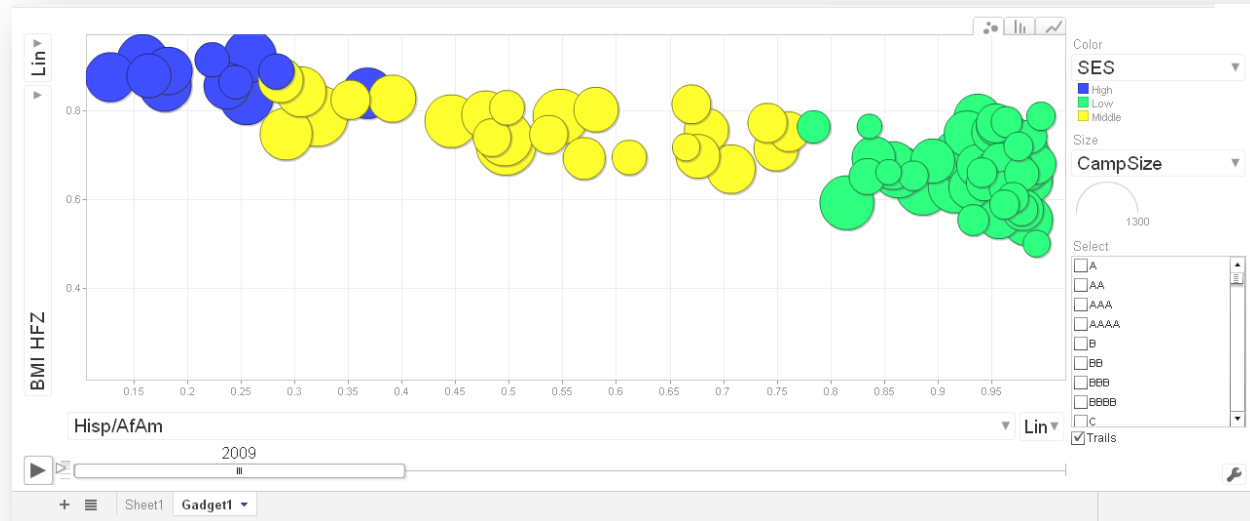
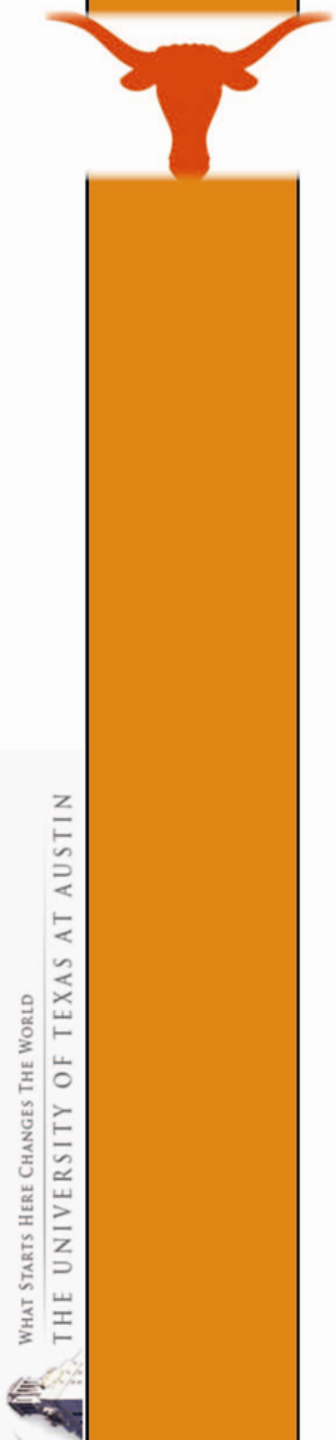


Presenting Data Using Motion Chart Visualization



Brian Dauenhauer & Dolly Lambdin
The University of Texas at Austin

AAHPERD 2013 National Conference & Exposition
Charlotte, NC



Driving Questions

Teachers

1. Are students achieving my intended learning objectives?
2. How effective is my program?
3. Which students could use some additional attention?



Administrators

1. What types of professional development do my teachers need?
2. Which schools are showing improvement (or not)?
3. What factors influence the effectiveness of a program?



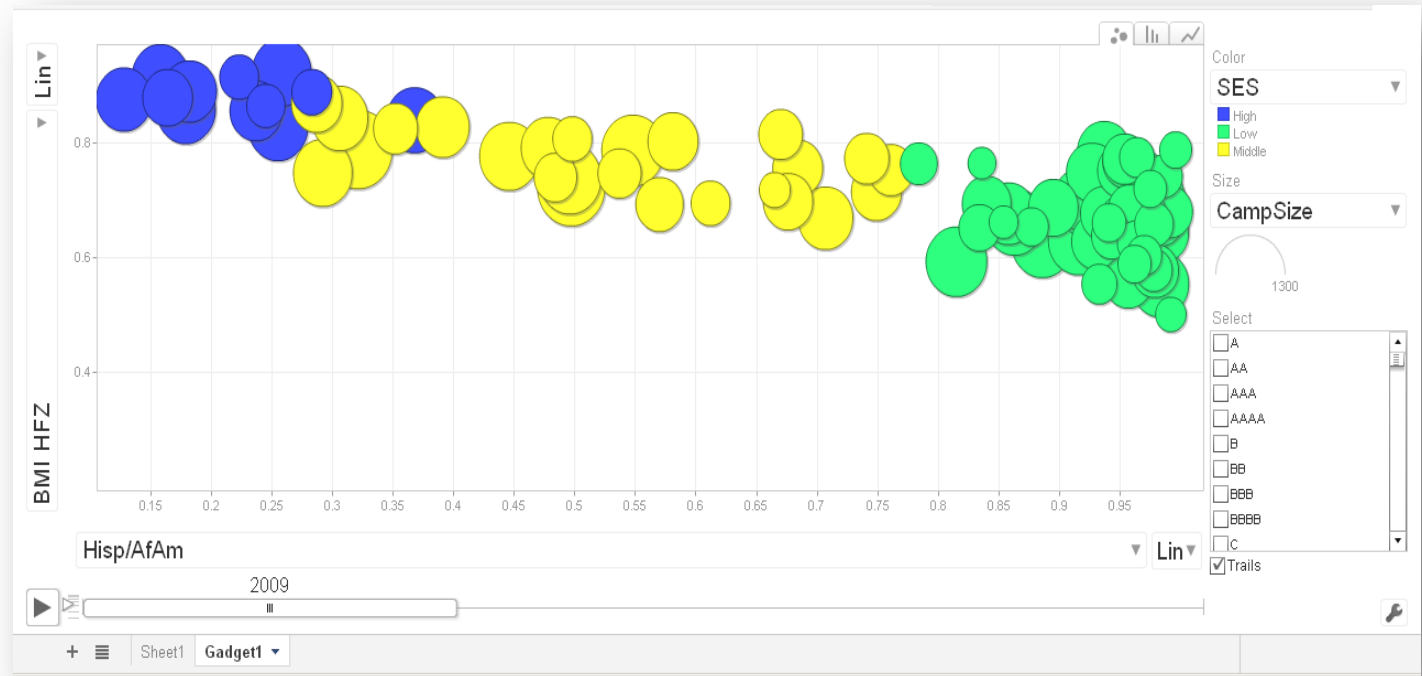


Audience Poll

What made you come to this presentation?

