Dean's Dynamic Data
User Manual

Version 1.4

I hope you find this tool a valuable asset in the performance of your job

as the trail-blazers of our future.

-Dean

Last updated: Wednesday, August 13, 2014

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Introduction

Gathering Data is vital in determining the effectiveness of teaching practices. The manager's axiom "you can't manage what you don't measure" pertains to many aspects in teaching. Yet, one of the biggest challenges, second to gathering the data, is having a method of displaying the raw data in a manner that demonstrates the effectiveness of a practice, or the lack thereof.

"*A picture is worth a thousand words*" serves as a driving force for Dean's Dynamic Data, with the goal to provide charts with data/interventions/absences/trend and goal lines that clearly show what is working and what isn't.

Note about Macros

While we often refer to Dean's Dynamic Data, denoted hereafter as D^3 or D3, as a 'program' or 'application', it is really better described as additions to a standard Excel spreadsheet, accomplishing all the extra features through Macros embedded in the spreadsheet. The choice to use macros was made to leverage the already available, and powerful, features of data collection (spreadsheets) and plotting (chart creation) already in Excel.

User Manual Format

Since both PCs and Apple products are used throughout the district, this document will attempt to provide instructions for both formats.

I assume Windows 7 and apologize if this doesn't exactly match your version. Additionally, be aware that screen captures used may not exactly match your particular machine, but shouldn't deter the learning process.

To illustrate, here is an example (from the point of view of an Apple fan who believes Macs are perfect☺):

PC Steps	Apple Steps
To resolve a lagging PC	
Type Ctl+Alt+Del	N/A
Pull up the Task Manager	N/A
Sort task list by CPU usage	N/A
Select the task using all the CPU	N/A
Select "End Process tree"	N/A
"OK" all prompts	N/A
Close Task Manager	N/A
See if computer is now responsive	N/A
Have a nice day	

Note sub-headings span both columns and are highlighted. However, if the instructions pertain to both formats it spans both columns (without highlighting).

Download from District Web Site

| PC Steps	Apple Steps
Browse to the District Web Site and locate the latest copy of D³.	
Click on the file to trigger the download to your computer.	
See new file in Downloads folder: via File Explorer – Favorites – Downloads	See new file in Downloads folder: via icon on the taskbar via Finder – Favorites – Home Icon – Downloads folder

File Organization

It is good practice to organize your files so that you can find them when you need to, instead of having dozens of files somewhere on the desktop.

Creating Folders

One method of doing this is to name the spreadsheet after the student's name and to group students together in a manner that makes sense, for example, by grade. Creating multiple folders under an easy-to-find root folder (perhaps located on your desktop) will make finding a particular spreadsheet much easier.

Might we recommend, at a minimum something like creating a root folder on your desktop with a collection of folder for each grade, which looks like this in a 'tree structure'?

```
Desktop
    └── Data
            ├── 5th Grade
            └── 6th Grade
```
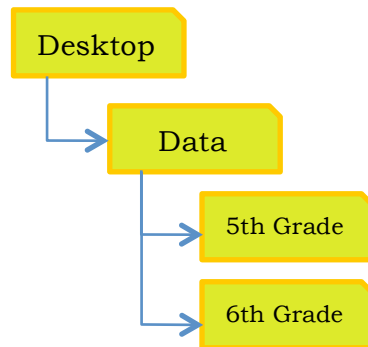
Within each grade's folder, create one or more new copies of D³ for each student.

New Spreadsheet

In the instructions below we will be creating a folder on the desktop that will be the starting point for finding all our D3 spreadsheets. Then within this desktop folder we will create a sub-folder for one grade, for example, "6th grade". Finally, we will move a copy of the original D3 spread sheet downloaded from the District Web Site and rename it to match the student.

PC Steps	Apple Steps
Open File Explorer (win+E)	Open Finder
Under Favorites click Desktop	
Create a new folder (named 'Data')	
(menu) File – New – Folder (toolbar) New Folder (mouse) Right click – new - folder	(menu) Gear dropdown – New Folder (mouse) Right click – new folder
Rename the folder to "Data" (if you didn't do it when created)	
(menu) File – Rename (mouse) Right click – Rename (mouse) click – pause – click	(mouse) click – pause – click
Open/Drill down into 'Data' folder by double-clicking	
Create a new folder (named '6th Grade')	
Open/Drill down into '6th Grade" folder by double-clicking	
Move a **copy** of D3 into the '6th Grade' folder	
(menu) 'Copy' from download folder, 'Paste' into '6th Grade' folder (keyboard) ctl+c from download folder, ctl+v into '6th Grade' folder (mouse) Right click – Copy from download folder, Right click – paste into '6th Grade' folder (mouse) Ctl+Drag from download folder	(mouse) option btn (alt)+drag from download folder
Rename the file	
Rename the folder to rename the spreadsheet using the name/id of the student.	
(menu) File – Rename (mouse) Right click – Rename (mouse) click – pause – click	(mouse) click – pause – click

Opening the file

We are (finally) ready to open the spreadsheet and get started.

PC Steps	Apple Steps
Double click the spreadsheet	

Macros

When you first open the sheet you may be, depending on your security settings, be prompted to enable the macros embedded in the spreadsheet. As explained in the introduction section, these macros allow all the added features, so you must enable them.

Main Tabs

There are 3 main types of sheets in every workbook:

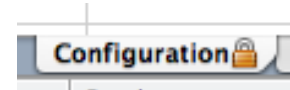Configuration – Define how you want your data sheet/charts to behave

Data – Where you enter your data

Chart – Automatically generated/formatted charts based on data

Each of these will be explained in detail in following sections.

Configuration

Everything starts with the configuration sheet.

Select this tab to bring the configuration sheet to the front.

Student Name

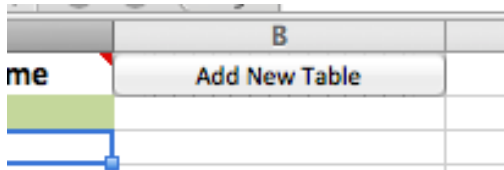Typically the first thing to do is fill in the green input box with the student's name.

> Hint: In general, fields that you can change will be green.

In this document our student's name will be "Jack Sparrow (Cptn)"

'Add New Table' button

To add a new 'data' and 'chart' sheet click the "Add New Table" button found at the top of the configuration sheet.

This will insert a new column with all the fields needed to configure a new set of Data/Chart sheets.

> Hint: Be patient and don't re-click or you will get another column.

