fraction, decimal and percent—use hundredths grids to represent each
* Unemployment, life expectancy
* Aboriginal information – over representation in justice system, life expectancy
* Culminating Task—Students pick out an occupation, education and salary, family structure and then were given options for housing costs, transportation, food, clothing, etc and students needed to decided based on their given information, what % of their salary was going to each area

Modelled Idea—use the Cost of War

* Writing in Role- choice of journal entry, letter to Municipal or Provincial government about raising minimum wage, editorial.

*Excerpt from Handout at York University April 2015- Workshop to Pre-Service Teachers*

By allowing students to physically experience math, we are providing them with a kinaesthetic opportunity to make sense of concepts which are often abstract.

* **Geometry & Spatial Sense: Transformational Geometry and Symmetry**
* Create tableaus showing a symmetrical shape and an asymmetrical shape
* Create success criteria for geometry concept together and have students use movement to show their knowledge
* Have groups show their tableau and other students walk around and use the “Prove It” strategy to explain how the tableau displays the given concept
* Feedback: Two stars and a Wish….have groups refine and show again.
* This activity can be used as a diagnostic to give you a quick glimpse of your students’ understanding of symmetry
* Transformational Geometry- translations, rotations and reflections using various movements
* **Number Sense & Numeration: Fractions and Ratios:** Students use movements to demonstrate their knowledge of fractions and/or ratios. In small groups, students have to demonstrate a fraction or a ratio using movements. The rest of the class observes the movement(s) and guesses the fraction/ratio. Remind students to “Prove It” and justify why they suggested the fraction/ratio

**Example:** Divide students into groups of 6. Using movements they need to represent the following fractions and ratios: ½, 4:2

½🡪 3 students are swaying arms while 3 students are standing still

4:2🡪4 students are jumping in the air while throwing arms up, 2 students are melting to the ground