**Instructional Day:** 10

**Topic Description:** Points of view: Telling a story with data

**Objectives:**

The students will be able to:

* Explain how different views of data can tell a different story.
* Recognize that data is an incomplete record of reality.
* Describe the limits of measurement (what can and can’t be captured in data).

**Outline of the Lesson:**

* Journal Entry (10 minutes)
* Room Activity (45 minutes)

**Student Activities:**

* Complete journal entry.
* Groups complete first part of Room Activity.
* Groups share responses with another group.
* Groups complete second part of Room Activity and share responses.

**Teaching/Learning Strategies:**

* Journal Entry: What do you think about when you hear the word data? Where can it be found? Where does it come from?
  + Class discussion of journal entries
    - Write down ideas from students.
    - Emphasize that this lesson is meant to stretch their thinking about data.
* Room Activity
  + Assign various groups different versions of the Room Activity.
    - Depending on the amount of time available and the size of the class, you can assign different lists to different groups of students or have them choose fewer or more than 2 subsets to answer questions on.
  + When each group is finished with their first instructions, have them compare the lists they chose and their answers for questions 1-2 with a different group.
  + Have groups share their answers to 1 and 2 with the entire class.
  + Have groups complete question 3.
  + Have some groups share their answer for 3.
  + Reveal that the word lists were all descriptions of the same room. Only, the lists were all taken from different peoples' perspectives.
  + Emphasize that the appearance of the data and amount of data collected inform the different inferences that can be made. Also, the same data from different perspectives can offer very different conclusions.
* Homework: Complete Communications Methods and Data Chart and Data Journal
  + Depending on the amount of time available, the Communications Methods activity can be completed as a class as classwork.
  + Explain that they will be adding to the Communications Methods Chart of the previous day by adding information about data.
    - We’ve created an alternative list view of the chart in the “Revised” version of the chart file for visually impaired students.
  + Introduce the Data Journal.
  + Both of these assignments will be due on the first day of Unit 2.
    - Depending on the structure of the class, the Data Journal can be an overnight assignment and the Communications Methods and Data Chart activity may be classwork. Use the appropriate Data Journal.
  + Clarify questions.

**Resources:**

* Room Activity (Supplemental Materials)
* Room Activity Instructions
* Room Activity Word Lists
* Communications Methods and Data Chart
* Data Journal

**Room Activity Instructions**

Look at the lists displayed on your computer or on the handout provided. Pick two and answer the questions below.

1. What does this data tell you about the person who lives in this room? What does it not tell you?
2. What are most of the items in this room related to?

When finished, compare the lists you chose and your answers to the questions above with the rest of the class.

1. Do you think different representations can tell different stories?

**Room Activity Word Lists**

1. Lava lamp, Books (10), Burger, Cell phone, Pringles can, Television,  
   Calendar, Glasses, Lava lamp, Sandwich, Pizza, Paintings (2), Person, Sprite Can
2. Trophy, Pizza, Guitar, Sandwich, iPod with ear buds, Radio(2), Toy soldiers(3), Person, Shoe, Cell phone, Violin, Harry Potter poster, Ribbons(3), Sandwich, Laptop, Goldfish
3. Books (75), Burger, Globe, Gold Medal, Goldfish, Harry Potter poster, Phone, Paintings(2), Person, Plaques(3), Posters(8), Ribbons(3), Toy soldiers(3), Trophy, Violin
4. iPod with ear buds, Television, laptop, Radio(2), Cell phone, Guitar, Toy Car(3), Nintendo DS, PS3, Burger, Pizza, Person, Pringles can, Sprite Can

**Communication Methods and Data Chart**

Let's look at what kinds of data you 'give off' when using the different forms of communication. For each of the following examples, fill in which method you would choose for the given scenario and why (You should already have completed that part.). Keep in mind that “data” here is not just the content you communicate (what you say or write) but could also refer to details like the time of a telephone call and the number.

The methods are:

* Texting
* Phone call
* Talking in person
* MySpace / Facebook
* Twitter
* Email

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| **Scenario to Communicate** | **Method** | **What data is available?** | **Who has access to the data?** | **What can be learned from the data in aggregate?** | **Why you chose the method?** |
| Breaking up with a significant other (boyfriend/girlfriend) |  |  |  |  |  |
| Asking parents’ permission to do something when you think they will likely say ‘no’ |  |  |  |  |  |
| Figure out where and when to meet a friend to see a movie |  |  |  |  |  |
| Gossip about someone who could hear you if you spoke |  |  |  |  |  |
| Gossip about someone not around you |  |  |  |  |  |
| Getting help on homework |  |  |  |  |  |
| Feedback on a big decision (like what color prom dress, what game to buy, what phone to get) |  |  |  |  |  |
| Announce you met someone famous |  |  |  |  |  |
| Complain about your parents |  |  |  |  |  |
| Mourn someone you lost |  |  |  |  |  |
| Buy something from someone you don’t know well |  |  |  |  |  |

1. How does the type of data being exchanged affect which method you choose?

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Data Journal**

Tonight, take note of situations when you “generate data”. We’re looking for specific moments when some activity you perform can be observed, recorded and, possibly, combined with similar data from others. Ideally you will have access to this list wherever you are and take notes over the course of your evening. To start you off, think about what happens when you ride the bus or make a telephone call or browse a web site!

For each entry, list the time and describe what you did to generate data.

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| **#** | **Time** | **Describe what you did to generate data** |
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Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Data Journal**

During the next several days, take note of situations when you “generate data”. We’re looking for specific moments when some activity you perform can be observed, recorded and, possibly, combined with similar data from others. Ideally you will have access to this list wherever you are and take notes over the course of your day. To start you off, think about what happens when you ride the bus or make a telephone call or browse a web site!

For each entry, list the time and describe what you did to generate data.

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| **#** | **Time** | **Describe what you did to generate data** |
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