You may insert as many configuration columns as you would like for the behaviors/skills you would like to take data for. In our example we will create 2 tables. One for things we want to decrease, the other for things we want to increase.
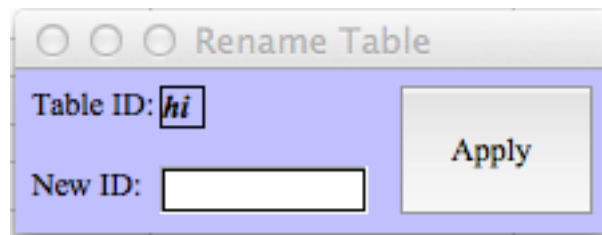
Table Fields

There are a collection of fields that need to be filled out to fully configure the data/chart sheets, and each will be detailed below.

Table ID

The "Table ID" field contains the name you want associated with the Data/Chart sheets. In fact, the ID is appended to the sheet name that appears on the sheet's tab.
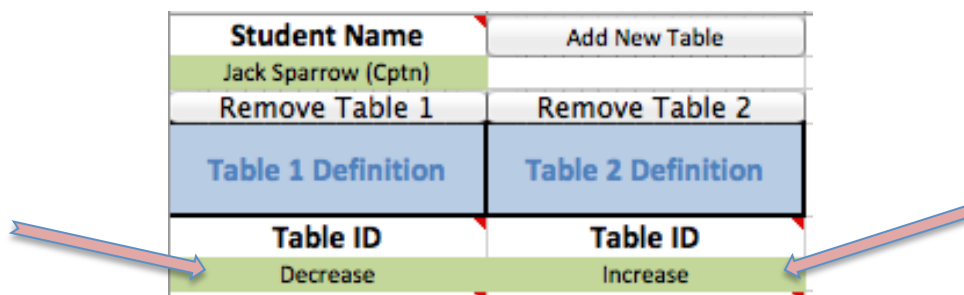
When you change the ID the tabs are renamed.

If you click into the ID field, a pop-up form will help you change the identification of the table.

To change the ID of the table, enter a candidate new ID: and click the Apply button. If the new ID isn't already in use, then the Table ID: field will change. Close the dialog to use the new ID.

In our example we changed the IDs to "Decrease" and "Increase", respectively.
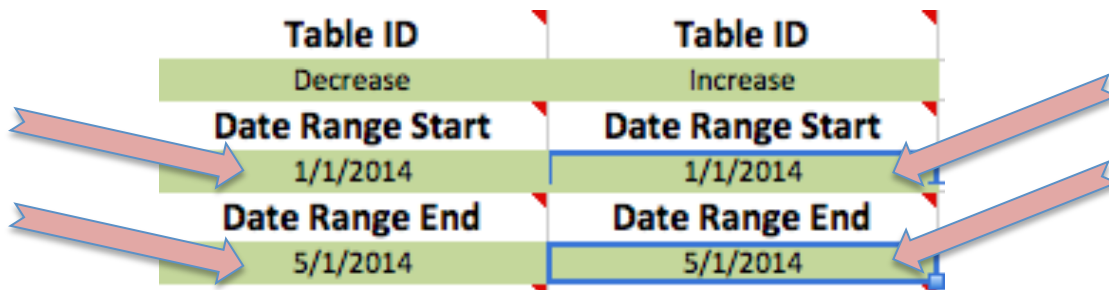

Date Range

The data sheet will be automatically populated with date fields based on the Date Range and Date Period fields.

When you click into a cell requiring a date a pop-up Date Definition form will help you enter a date, as shown here:

Option	Behavior
Month	Select the month from the list
Day	Select the day of the month (list always contains 31 days so don't overshoot the end of the month)
Year	Select the year
Today	Click this button to go to today's date.

Close the form and the new date will be used.

Provide the start and end dates for each table definition.

As soon as a valid date range has been entered, you will be presented with a pop-up question similar to this:

This question is asked anytime you change fields that affect the automatic generation of the contents of the Data Sheet, like the date range, date period, subdivided days, and behaviors/skills fields.

Depending on which answer you select, the automatic creation of the Data sheet will be affected as follows:

Answer	Behavior
Yes	All data on the Data sheet will be removed. The Data sheet is reset.
No	The data is not changed. Only the Dates and Behavior/Skills headers are reset.

Hint: It doesn't matter how you answer until you start inserting data, then be very careful to not erase all your data by saying yes.

Date Period

There are 4 ways to define the dates you want included between the dates in your Date Range. Clicking in the green cell will bring up the Date Range Definition form:
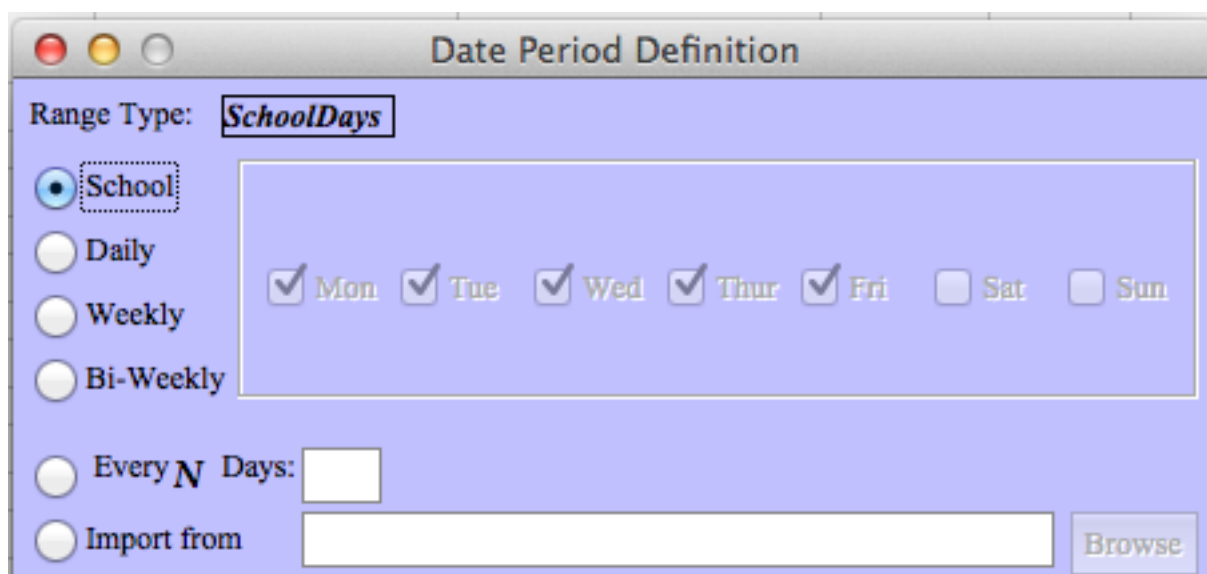
Each possible option generates a different set of dates within the range of dates provided in the Date Range fields, and these options are described in this table:

Option	Behavior
School	This will include the days Monday through Friday.
Daily	Every day of the week will be included
Weekly	Just the day of the week selected (for example, every Monday &

	Friday)
Bi-Weekly	On the selected days, every 2 weeks
Every N Days	Every N days, for example, every 14 days would be every 2 weeks.
Imprt From	Browse to a file containing a list of dates (one date per row). For example, a file containing A track days.

