Grade Level/Course: Geometry

Lesson/Unit Plan Name: Expository Writing in Math

Rationale/Lesson Abstract: As Common Core is expecting more writing in math, we need to find a way to blend our writing and math standards. Expository writing is among the most useful styles of writing in life. It will also force a student to analyze what they think they know.

Timeframe: 20 minutes for pre-activity (which could be given as homework), 1 hour for the activity and a follow-up activity.

Common Core Standard(s):

Writing CCS

W.2

d. Use precise language and domain-specific vocabulary to manage the complexity of the complexity of the topic.

e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Math CCS

G-CO

12. Make formal constructions with a variety of tools and methods. *Copying an angle.*

Instructional Resources/Materials:

Prep: *The teacher must review the student samples of expository writing and choose several poor, average, and good samples. Have your very good sample ready to put into the mix, without telling the students it's yours. (I would say 12 – 15 samples, with no more than three good ones.) Make enough copies of the samples to evenly distribute through the class.*

Supplies:

- *Manila folders to place between each pair of students partnered for the activity.*
- *Sample papers for students to work from. (A few good, many of medium quality and many of poor quality.)*
- *Sheet of paper for students to use when it's their turn to be the scribe. (The requirements for this sheet will differ depending on the subject of the expository writing. One example would be a sheet with a given angle, if the goal is to construct a copy of a given angle.)*

Activity/Lesson:

This is similar to the "Brain and Scribe activity", except the students must not be able to see each other. Pass out the samples of expository writing to each student and pair them up. Have them sit across from each other and use a manila folder as a partition between them. The

students will take turns reading the directions to each other. When one student is reading the directions to the other student he/she can't deviate from the directions at all, nor can the student following the directions ask any clarifying questions. When the task is complete, the students change jobs and repeat the process. Once all students are done with the directed task, have students match the directions to the accomplished work that goes with it. Have students paperclip the directions and finished products together, leaving the finished products face up on the desks. Next have the students do a "gallery walk" to view the finished products and, as a class, choose a best, worst, and average samples from the displayed work. Using a projector so all the students can see the selected pieces, debrief as a class by comparing and contrasting the directions that accompany these three pieces.

Possible Follow-Up Activities: 1) *You can have students compile a written list of what the best example has that the poor examples don't. Then they could try another piece of expository writing, with their new understanding.*

2) *You could have the class follow the "good" example of the directions while you read them out loud.*

Assessment:

Give Students another in-class example of something they must write directions for, and after they've done that, have them swap with a partner to see if they can each produce the desired product only by reading the given directions. (An example could be to describe how to construct an isosceles triangle that isn't an equilateral triangle with a given base, or describe how to bisect an angle.)

Warm-Up

Other

List the elements of informational/explanatory writing that you think may apply to math.

Review

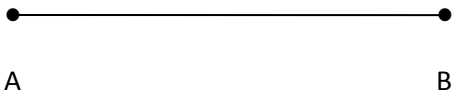
Compare the differences between sketching, drawing, and constructing.

Current

List two situations in which informative writing has been used in math by other teachers.

CCSS G-CO.12

Construct a copy of the line segment $\overline{AB}$.



Today's Objective/CCSS: G-CO.12, W.2.d., W.2.e