What do you want to get out of this presentation?

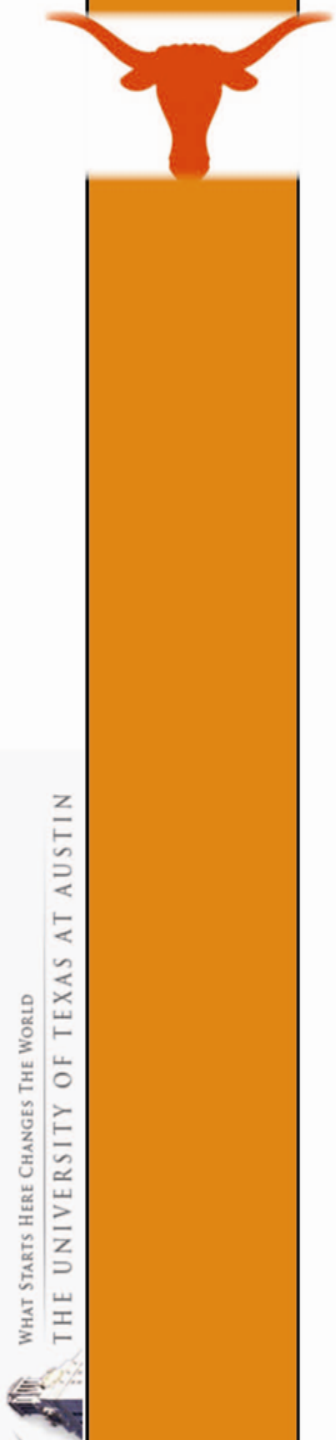
Sample Motion Chart Visualization



What does this motion chart tell you?

What kinds of questions could you ask of this data?

What are the benefits of using this kind of technology?

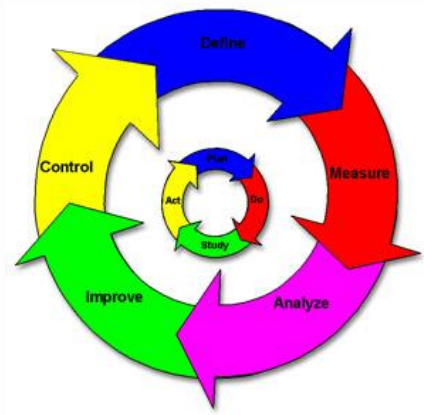




Presentation Outline

1. Our future depends on effective data-use
2. Create a motion chart (its easy)
3. Interpret a motion chart (you can do it)
 - a) Sample visualizations
 - I. School level data
 - II. Student level data
4. Share it with others

Driving Forces Behind Data-Use in Education



Models from
Business/Industry

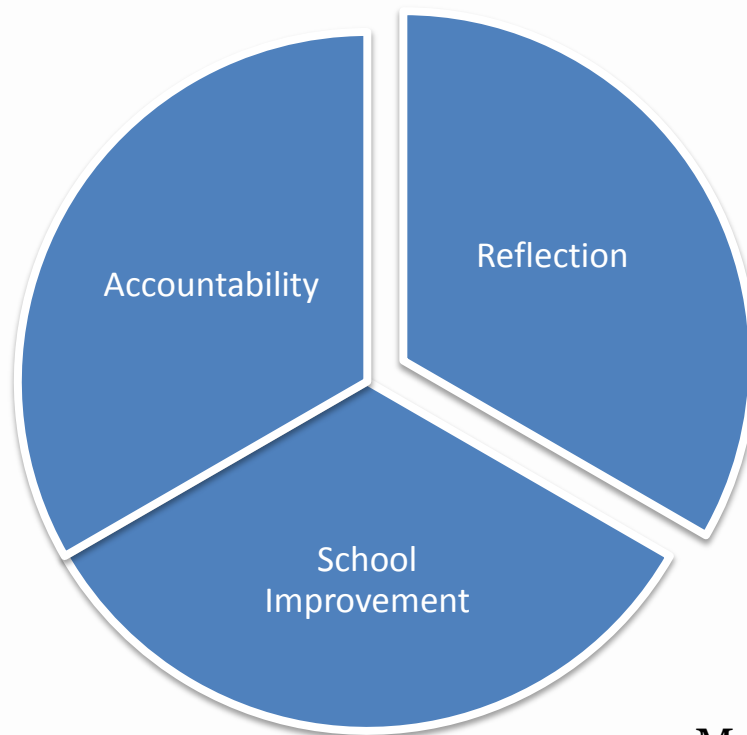


Educational Policy



Technology

Common Uses of Data in Education



Moody & Dede (2008)

+ ADVOCACY

Data Use in Physical Education

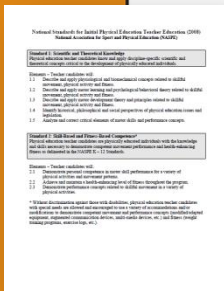
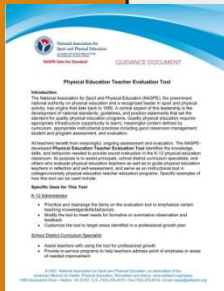
NASPE Guidance Documents

“Student performance is continually evaluated to guide instruction.”

- NASPE, 2007, p. 11

“...use assessments and reflection to foster student learning and inform decisions about instruction.”

- NASPE, 2008, p. 3



Technology in Physical Education

Data Management Systems



Activity Monitors



The Problem

D.R.I.P. Syndrome

We have become *data rich*,
but *information poor*.

Data-to-Knowledge Continuum

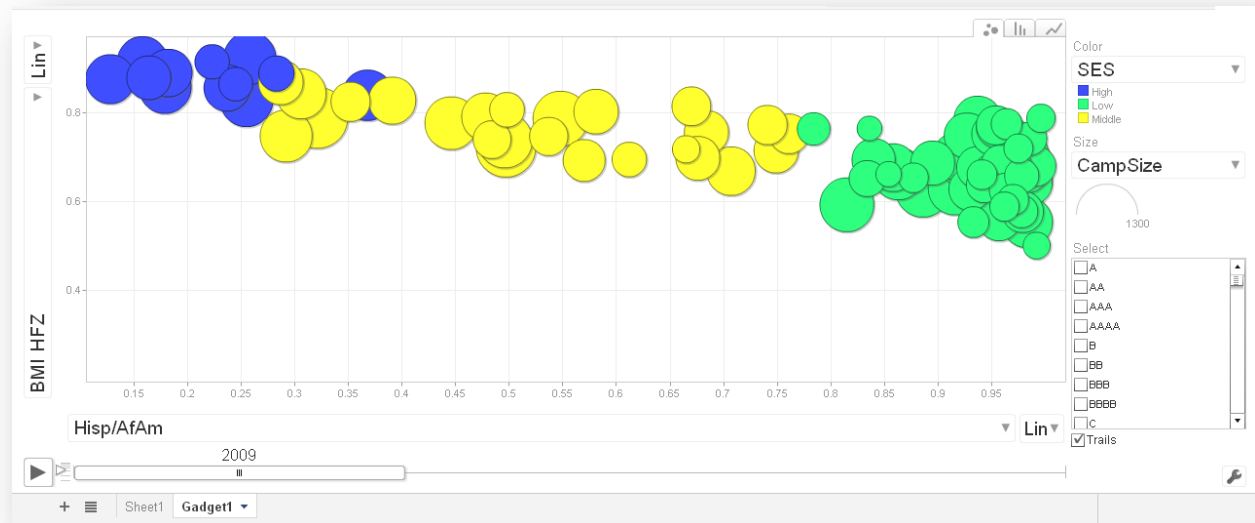


(Light, Wexler, & Heinze, 2005)

How can we turn all of this data into some form of actionable knowledge?