After you have made your choice simply close the form and a new set of dates will be generated.

In our example we will choose "School Days" and "Weekly-M/W/F".

| Date Period	Date Period
SchoolDays	Weekly:Mo,We,Fr

Hint: If the form isn't opening, click onto another cell then click back.

Subdivided Days

This feature best suited for situations where the student is in your class the entire day and you need to divide the day into periods. For example, you may have 7 periods during the day and you would like to know how a behavior changes throughout the day. You would gather data into 'bins' for each period. This would give you 7 values per date row on the Data sheet.

Clicking in the green cell will bring up the "Define Daily Subdivs/Periods" form:
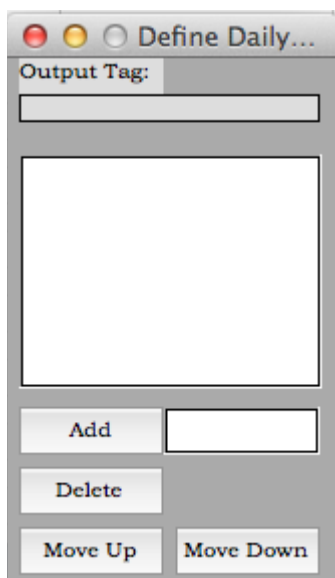
This table defines the behavior of the buttons on the form:

Option	Behavior
Add	Enter new periods next to the Add button then click Add and the new entry will be added to the end of the list.
Delete	Select an entry in the list and click Delete to remove it from the list.
Move Up	Select an entry in the list and click Move Up to move it up one position in the list.
Move Down	Select an entry in the list and click Move Down to move it down one position in the list.

After you have made your definitions simply close the form and a new data sheet will be generated using your definitions.

Hint: If the form isn't opening, click onto another cell then click back.

Use Trend Lines

Trend Lines are very useful for showing trends in seemingly disordered data.

If you enable trend lines, your chart will have a dashed line added to each series of data showing the trend of the data.

There are a variety of acceptable entries to enable the trend lines, as shown in the comment for this field. These values are as follows, including their lower case versions: Yes, Y, X, 1
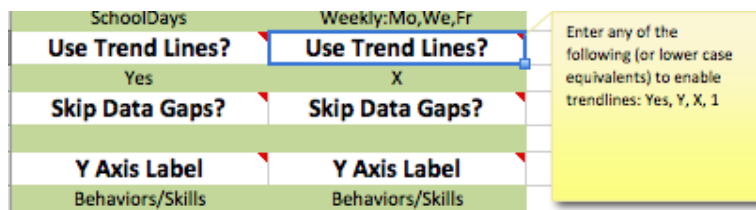
Use Goal Lines

Goal Lines were added to version 1.3 and are useful to indicate on the chart the goals being targeted.

If Goal Lines are enabled then an extra column is added to the Data sheet, for each Behavior/Skill where Goal values are entered.

The options to enable this field are the same as for the Trend Lines: Yes, Y, X, 1 (end their lower case equivalents)

Skip Data Gaps

The ability to skip gaps in the data was the major feature added to version 1.2. If there is nothing entered on a given date, that date isn't included in the chart. This is useful if data isn't collected on a day where the student was in class. If gaps are not skipped then the chart will have gaps. See entering Absences under the Data Sheet for how to track when the student is not in class.

Skip Data Gaps?	Skip Data Gaps?
Yes	No

Y Axis Label

If desired, you may change the default title for the Y Axis of the chart by modifying the content of this field. For example, if the data is a percentage value instead of a tally it would make sense to change the label on the Y axis to "Percentage".

For our example, we changed Table 2 to "Tallies".

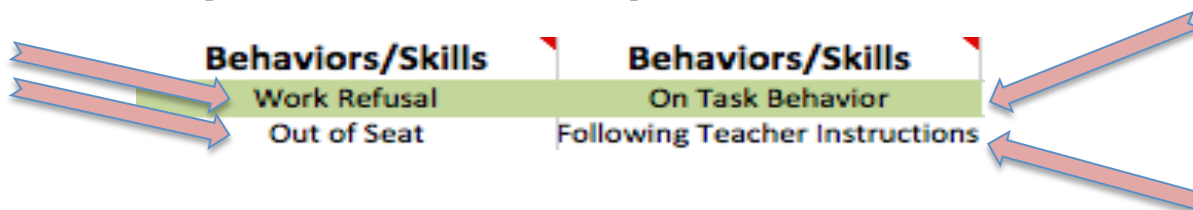| Y Axis Label	Y Axis Label
Behaviors/Skills	Tallies

Behaviors/Skills

Here we enter at least one specific Behavior or Skill we are collecting data for. Each entry will result in a plot line on your chart. (You may enter up to 30 distinct items to track.)

Enter each behavior or skill on consecutive rows (even though they aren't green) leaving no blank lines.

For our example we have 2 real-word examples in each table:

| Behaviors/Skills	Behaviors/Skills
Work Refusal	On Task Behavior
Out of Seat	Following Teacher Instructions

Congratulations!

At this point the configuration is complete and you are ready to begin entering data.

There will be a set of Data and Chart sheets for each Table Definition column, grouped with the Data sheets followed by the Chart Sheets.

Data Sheets   Chart Sheets
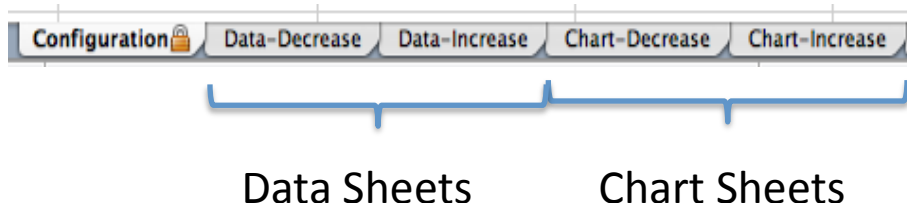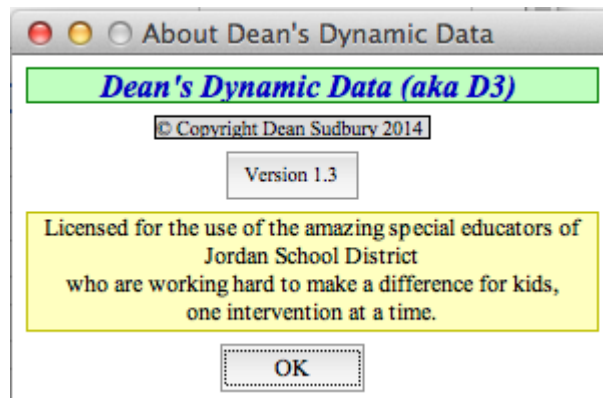
About

