

Dramatic Networks

Step #1 Data Collection

Students will track the interactions between characters in a play. The goal of the students is to interpret who a character is talking to in any given line. This helps the student to take the role of a director of drama rather than a general reader. Students will plug in the results of the interactions to an excel document.

DEATH I hear your words and guess your wish!
 APOLLO May not Alcestis live to old age?
 DEATH No! I also prize my rights!
 APOLLO Yet at most you win one life.
 DEATH They who die young yield me a greater prize.
 APOLLO If she dies old, the burial will be richer.
 DEATH Phoebus, that argument favours the rich.
 APOLLO What! Are you witty unawares?
 DEATH The rich would gladly pay to die old.
 APOLLO So you will not grant me this favour?
 DEATH Not !! You know my nature.
 APOLLO Yes! Hateful to men and a horror to the gods!

Example #1:

	A	B	C
1	Character #1	Character #2	Number of Interactions
2	Death	Apollo	12

Note: Do not repeat character interactions. If Death and Apollo are interacting do not make a new column for them to interact in later or reverse the order and count again.

Not all interactions will be between just two characters. Sometimes a student must decide if a character is speaking to one other character or a group of characters. If a character is speaking to a group and only one character responds students are to only record one interaction between the first character and the group and two between the character and the second character who responds. Notice how the principal switches who he is speaking to and how the numbers of interactions correspond to this shift in focus.

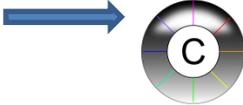
Example #2:

Principal: Students are to attend a mandatory meeting the first day of school.
 Billy: I have a doctor's appointment.
 Principal: Your parents already spoke to me Billy. You are excused.
 Peter: Can I be excused because I don't want to go?
 Principal: No Peter.
 Peter: Please?
 Principal: No!

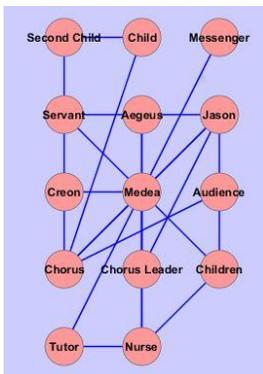
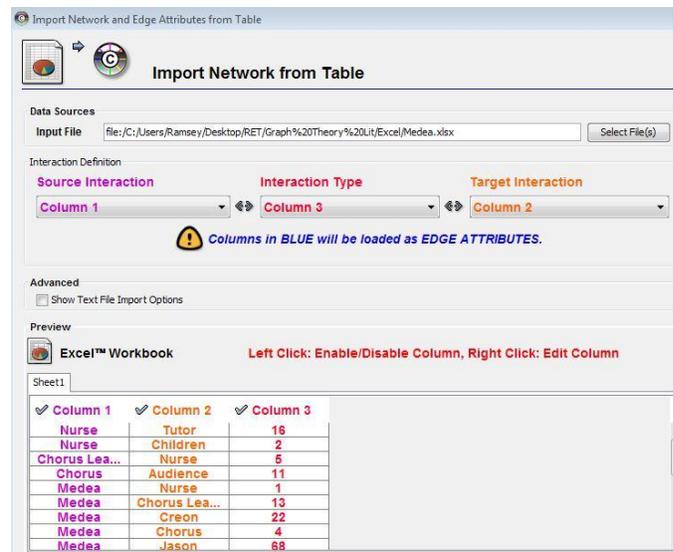
	A	B	C
1	Character #1	Character #2	Number of Interactions
2	Principal	Students	1
3	Principal	Billy	3
4	Principal	Peter	5

Step #2 Data Application

Students will use the open source program cytoscape to look closer at the networks they have created.

- If the computers do not have the program it can be obtained at the web address <http://www.cytoscape.org/>
 - Click “Download Cytoscape now” and follow the directions to download.
- The icon looks like 

- 1) Open Cytoscape.
- 2) Click “File” “Import” “Network from table (Text/MS Excel)”
- 3) Students will next click on the “Select File(s)” button and then select the excel file they created from wherever they have saved it on their computer.
- 4) Students will now select the interaction relationship. “Source Interaction” should be set to the column containing the first character. “Interaction Type” should be set to the column containing the number of interactions between character #1 and character #2 and “Target Interaction” should be set to the column containing Character #2.
- 5) Lastly click “Import”
- 6) Cytoscape will now render a rough Version of the network that looks Somewhat like this...

Column 1	Column 2	Column 3
Nurse	Tutor	16
Nurse	Children	2
Chorus Lea...	Nurse	5
Chorus	Audience	11
Medea	Nurse	1
Medea	Chorus Lea...	13
Medea	Creon	22
Medea	Chorus	4
Medea	Jason	68

- 7) In order to make the data useful students will click on the “Plugins” menu at the top of the page. Select “Network Analysis” and click on “Analyze Network.”
- 8) Select the “Treat Network as Undirected” bubble and click “OK”.
- 9) Students will next select “Visualize Parameters” (this alters the nodes and connections)
- 10) Set the “Map node size” to “degree”. This will make the larger nodes represent the characters that do the most communicating.
- 11) Set the “Map node color” to “BetweennessCentrality” this will change the characters who do the most communicating with great numbers of other characters to warmer colors.
- 12) Students next will set the layout. Click in the “layouts” menu and select “Cytoscape Layouts” select the “Attribute Circle Layout” option and set it to “Degree”. This will give students a final product that looks somewhat like the following example from Medea.