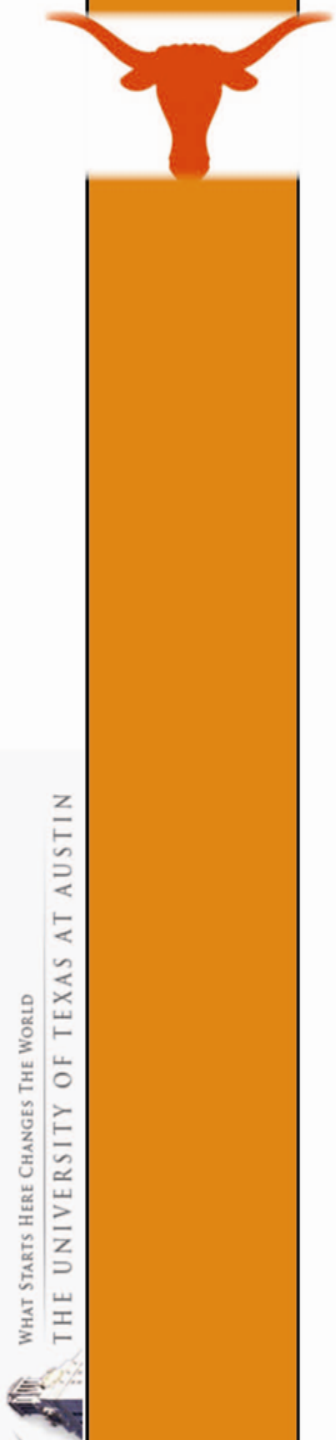
One Solution

Motion Chart Visualization



A dynamic graphing tool that can be used to analyze, interpret and present data

(without any statistical analysis)