The about button will bring up the "About" form which shows the current version, licensing information. If you click on the Version button the Change Form will be displayed showing changes in each version.
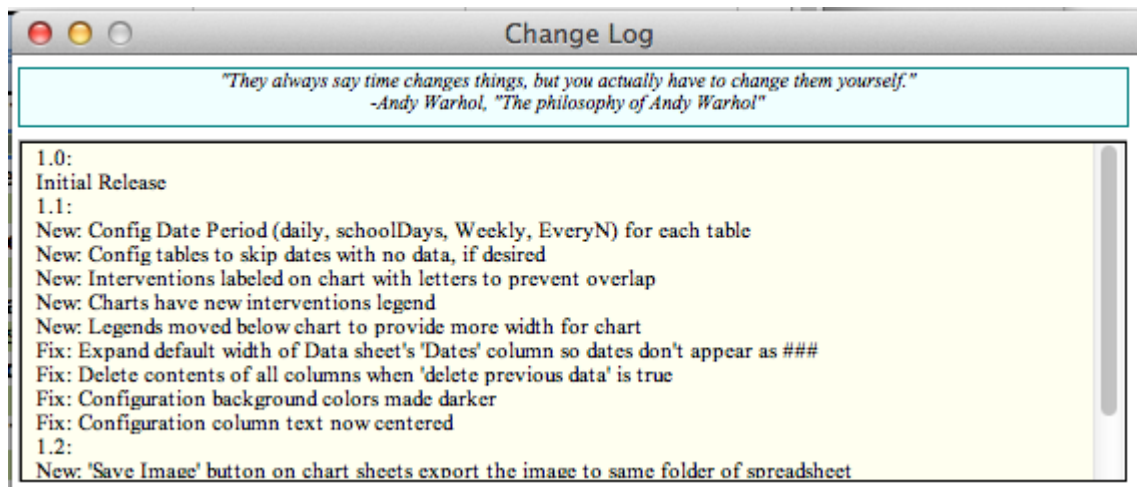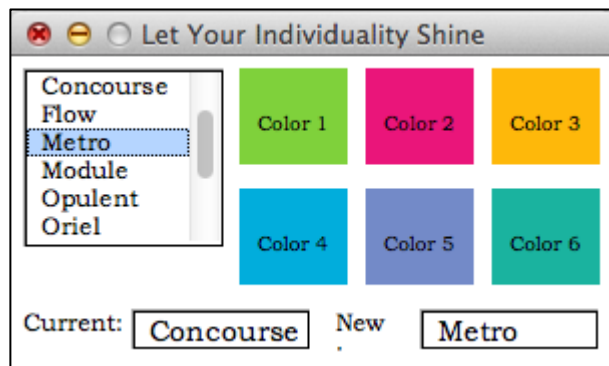

Global Configuration

Clicking the "Global Cnfg" button opens the Global Configuration form that allows changes that affect the entire 'application'.
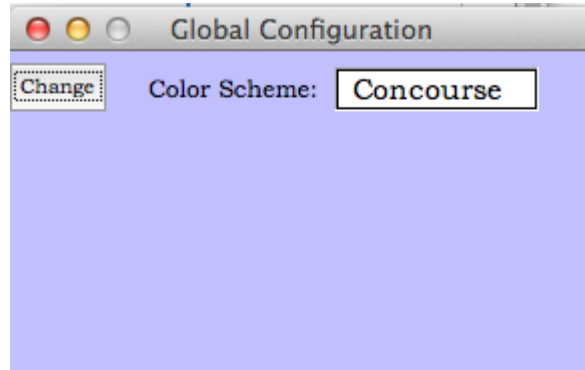
Color Scheme

Clicking the 'Change' button allows you to customize the colors used when drawing the charts, by bringing up a form that lets you select from a wide selection of pre-defined color schemes:

Simply change the selection until you find one you like, then simply close the form and the new color scheme will be used.

Data Sheet

Data sheets are broken into 3 main sections: Absences/Interventions, Dates, and Data.

Abs/Intv   Dates   Data

A	B	C	D	E
Intervention	Absences	Dates	Work Refusal	Out of Seat
		1/1/14		
		1/2/14		
		1/3/14		
		1/6/14		

The headers for the Data sheet, as well as the Dates are automatically generated.

Data

Simply enter your data into the data column(s).

There will be one column for each defined Behavior/Skill.

C	D	E
Dates	Work Refusal	Out of Seat
1/1/14	21	12
1/2/14	22	13
1/3/14	20	15
1/6/14	21	14
1/7/14	20	12
1/8/14	20	10
1/9/14	20	11
1/10/14	21	10

If you specified periods in the Subdivided Days field, you will have a column for each period under each behavior. For example, if you defined 'P1' and 'P2' as two periods in the day (splitting the day in half) and 2 behaviors, say 'Work Refusal' and 'Out of Seat', you would have 4 data columns: Work Resulal – P1, Work Resulal – P2, Out of Seat – P1, Out of Seat – P2. For example:

Intervention	Absences	Dates	Work Refusal P1	Work Refusal P2	Out of Seat P1	Out of Seat P2
		1/1/14	21	12		
		1/2/14	22	13		
		1/3/14	20	15		

Interventions

When an intervention begins, enter the name of it in the Interventions column next to the corresponding date.

		1/7/14	20	12
Point Card		1/8/14	20	10
		1/9/14	20	11
		1/10/14	21	10

Absences

If the student is absent, so data cannot be collected, enter the reason next to each day the absence persists.

		1/24/14	9	6
	sick	1/27/14		
	sick	1/28/14		
	sick	1/29/14		
		1/30/14	8	5

Also note that a blank line or new reason must be entered to indicate a break in the absences. For example, "sick" followed by "ill" will generate 2 distinct absence bars on the chart.

> Hint: Notice that the absence is repeated for each day it persists, unlike Interventions that are only entered when they begin.

> Hint: Note that a blank line or new reason must be entered to indicate a break in the absences. For example, "sick" followed by "ill" will generate 2 distinct absence bars on the chart.

