Daily Lesson Plans

Instructional Days: 1-2

Topic Description: This lesson sets the stage for the unit. It provides an overview of data collection and problem solving that will be needed in order to complete the final project.

Objectives:

The student will be able to:

- Recognize various forms of communication as data exchange.
- Describe the implications of data exchange on social interactions.
- Consider privacy of data that they create.
- Explain the difference between data used for making a case and data that informs a discovery.
- Describe good research questions.

Outline of the Lesson:

- Communication Methods and Data Chart (15 minutes)
- Data Journal (15 minutes)
- How data is linked back to us (25 minutes)
- Solving Community Problems Activity (25 minutes)
- Difference between data used for making a case and data that informs discovery (15 minutes)
- Research questions (10 minutes)
- Journal Entry (5 minutes)

Student Activities:

- Discuss Communications Methods and Data Chart with elbow partner.
- Discuss Data Journal with elbow partner.
- Groups complete Solving Community Problems activity.
- Complete journal entry.

Teaching/Learning Strategies:

- Have students share their Communications Methods and Data Chart with their elbow partner.
  - Remind students that this was assigned as homework in Unit 1.
  - Have a few students share “What data is available?”, “Who has access to the data?”
- Data Journal Class Discussion
  - Have students:
    - Compare journals with elbow partners.
    - Write down 5 ways that they give off data.
• Take time to discuss what these data sources might tell us about ourselves if we “aggregated” or collected these data from lots of people – What good might be done? What services might be improved?
• Think about which of these ways can be linked directly back to them. What are possible implications of the data being linked back to them?
• Have students read this article about aggregate search data—technically, making search data available to researchers would help improve search engines, but it turns out that search history is intensely personal. [http://www.nytimes.com/2006/08/09/technology/09aol.html]
• The Netflix prize is another example. It has recently been cancelled due to FTC concerns over privacy. [http://blog.netflix.com/2010/03/this-is-neil-hunt-chief-product-officer.html]
• Volunteering data on Facebook and other social networking sites might tell people more about you than you intend. [http://www.nytimes.com/2010/03/17/technology/17privacy.html]

• Solving Community Problems
  o Present students with a scenario related to the local community. For example, the city council wants to find out about trash disposal in the community in order to clean up the streets.
  o Have students work in groups of 3-4 to outline how they would
    ▪ Approach the problem
    ▪ What kind of data they might need to collect
    ▪ How they would collect and analyze the data
  o Lead a discussion to get at their thoughts. Highlight the differences between making a case and discovery. How would the choice between these determine the kinds of data you would collect?
    ▪ Making a case (advocacy)—Use data to document situations that contribute to make a positive or negative case for something. (e.g., Let the Metro know about timing of trains and buses; tell the principal about something that needs to be done at the school; tell someone about something you’d like to see continued.
    ▪ Discovery—Collect data to document situations and then use the data to learn something. (e.g., could your food choices be improved?; do I always take an efficient route to activities?)
  o What research questions might you ask in each case?
    ▪ What is your research question?
    ▪ Why did you choose to collect these data for this question?
    ▪ What are the limits of this data?
    ▪ What can you confidently say based on your data?
    ▪ What perspectives are left out based on your data?
• Assignment (will be used for the Unit 2 final project)
  o Every day collect data related to where you go after school—location, means of transportation (walk, bike, etc.), how long it takes to get from one location to the next, any other data that you think would be interesting.
• Journal Entry: What are the steps you use to solve a problem?
Ask students to reflect on whether these steps are the same in all types of problems they solve.

**Resources:**
- Communication Methods and Data Chart
- Data Journal