Creating a Motion Chart

Step 1

Sign in to Google

Step 2

Access Google Drive

Step 3

Create a new spreadsheet

Step 4

Name your spreadsheet

Step 5

Add case names

Step 6

Freeze row with headings

Step 7

Add time values

Step 8

Add other variables of interest

Step 9

Add data from subsequent time points

Step 10

Highlight the data

Step 11

Insert a motion chart gadget

Step 12

Move chart to a new sheet

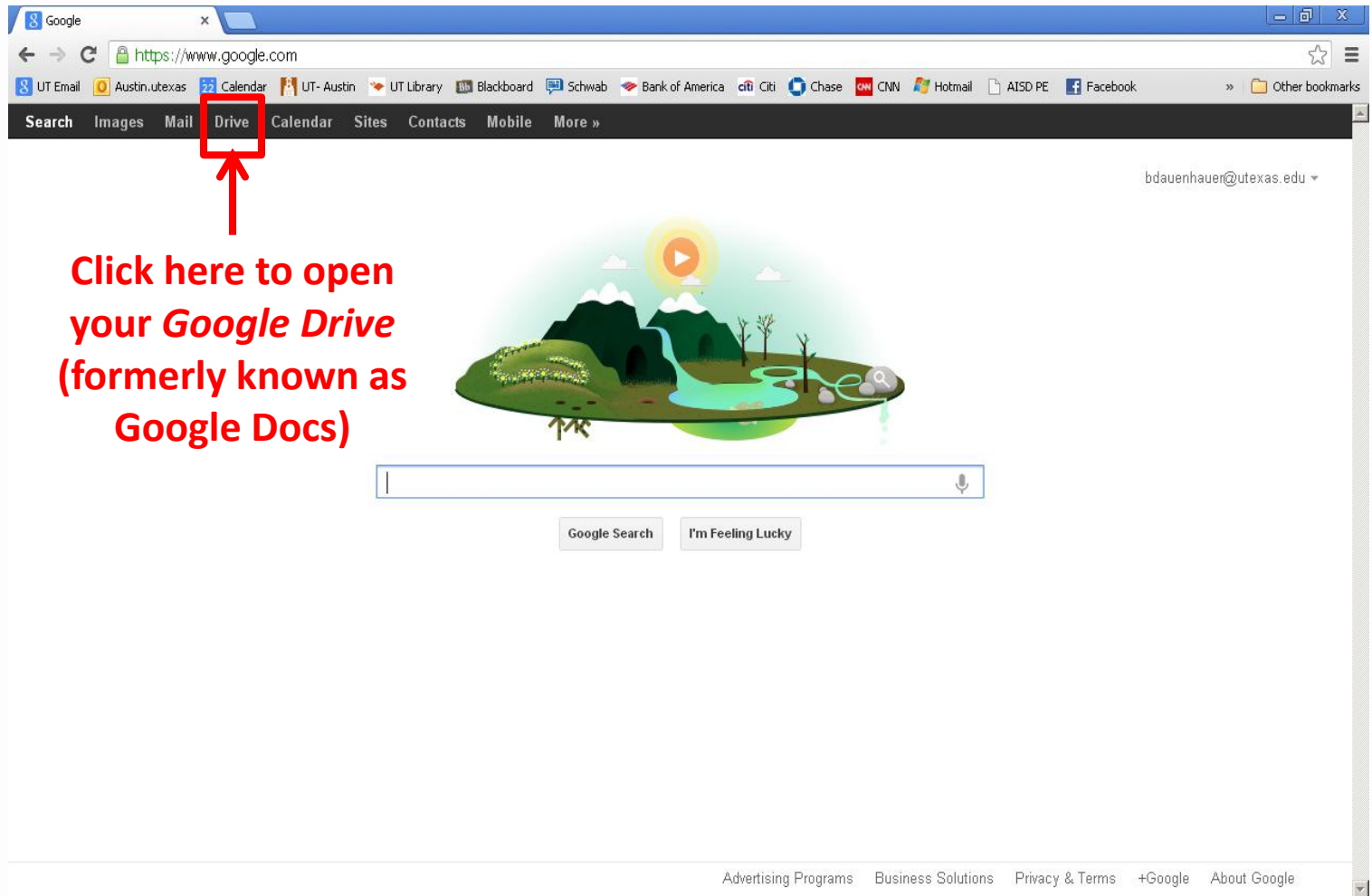
Step 1- Sign in to Google



Type in web address

Sign in or create
an account

Step 2- Access Google Drive



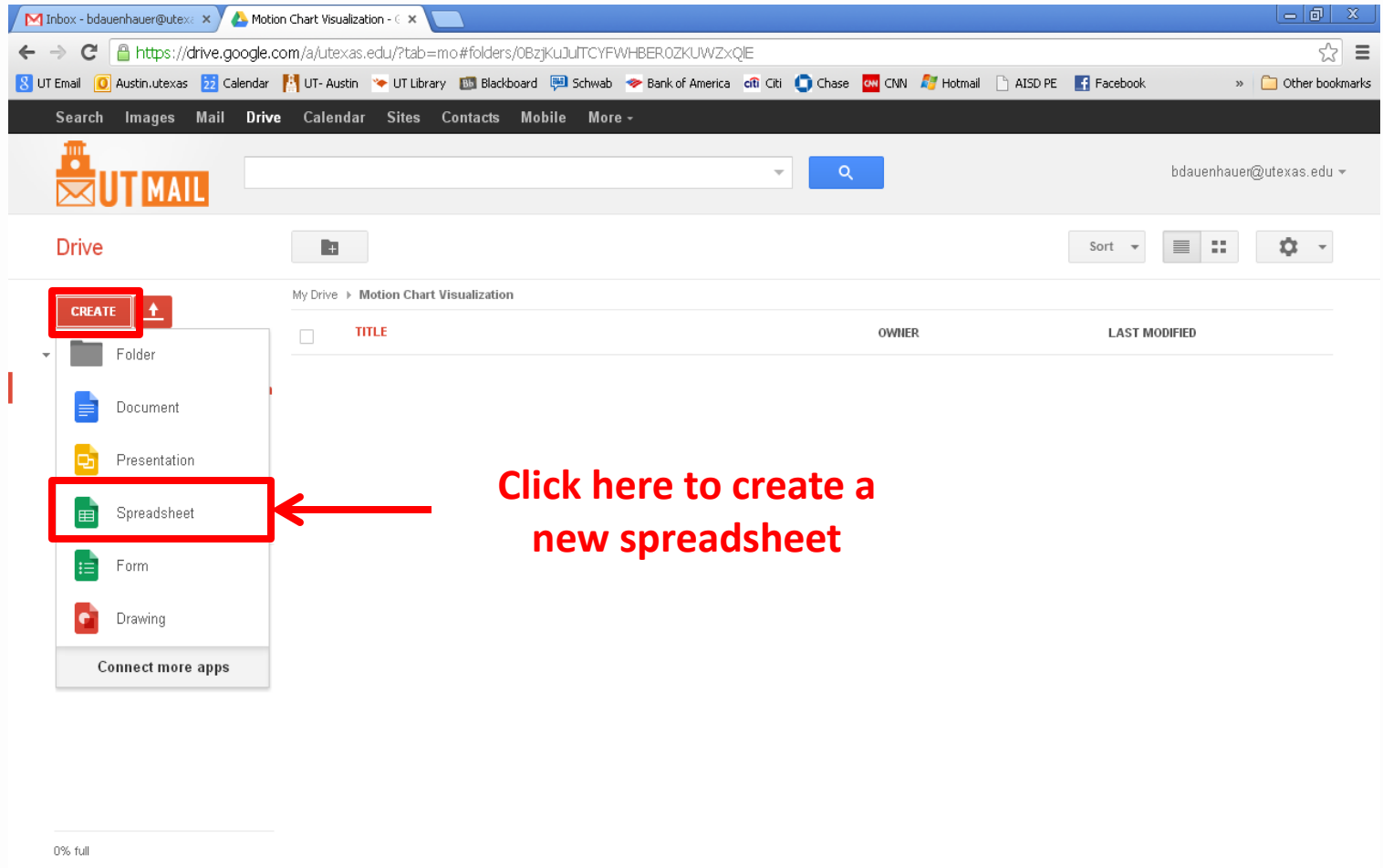
Click here to open
your *Google Drive*
(formerly known as
Google Docs)



Google Search

I'm Feeling Lucky

Step 3- Create a New Spreadsheet



The screenshot shows a web browser window with the Google Drive interface. The address bar shows the URL <https://drive.google.com/a/utexas.edu/?tab=mo#folders/0BzjKJ0UICYFWHBER0ZKUWZxQIE>. The browser's bookmark bar includes links to UT Email, Austin,utexas, Calendar, UT-Austin, UT Library, Blackboard, Schwab, Bank of America, Citi, Chase, CNN, Hotmail, AISD PE, and Facebook. The Google Drive header shows the 'UT MAIL' logo, a search bar, and the user email 'bdauenhauer@utexas.edu'. The main content area is titled 'My Drive > Motion Chart Visualization'. On the left, a 'CREATE' button is highlighted with a red box. A dropdown menu is open, showing options: Folder, Document, Presentation, Spreadsheet, Form, and Drawing. The 'Spreadsheet' option is highlighted with a red box and a red arrow points to it from the text 'Click here to create a new spreadsheet'. At the bottom of the menu is a 'Connect more apps' button. The main table area has columns for 'TITLE', 'OWNER', and 'LAST MODIFIED', but it is currently empty.

CREATE

- Folder
- Document
- Presentation
- Spreadsheet**
- Form
- Drawing

Connect more apps

Click here to create a new spreadsheet

0% full

Step 4- Name Your Spreadsheet

The screenshot shows a Google Docs interface with a spreadsheet titled "Untitled spreadsheet". The "File" menu is open, and the "Rename..." option is highlighted with a red box. A red arrow points from this option to a "Rename spreadsheet" dialog box. The dialog box contains the text "Enter a new spreadsheet name:" and a text input field with the text "Changes in BMI". Below the input field are "OK" and "Cancel" buttons. The background shows the spreadsheet grid with columns C through J and rows 1 through 28. The browser address bar shows the URL: <https://docs.google.com/a/utexas.edu/spreadsheet/ccc?key=0AjJKuJlTCYFdHlmdUowbkZzNfNKc2tUQ0NCZ3FveUE#gid=0>. The browser tabs include "My Drive - Google Drive", "BMI Visualization- Google For", "Untitled spreadsheet", and "Visualization: Motion Chart". The browser's bookmark bar shows various links including "UT Email", "Austin.utexas", "Calendar", "UT- Austin", "UT Library", "Blackboard", "Schwab", "Bank of America", "Citi", "Chase", "CNN", "Hotmail", "AISD PE", and "Facebook". The user's email address "bdauenhauer@utexas.edu" is visible in the top right corner.

Untitled spreadsheet

File Edit View Insert Format Data Tools Help

Share...

New

Open... Ctrl+O

Rename...

Make a copy...

Import...

See revision history Ctrl+Alt+Shift+G

Spreadsheet settings...

Download as

Publish to the web...

Email collaborators...

Email as attachment...