Goals

If you have configured the chart to use goal lines, then a column is created next to each intervention where you can enter the goal to be used for each date until you enter a new date.

| A	B	C	D	E	F	G
Intervention	Absences	Dates	Work Refusal	Work Refusal Goal	Out of Seat	Out of Seat Goal
		1/1/14	21	15	12	10
		1/2/14	22		13	
		1/3/14	20		15	
		1/6/14	21		14	
		1/7/14	20		12	
Point Card		1/8/14	20		10	
		1/9/14	20		11	
		1/10/14	21		10	6
		1/13/14	16		8	
		1/14/14	15	10	7	
		1/15/14	12		8	
		1/16/14	11		6	
		1/17/14	11		6	
DOTS		1/20/14	14		6	
		1/21/14	13		5	3
		1/22/14	11		6	
		1/23/14	9	5	6	

For example, as shown in the image above, the starting goal for the 'Work Refusal' behavior was 15. This will be the goal plotted in the chart, until 1/14/14 when a new goal of 10 will be used. Similarly, on the 23rd a new goal of 5 will be used. The 'Out of Seat' behavior has its own set of goals starting on different days.

> Hint: Goal values behave like Interventions where you only enter a value when something changes. (This is different from Absences that require an entry on each day the absence takes place)

Chart Sheets

Standard Charts
Each column of data results in a line on the chart.
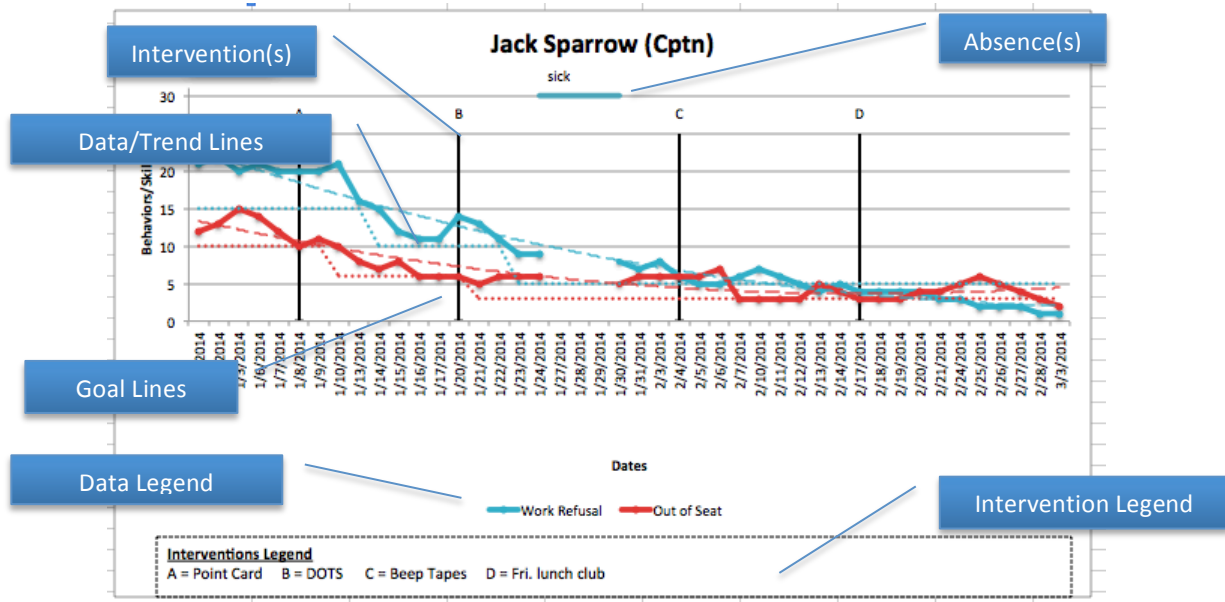
Intervention Bars

Interventions are identified with vertical bars placed on the date where the intervention started. To prevent overlaps on the chart, there is an automatically assigned label placed above each intervention starting with A and progressing through Z (and beyond). Because the words for the intervention were replaced with a label, a second legend is added to the bottom of the chart providing a cross-reference from label to intervention.

Absence Lines

There is a horizontal line placed above the dates where absences were defined. Because there is a little more room, the full absence label is used.

Absences make it clear why there are gaps in the data.

> Hint: Try and keep absence descriptions short so they don't overlap.

Trend Lines

If you have configured the chart to use trend lines, then trend lines are added to the chart using the same color as the series, but are shown as dashed lines.

Goal Lines

If you have configured the chart to use goal lines, then goal lines are added to the chart using the same color as the series, but are shown as dotted lines.

Stacked Charts

If you sub-divided the day into periods, a chart is created for each behavior, in addition to the standard chart with all the total of each behavior as a single line.

