

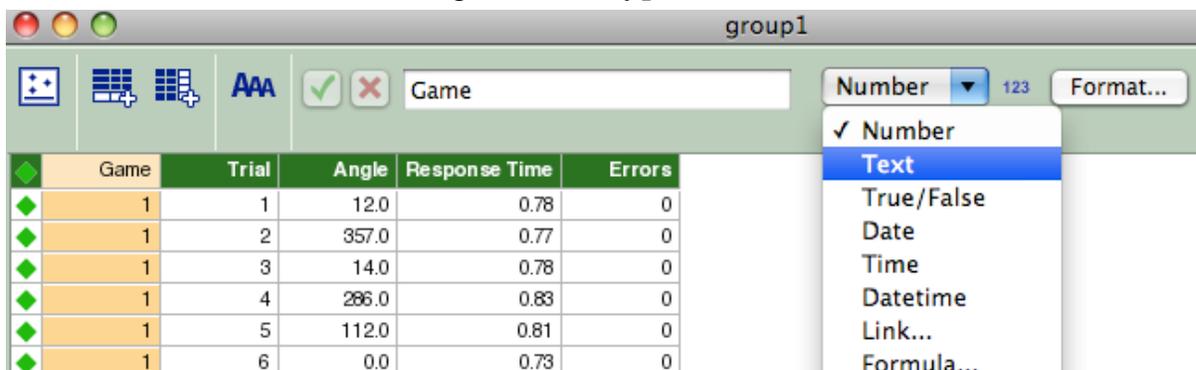
Database Inquiry

Data Collection

1. We are going to collect data on our reaction times in small groups, and then combine our data into one large data set. Get into groups of four, and pick one computer station to be the data collection point.
2. At that computer, launch **InspireData** and click on the **Databases** button.
3. Double-click the **More** folder, and then the **Circle Game**.
4. Click the *Database Template* tab. Read the instructions for the game. All members of your group should play the game once.
5. After all have finished the game, export your data by selecting **File⇒Export Table**, using your designated group number as the file name. Use the *Desktop* as your save location.
6. Close the current file (click the red bubble, do not save the file).

Recode the Game Numbers

1. Choose **New** from the InspireData splash screen.
2. Re-open the file by selecting **File⇒Import**, and navigating to where you exported the data file.
3. Click on the *Game* header. Change the data type from *Number* to *Text*.

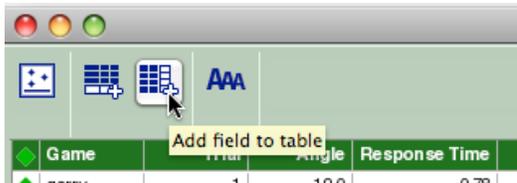


The screenshot shows the InspireData application window titled "group1". The interface includes a toolbar with icons for home, grid, and list views, along with a search field containing "AAA" and a "Game" header field. A data table is displayed with the following columns: Game, Trial, Angle, Response Time, and Errors. The 'Game' column is highlighted, and a dropdown menu is open, showing the current data type as "Number" (checked) and other options: Text, True/False, Date, Time, Datetime, Link..., and Formula....

Game	Trial	Angle	Response Time	Errors
1	1	12.0	0.78	0
1	2	357.0	0.77	0
1	3	14.0	0.78	0
1	4	286.0	0.83	0
1	5	112.0	0.81	0
1	6	0.0	0.73	0

4. Each member of your group should change the appropriate Game number to their first name.
 - The fastest way to do this is to click in the first cell of each one's particular number, type your name, and hit *Return*.
 - Then click in that cell, and drag down through the remaining nine. Go to the **Edit** menu, and select **Fill⇒Down**.

5. We are going to add a new data column (field) to explore the following question:
Do you think that students who are avid video game players will have faster reaction times?
 - Be sure you are in *Table* view.
 - Click the *Add Field* button on the toolbar. Type “Avid Game Player” in the *Field Name* section.



- Click on the *Undefined* button and change the data type to *True/False*.
 - Enter “T” or “F” for each trial of each student. Once again you can use the **Fill**⇒**Down** from the **Edit** menu to do this quickly.
6. Save your file. Copy it to the USB flash drive.

Combine the Data Files

Bring the flash drive with the data files to the instructor station. After all the files have been combined into one data set, it will be placed out on the file server for you to retrieve later.

Analyze the Data

The following activities will be performed individually.

1. Retrieve the all-class combined data file from the **Class Files** folder on the K12 Courseware server by dragging the file to your Desktop. Launch InspireData by double-clicking the file.
2. **Discussion:**
Do you think that most of the response times will be small (quick reaction time), large (slow reaction time), or somewhere in the middle (average reaction time)?
3. Create a stack plot to investigate the distribution of response time data.
 - Click on the Plot View button on the Toolbar to switch to Plot View.
 - Click on the Stack Plot button on the Toolbar
 - Click on the X Axis label and choose Response Time as the variable. A stack plot will be created.

4. **Discussion:**

- Does it seem to be uniformly distributed over the range of response times (equal numbers of slow, average, and fast reaction times)?
 - Is it normally distributed (bell-shaped curve)?
 - Is it skewed (mostly fast times or mostly slow times)?
 - What might account for any patterns we see? Age of the individual? Their gender? How might we answer this (or other) questions we may have?
5. Let's explore our question that we posed earlier: is there a correlation between reaction times and extensive video gaming.
- In the **Plot View**, choose a double stack plot by clicking on the **Plot Options** button in the lower left corner of the screen and choosing the second option.
 - Click on **Y Axis** label and change its variable to **Avid Game Player**.
 - Add the means and medians to your double stack plot using the **Options** button.
6. Is there a difference? Use graphical and numerical (*i.e.*, means) data to support your conclusion.

Adapted from InspireData Classroom Projects