Print Ctrl+P

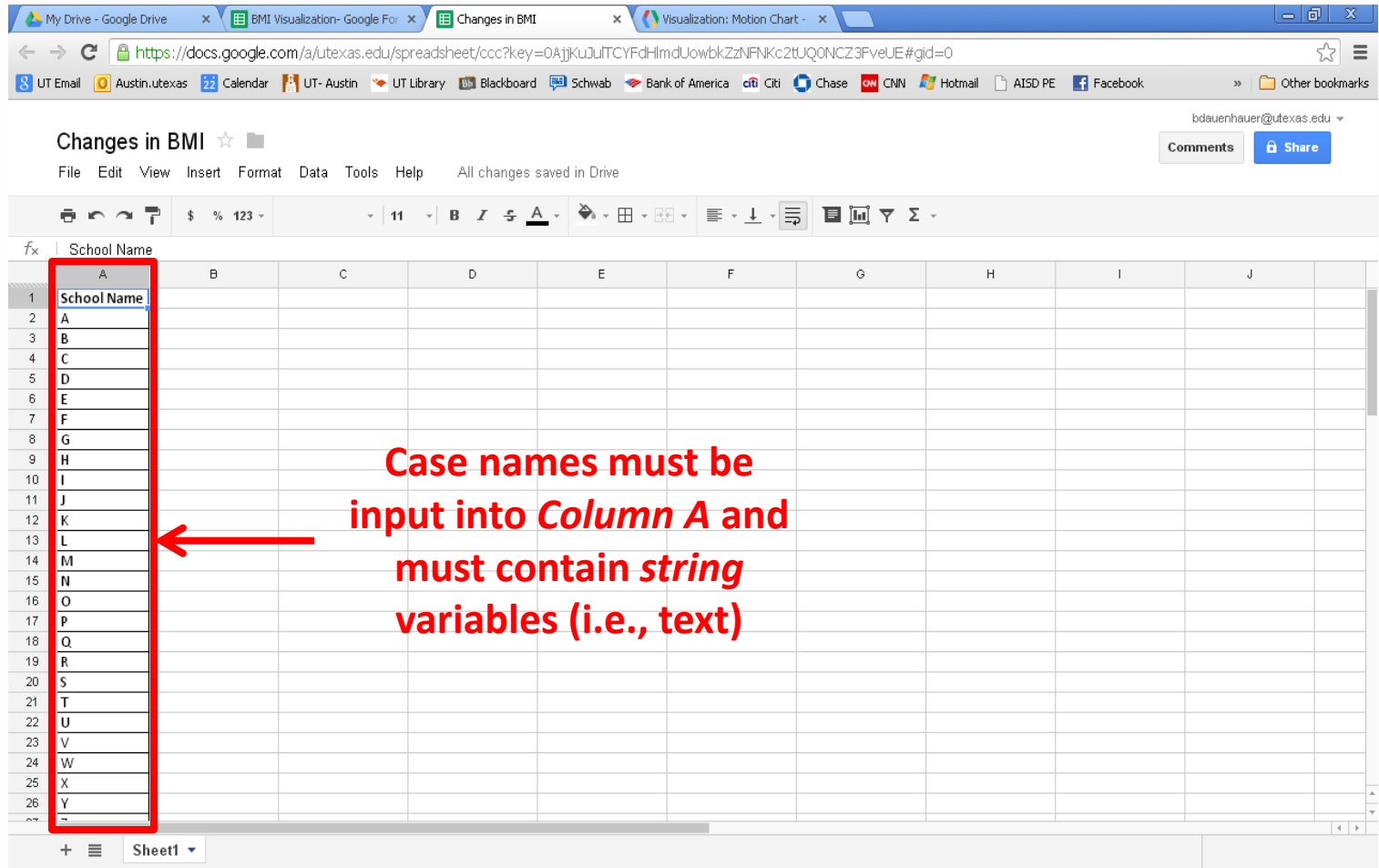
Rename spreadsheet

Enter a new spreadsheet name:

Changes in BMI

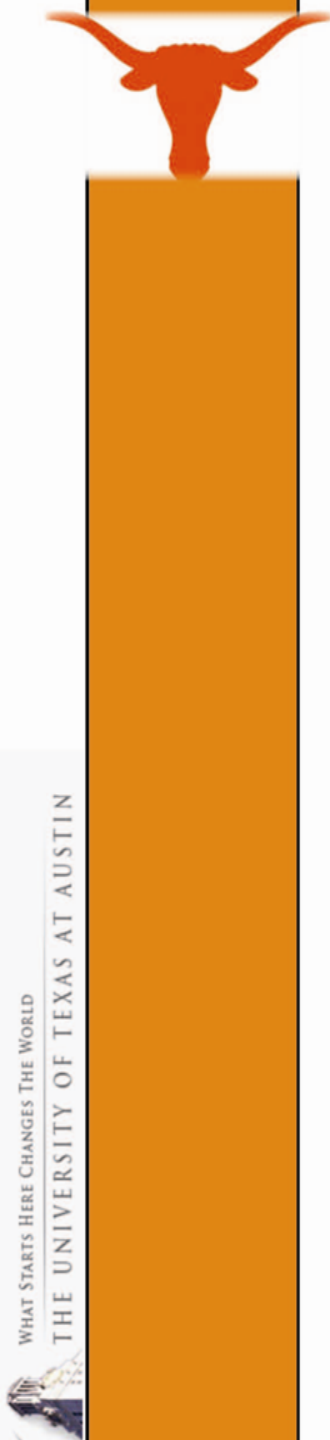
OK Cancel

Step 5- Add Case Names

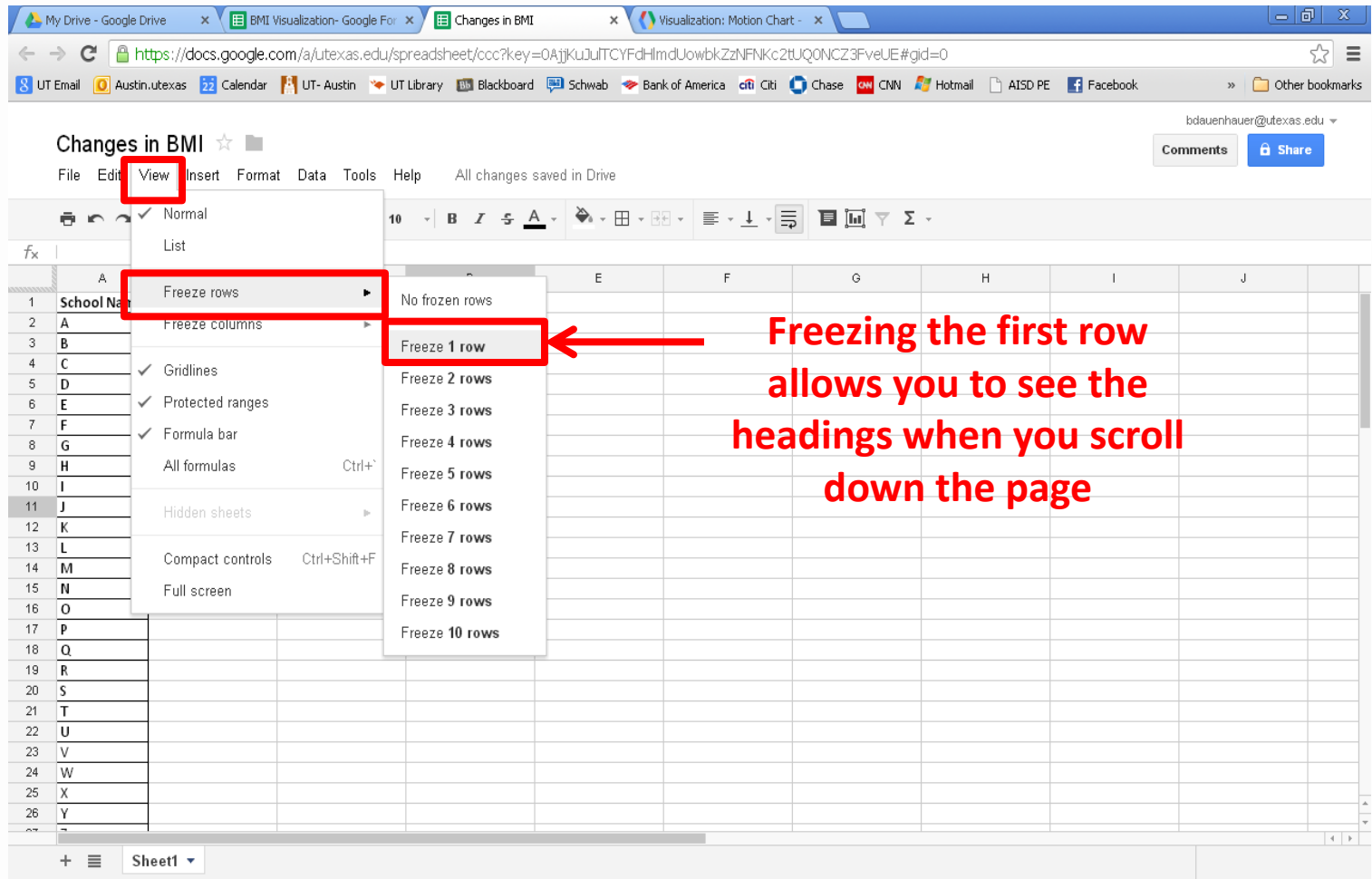


The screenshot shows a Google Sheets spreadsheet titled "Changes in BMI". The spreadsheet has a single column labeled "School Name" in the header row (row 1). Below the header, rows 2 through 27 are filled with single-letter case names from A to Z. A red rectangular box highlights the entire "School Name" column. A red arrow points from the text "Case names must be input into Column A and must contain string variables (i.e., text)" to the highlighted column.

Case names must be input into *Column A* and must contain *string* variables (i.e., text)



Step 6- Freeze Row with Headings

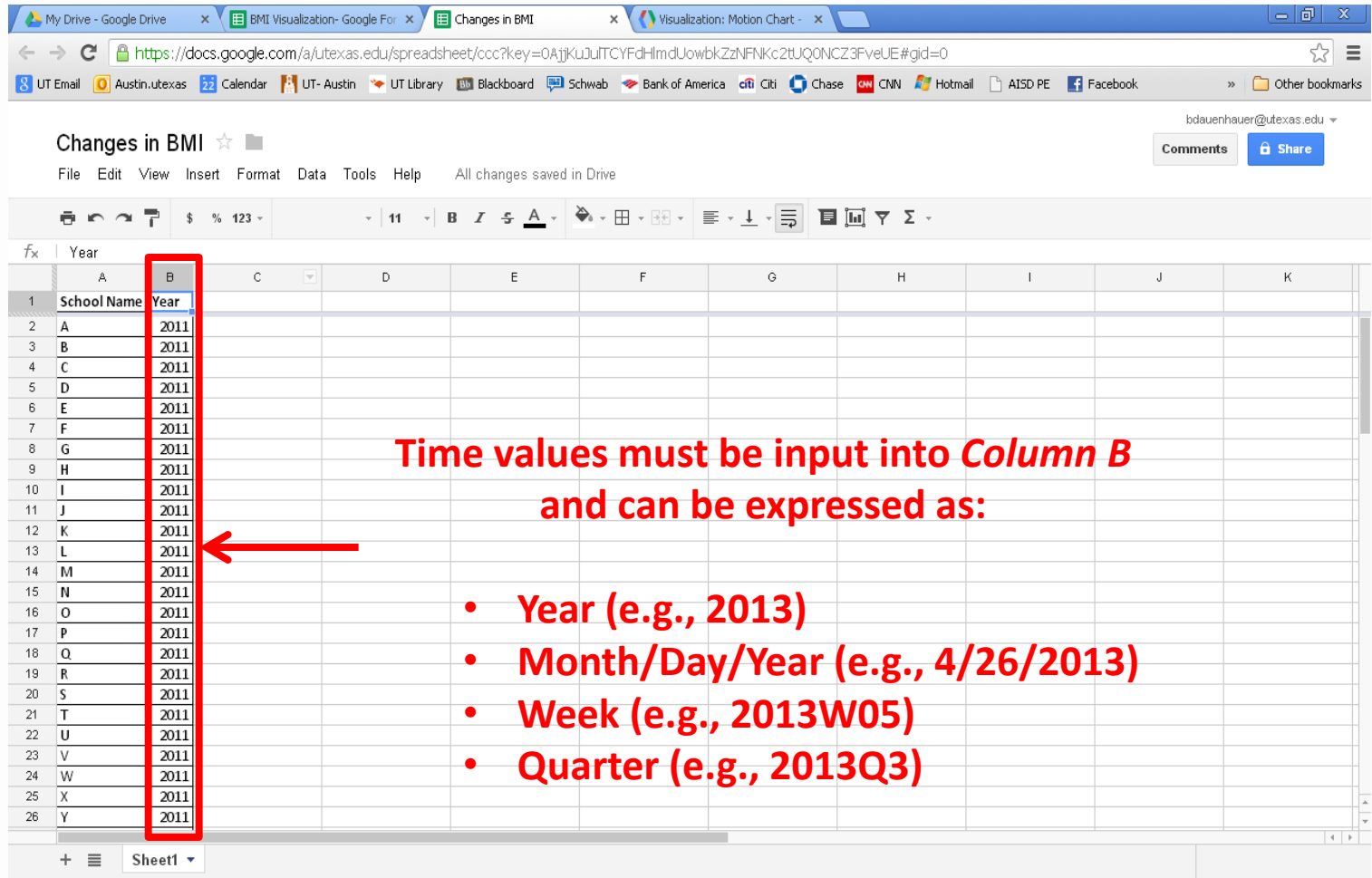


The screenshot shows a Google Docs spreadsheet titled "Changes in BMI". The "View" menu is open, and the "Freeze 1 row" option is selected. A red arrow points to this option. The spreadsheet has a header row (row 1) with the heading "School Name" and a data row (row 2) with the heading "A". The spreadsheet is displayed in a web browser window with the URL <https://docs.google.com/a/utexas.edu/spreadsheet/ccc?key=0AjjkUjITCYFdhImdUowbkZzNfNKc2tUQONCZ3FveUE#gid=0>. The browser's address bar shows the URL, and the page title is "Changes in BMI". The browser's toolbar includes various icons for navigation and editing. The spreadsheet's toolbar includes icons for font formatting, alignment, and data manipulation. The spreadsheet's menu bar includes File, Edit, View, Insert, Format, Data, Tools, and Help. The spreadsheet's status bar shows "Sheet1".