Jack Sparrow (Cptn)
On Task Behavior

Jack Sparrow (Cptn)
Following Teacher Instructions
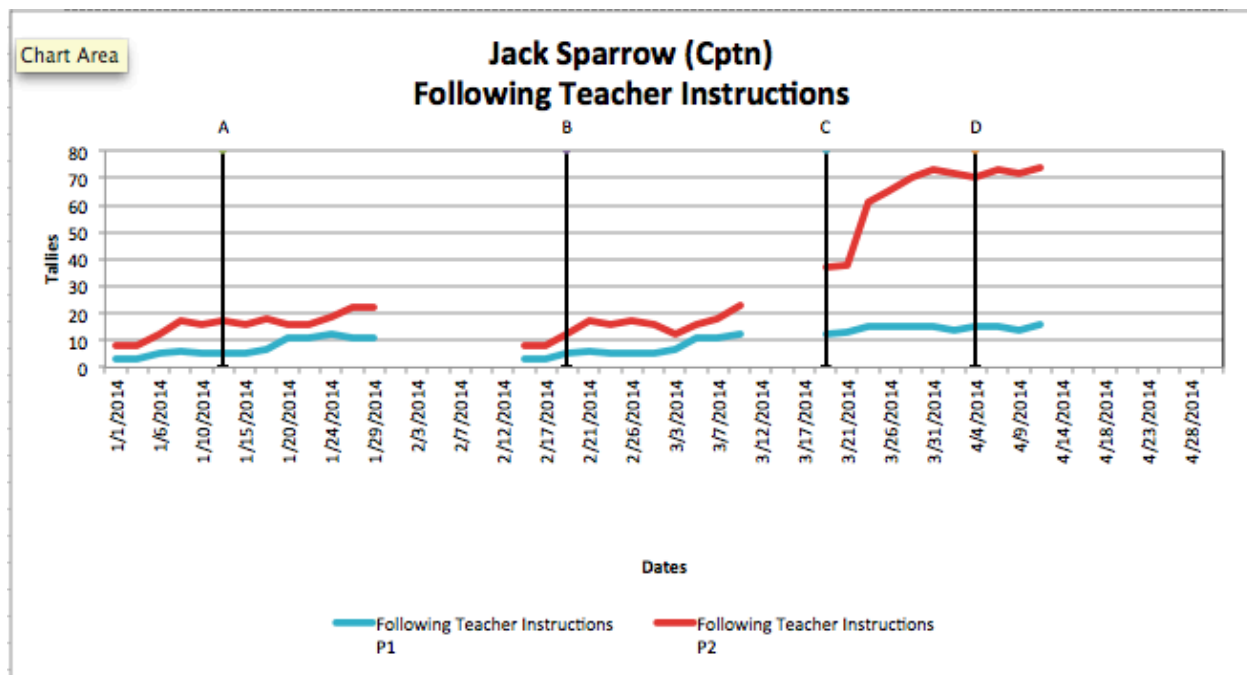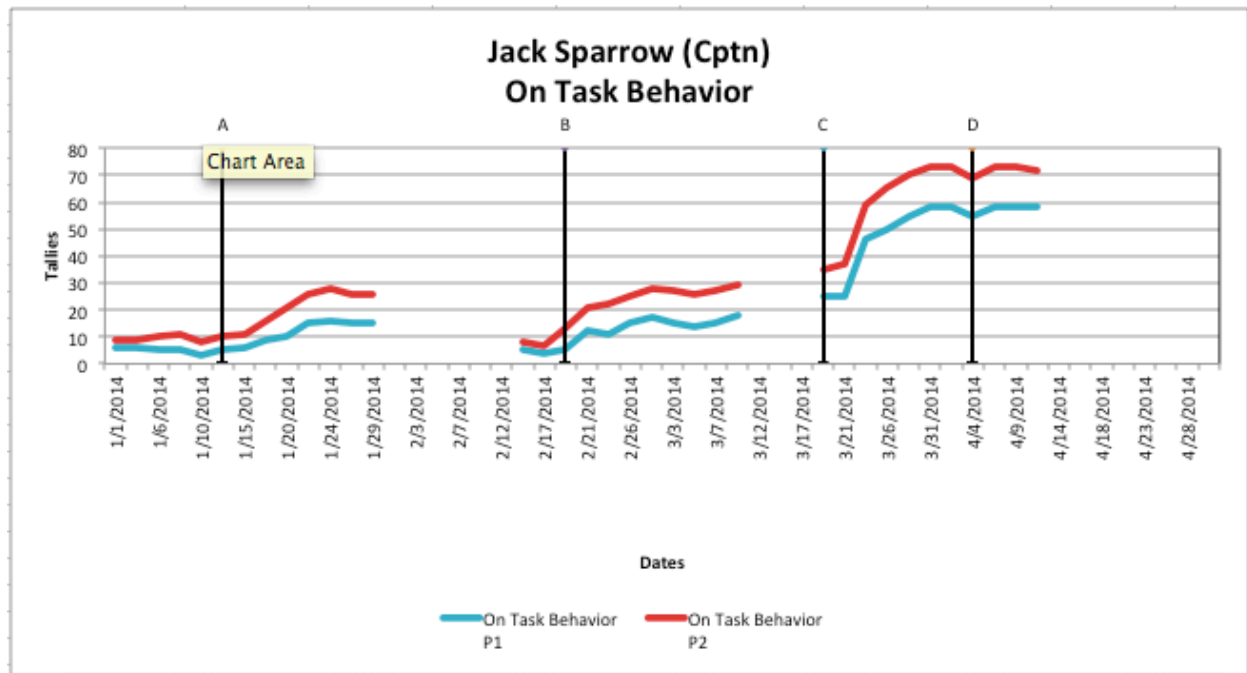
Stacked charts demonstrate how each period adds to the previous resulting in the total for the day.

A standard chart is attached at the bottom of all the stacked charts.
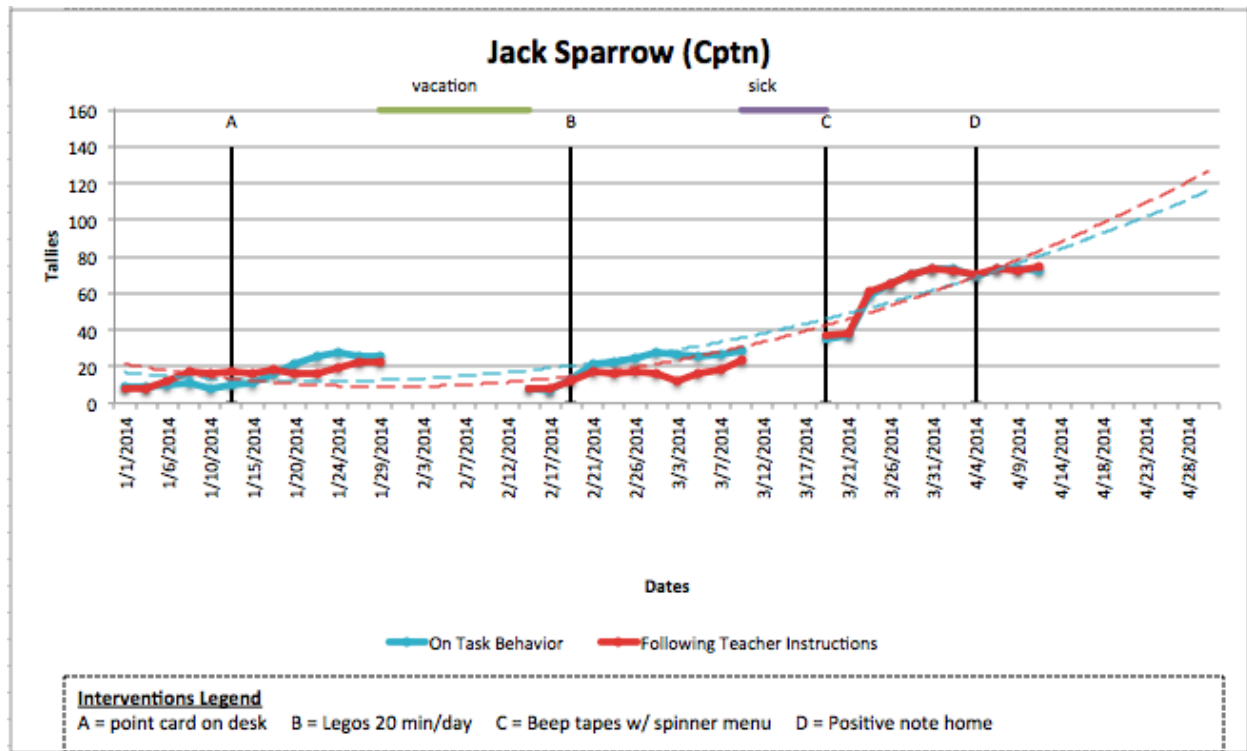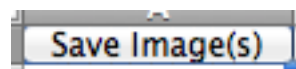
Data Legend

This is the standard legend identifying just the behavior series of data.

Intervention Legend

This is an 'extra' legend created to provide a cross-reference from intervention label to intervention name (as entered on the Data sheet).
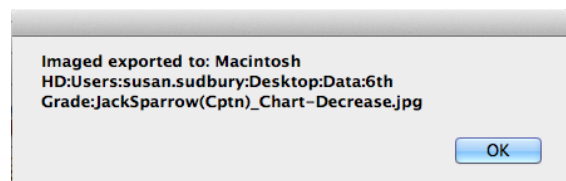
Save Image(s) Button

Each chart sheet has a "Save Image(s)" button.

Click this button to save a copy each chart on this sheet to the directory where your workbook is saved. Note: There is only one chart unless you sub-divided the days.

A Popup message provides path where file was saved, which is in the same folder where your spreadsheet is located.

Imaged exported to: Macintosh HD:Users:susan.sudbury:Desktop:Data:6th Grade:JackSparrow(Cptn)_Chart–Decrease.jpg
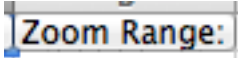
The name on the file is comprised of the student's name, the behavior (if it is a stacked chart) and the table ID.

If a file with this name already exists it is removed.

These saved pictures can be embedded into other documents or e-mailed to parents or used in Parent/Teacher conferences.

Zoom Range Button

Each chart sheet has a "Zoom Range" button.

Click this button to define a range of dates, with the help of a pop-up form, to reduce the range of dates used to generate the form, essentially 'zooming in' on the data. For example, you could have the chart only show the dates since the last parent teacher conference.

The pop-up form helps ensure the range of dates are formatted properly, but it doesn't prevent you from going outside the range of dates you have defined on the configuration sheet. If you overshoot on the range of dates you will get a warning indicating you have 'zoomed away' all your data and nothing will be displayed in the chart.

When you want to remove the zoom, use the "Clear All" button on the pop-up form to remove the zoom range.
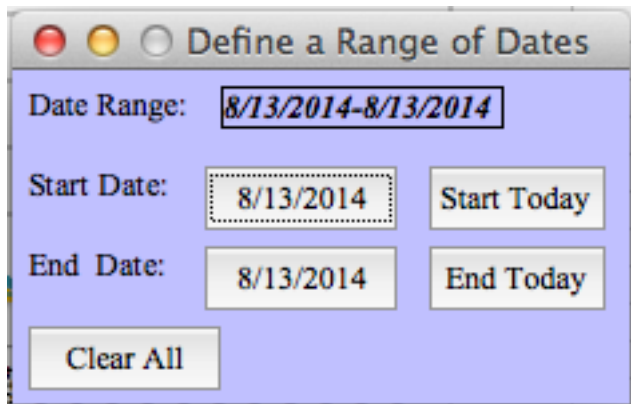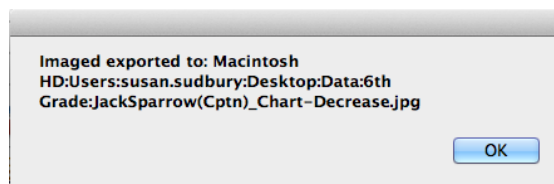

Option	Behavior
Start Date	The first date to include in the zoom range.
End Date	Last date to include in the zoom range.
Start Today	Set the Start Date to the current date.
End Today	Set the End Date: field to the current date.
Clear All	Remove all date entries, removing the zoom range.

After you have defined the range of dates, close the dialog box and the chart should regenerate. If it doesn't re-enter a value on the data sheet which should trigger a re-draw.

Printing

Prior to printing directly a chart from the Chart Sheet, it is recommend you make sure the image will fit on the paper. You can display the print margins and adjust the image prior to printing. Your adjustments to the chart will persist until you cause the chart to be regenerated by modifying the configuration or data for the chart.

Imaged exported to: Macintosh HD:Users:susan.sudbury:Desktop:Data:6th Grade:JackSparrow(Cptn)_Chart–Decrease.jpg

OK

To show the print margins perform the following:

PC Steps	Apple Steps
Click the 'Page Layout' menu.	Click the Layout toolbar menu.
Click the Orientation dropdown and select "Landscape".	Click the Orientation dropdown and select "Landscape".
Click the 'View' toolbar button.	Click the 'Preview' toolbar button.
Click the "Page Break Preview" button	
Close the preview (you may notice the image is chopped off).	
Adjust the size of the chart until it fits within the dotted lines (margins) that should now be visible on the sheet.	

Macros....Revisited....Again

Crashing Code

Plenty has been said about how the features in D³ are accomplished through macros added to each Workbook. While significant effort has been made to ensure that the code within these macros do what is expected, it is possible that at some point something will go wrong and you will find yourself staring at the Visual Studio Debugger.

If you encounter a bug in the software, the best option is to close the spreadsheet and reopen it. If the problem is persistent and reproducible consider submitting a copy of your malfunctioning workbook so that we can fix the problem in the SW. Alternatively, you can send an e-mail describing the conditions that result in the problem.

When the software encounters an error, a file named 'ErrorLog.txt' will be created in the same folder as your D³ macro. This file can be sent along with a copy of the failing spreadsheet and a description of the behavior that causes the bad behavior. These three things will help resolve the problem (for you and everyone else too).

Public Macros

Many of the features in D^3 are accessed from buttons or clicking in specific cells. However, a few options exist via direct access to the macros that perform certain features. Before we detail the list of these macros, here are some basic instructions on how to access them.

PC Steps	Apple Steps
Click the 'Tools' menu.	Click the Developer toolbar menu.
Click the 'Macro' menu entry.	Click the Macros toolbar button.
Click the 'Macros…' toolbar button.	Click the 'Preview' toolbar button.
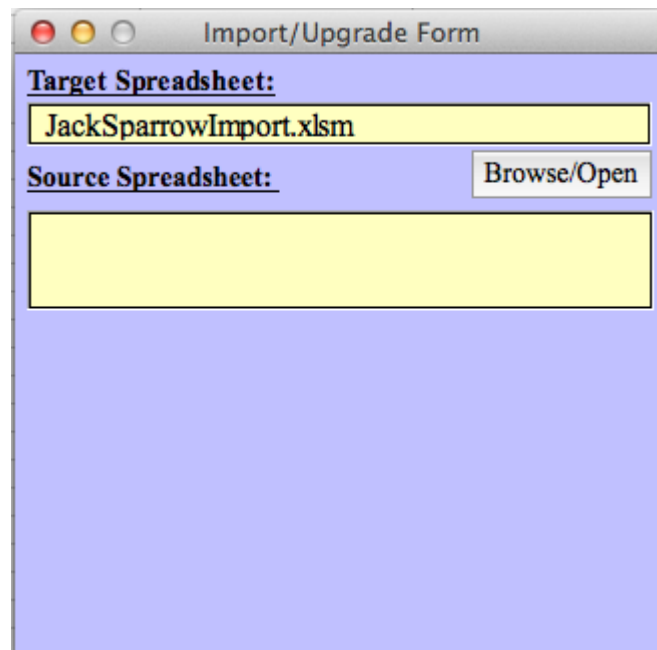
Macro Name	Description
About	Running this is the same as clicking the 'About' button does on the configuration screen.
EnableAutoChartBuild	Run this if you ever find that your chart isn't updating when you add new data.
GlobalConfigurationDialog	Running this is the same as clicking the 'Global Cnfg" button on the configuration sheet.
HandleWorkbookOpen	Running this performs the same actions as the 'EnableAutoChartBuild' and also some color configuration.
ImportData	Running this launches a form that provides a way to import data from an earlier version of D^3.
OrganizeSheetOrder	Running this will organize the sheets so that the Data and Chart sheets are grouped together.