Freezing the first row allows you to see the headings when you scroll down the page



Step 7- Add Time Values



Changes in BMI

File Edit View Insert Format Data Tools Help All changes saved in Drive

fx | Year

	A	B	C	D	E	F	G	H	I	J	K
1	School Name	Year									
2	A	2011									
3	B	2011									
4	C	2011									
5	D	2011									
6	E	2011									
7	F	2011									
8	G	2011									
9	H	2011									
10	I	2011									
11	J	2011									
12	K	2011									
13	L	2011									
14	M	2011									
15	N	2011									
16	O	2011									
17	P	2011									
18	Q	2011									
19	R	2011									
20	S	2011									
21	T	2011									
22	U	2011									
23	V	2011									
24	W	2011									
25	X	2011									
26	Y	2011									

Time values must be input into *Column B* and can be expressed as:

- Year (e.g., 2013)
- Month/Day/Year (e.g., 4/26/2013)
- Week (e.g., 2013W05)
- Quarter (e.g., 2013Q3)



Step 8- Add Other Variables of Interest

My Drive - Google Drive x BMI Visualization- Google For x Changes in BMI x Visualization: Motion Chart x

https://docs.google.com/a/utexas.edu/spreadsheet/ccc?key=0AjjKuJiTCYFdhImdUowbkZzNFNkc2tUQONCZ3FeUE#gid=0

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bdauenhauer@utexas.edu

Comments Share

Changes in BMI

File Edit View Insert Format Data Tools Help All changes saved in Drive

fx | CampSize

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	School Name	Year	BMI HFZ	CampSize	EcDis	SES	Hisp/AfAm	MINORITY	LimEngProf	LEP	Mobility	MOB				
1	A	201	50.3%	379	95%	Low	98.6%	High	56.2%	Middle	18.4%	Middle				
2	B	201	42.6%	555	95.7%	Low	99.1%	High	42.7%	Middle	21.9%	Middle				
3	C	201	43.9%	701	97.9%	Low	95.3%	High	66.3%	High	27.6%	High				
4	D	201	56%	1035	34.6%	Middle	54.8%	Middle	4.1%	Low	11%	Middle				
5	E	201	70.4%	873	13.3%	High	36.8%	Middle	6.8%	Low	7.2%	Low				
6	F	201	52.4%	994	98.1%	Low	96.5%	High	63.1%	High	28.2%	High				
7	G	201	73.5%	388	12.1%	High	24.5%	Middle	1.3%	Low	4%	Low				
8	H	201	52.6%	208	78.4%	Low	83.6%	High	35.6%	Middle	17.2%	Middle				
9	I	201	41.6%	1052	84.2%	Low	88.6%	High	16.5%	Low	16.9%	Middle				
10	J	201	34%	247	96.8%	Low	99.2%	High	43.3%	Middle	23.5%	Middle				
11	K	201	49.1%	588	93.5%	Low	95.5%	High	63.8%	High	24.4%	Middle				
12	L	201	47.1%	776	77.7%	Low	85.8%	High	33.2%	Middle	25.8%	Middle				
13	M	201	58.1%	501	49.5%	Middle	53.7%	Middle	9%	Low	16.8%	Middle				
14	N	201	61.5%	488	47.1%	Middle	48.4%	Middle	13.1%	Low	17%	Middle				
15	O	201	36.3%	433	96.3%	Low	94.3%	High	29.3%	Middle	27.7%	High				
16	P	201	48.4%	521	94.6%	Low	95.4%	High	66%	High	18.1%	Middle				
17	Q	201	74.1%	405	10.9%	High	22.3%	Middle	3.7%	Low	3.7%	Low				
18	R	201	41.3%	994	94.5%	Low	91.6%	High	42%	Middle	27.5%	High				
19	S	201	23.3%	360	94.4%	Low	97.8%	High	25.6%	Middle	24.5%	Middle				
20	T	201	49.4%	673	68.1%	Middle	74.9%	Middle	18.3%	Low	14.6%	Middle				
21	U	201	76.5%	821	4.1%	High	12.8%	Low	3.4%	Low	3.9%	Low				
22	V	201	77.9%	871	2.9%	High	15.8%	Low	5.6%	Low	5.3%	Low				
23	W	201	34.8%	908	96.6%	Low	93.6%	High	66%	High	26.5%	High				
24	X	201	42.4%	807	66.7%	Middle	70.7%	Middle	13%	Low	17.4%	Middle				
25	Y	201	62.5%	781	32.9%	Middle	47.8%	Middle	7.7%	Low	9.7%	Middle				

Sheet1

Other variables can be string or numerical

Step 9- Add Data From Subsequent Time Points

My Drive - Google Drive x BMI Visualization- Google For x Changes in BMI x Visualization: Motion Chart - x

https://docs.google.com/a/utexas.edu/spreadsheet/ccc?key=0AjjkUuTCYFdhImdUowbkZzNFNkc2tUQONCZ3FveUE#gid=0

UT Email Austin.utexas Calendar UT- Austin UT Library Blackboard Schwab Bank of America Citi Chase CNN Hotmail AISD PE Facebook

bdauenhauer@utexas.edu

Changes in BMI ☆

File Edit View Insert Format Data Tools Help All changes saved in Drive

fx | 2010

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	School Name	Year	BMI HFZ	CampSize	EcDis	SES	Hisp/AfAm	MINORITY	LimEngProf	LEP	Mobility	MOB				
76	WWW	2011	48.6%	657	69.4%	Middle	67.6%	Middle	34.7%	Middle	26%	High				
77	XXX	2011	51.9%	618	91.7%	Low	93%	High	45.5%	Middle	18%	Middle				
78	YYY	2011	42.6%	302	94%	Low	87.7%	High	66.9%	High	29.9%	High				
79	ZZZ	2011	53.4%	526	60.1%	Middle	74.1%	Middle	3.2%	Low	4.9%	Low				
80	AAAA	2011	38%	220	78.6%	Low	85.4%	High	50.9%	Middle	17.8%	Middle				
81	BBBB	2011	40.9%	922	96.9%	Low	98.2%	High	59.2%	Middle	21.5%	Middle				
82	CCCC	2011	41%	597	96.1%	Low	95.1%	High	60.5%	High	31.4%	High				
83	DDDD	2011	37.2%	275	96.4%	Low	99.6%	High	34.2%	Middle	21.9%	Middle				
84	EEEE	2011	52%	951	34%	Middle	44.6%	Middle	6.7%	Low	9.8%	Middle				
85	FFFF	2011	54.1%	304	94.4%	Low	94.1%	High	61.8%	High	22%	Middle				
86	GGGG	2011	65.9%	850	46.8%	Middle	30.6%	Middle	38.7%	Middle	11.9%	Middle				
87	HHHH	2011	38.4%	444	82.9%	Low	83.4%	High	52.9%	Middle	22.5%	Middle				
88	IIII	2011	63.5%	540	74.8%	Middle	76.1%	High	23.9%	Middle	16.7%	Middle				
89	JJJJ	2011	41.8%	928	95.7%	Low	92.7%	High	67.5%	High	24.3%	Middle				
90	KKKK	2011	38.9%	580	95.5%	Low	97.9%	High	47.9%	Middle	29.4%	High				
91	LLLL	2011	42.8%	782	94.9%	Low	97.5%	High	53.6%	Middle	17.1%	Middle				
92	MMMM	2011	43.3%	634	80.4%	Low	84%	High	21.1%	Middle	14.1%	Middle				
93	NNNN	2011	46.9%	480	96.9%	Low	95.8%	High	50.2%	Middle	26%	High				
94	OOOO	2011	47.8%	878	97.8%	Low	93.1%	High	78.8%	High	17.7%	Middle				
95	PPPP	2011	47.1%	703	95.7%	Low	92.7%	High	70.6%	High	20.5%	Middle				
96	QQQQ	2011	35.6%	410	96.8%	Low	96.4%	High	41.5%	Middle	24.5%	Middle				
97	RRRR	2011	64%	323	53.8%	Middle	39.2%	Middle	6.4%	Low	6.7%	Middle				
98	A	2010	69.9%	379	95%	Low	98.6%	High	56.2%	Middle	18.4%	Middle				
99	B	2010	61.3%	555	95.7%	Low	99.1%	High	42.7%	Middle	21.9%	Middle				
100	C	2010	66.1%	701	97.9%	Low	95.3%	High	66.3%	High	27.6%	High				