Import Data

When a new version of D3 is available, you can 'upgrade' by importing the configuration and data from Workbooks created using earlier versions of D^3.

> Hint: To avoid confusion, it is recommended to close all workbooks, except for the new file you are importing *into*.

To use this tool and being the import process, launch the 'Import Data' as described in the Public Macros section, and follow the directions detailed below:


Now is a great time to make sure that the 'Target Spreadsheet' is the name of the new sheet you are importing data into.

If there are other open workbooks, they will be listed in the 'Source Spreadsheet' list.

If you don't already have the source workbook open, use the Browse/Open feature to find and open it. Note: It is normal to be asked to enable macros, etc that happens whenever a D^3 workbook is opened.

At this point you should have your source spreadsheet in the list.
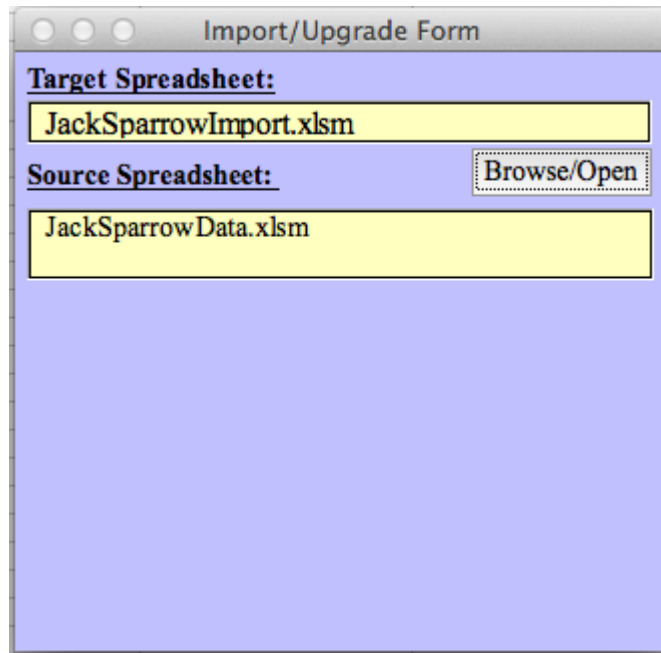
From the list of files in 'Source Spreadsheet' select the source to import. Selecting an entry will cause the 'Begin Import" button to appear.
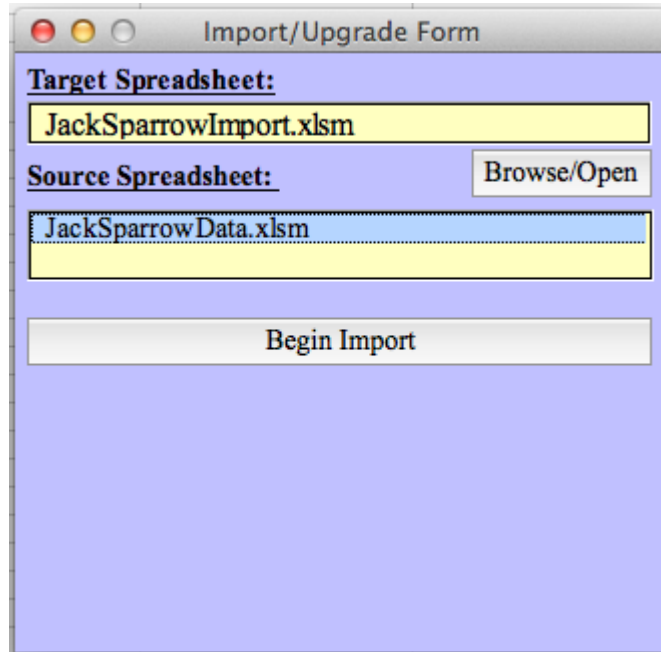
Click the 'Begin Import' button and wait for the import to proceed.

Hint: It has been said that "**_patience is a virtue_**", and in this case it is indispensable. The more data there is to import the longer it will take.

During or at least at the end of the import process, a list of import activities will be reported. Note the "All Done" message to know when the import is complete.
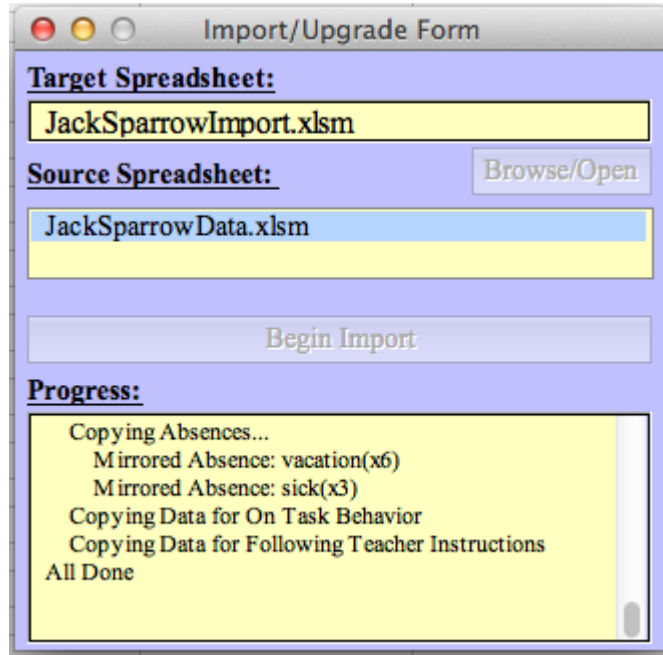
Close the Import/Upgrade Form and begin using the new features in an improved version of D³.

Future Plans

Below are some ideas that just might make it into future versions.

Zoom Feature

This feature will allow you to zoom the chart into a smaller range of dates, for example, to show just the months since the last parent conference.

Global Configuration – Save Location

On the global configuration form, define where charts are saved.

Global Configuration – Trend Line Type

On the global configuration form, define the type of trend lines, for example Linear instead of Polynomial.

Global Configuration – plot on demand

Regenerate the charts on command instead of whenever something changes.