+ Sheet1

Data from subsequent time periods can be added into new rows below existing data

Step 10- Highlight the Data

My Drive - Google Drive x BMI Visualization- Google For x Changes in BMI x Visualization: Motion Chart x

https://docs.google.com/a/utexas.edu/spreadsheet/ccc?key=0AjjKuJitCYFdHlmdUowbkZzNFNkc2tUQONCZ3FveUE#gid=0

UT Email Austin.utexas Calendar UT- Austin UT Library Blackboard Schwab Bank of America Citi Chase CNN Hotmail AISD PE Facebook Other bookmarks

bdauenhauer@utexas.edu

Changes in BMI ☆

File Edit View Insert Format Data Tools Help All changes saved in Drive

fx School Name

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	School Name	Year	BMI HFZ	CampSize	EcDis	SES	Hisp/AfAm	MINORITY	LimEngProf	LEP	Mobility	MOB				
268	WWW	2009	69.7%	657	69.4%	Middle	67.6%	Middle	34.7%	Middle	26%	High				
269	XXX	2009	62.7%	618	91.7%	Low	93%	High	45.5%	Middle	18%	Middle				
270	YYY	2009	65.3%	302	94%	Low	87.7%	High	66.9%	High	29.9%	High				
271	ZZZ	2009	77.2%	526	60.1%	Middle	74.1%	Middle	3.2%	Low	4.9%	Low				
272	AAAA	2009	66.1%	220	78.6%	Low	85.4%	High	50.9%	Middle	17.8%	Middle				
273	BBBB	2009	65.1%	922	96.9%	Low	98.2%	High	59.2%	Middle	21.5%	Middle				
274	CCCC	2009	75.1%	597	96.1%	Low	95.1%	High	60.5%	High	31.4%	High				
275	DDDD	2009	78.7%	275	96.4%	Low	99.6%	High	34.2%	Middle	21.9%	Middle				
276	EEEE	2009	77.6%	951	34%	Middle	44.6%	Middle	6.7%	Low	9.8%	Middle				
277	FFFF	2009	66%	304	94.4%	Low	94.1%	High	61.8%	High	22%	Middle				
278	GGGG	2009	84.2%	850	46.8%	Middle	30.6%	Middle	38.7%	Middle	11.9%	Middle				
279	HHHH	2009	65.1%	444	82.9%	Low	83.4%	High	52.9%	Middle	22.5%	Middle				
280	IIII	2009	75.2%	540	74.8%	Middle	76.1%	High	23.9%	Middle	16.7%	Middle				
281	JJJJ	2009	68.5%	928	95.7%	Low	92.7%	High	67.5%	High	24.3%	Middle				
282	KKKK	2009	57.6%	580	95.5%	Low	97.9%	High	47.9%	Middle	29.4%	High				
283	LLLL	2009	62.7%	782	94.9%	Low	97.5%	High	53.6%	Middle	17.1%	Middle				
284	MMMM	2009	69.3%	634	80.4%	Low	84%	High	21.1%	Middle	14.1%	Middle				
285	NNNN	2009	68.4%	480	96.9%	Low	95.8%	High	50.2%	Middle	26%	High				
286	OOOO	2009	68.7%	878	97.8%	Low	93.1%	High	78.8%	High	17.7%	Middle				
287	PPPP	2009	74.8%	703	95.7%	Low	92.7%	High	70.6%	High	20.5%	Middle				
288	QQQQ	2009	62.5%	410	96.8%	Low	96.4%	High	41.5%	Middle	24.5%	Middle				
289	RRRR	2009	82.4%	523	33.8%	Middle	35.2%	Middle	8.4%	Low	8.7%	Middle				

Add 20 more rows at bottom.

Sheet1

Sum: 769469.32

Select the data you wish to chart

Step 11- Insert a Motion Chart Gadget

The screenshot shows a Google Docs interface with a spreadsheet titled "Changes in BMI". The "Insert" menu is open, and the "Gadget..." option is highlighted. A red box around "Gadget..." has an arrow pointing to the "Motion Chart" gadget in the "Add a Gadget" dialog. Another red box around the "Motion Chart" gadget has an arrow pointing to the "Gadget Settings" dialog, where the "Title" field is set to "BMI Motion Chart".

Changes in BMI

	A	B	C	D	E	F	G	H
	School Name	Year				Hisp/AfAm	MINORIT	
268	WWWW	2009				67.6%	Middle	
269	XXX	2009				93%	High	
270	YYY	2009				87.7%	High	
271	ZZZ	2009				74.1%	Middle	
272	AAAA	2009				85.4%	High	
273	BBBB	2009				98.2%	High	
274	CCCC	2009				95.1%	High	
275	DDDD	2009				99.6%	High	
276	EEEE	2009				44.6%	Middle	
277	FFFF	2009				94.1%	High	
278	GGGG	2009				30.6%	Middle	
279	HHHH	2009				83.4%	High	
280	IIII	2009				76.1%	High	
281	JJJJ	2009				92.7%	High	
282	KKKK	2009				97.9%	High	
283	LLLL	2009				97.5%	High	
284	MMMM	2009				84%	High	
285	NNNN	2009				95.8%	High	
286	OOOO	2009				93.1%	High	
287	PPPP	2009	74.8%	703	95.7%	Low	92.7%	High
288	QQQQ	2009	62.5%	410	96.8%	Low	96.4%	High
289	RRRR	2009	82.4%	523	33.8%	Middle	35.2%	Middle

Add a Gadget

Motion Chart
By Google
A dynamic flash based chart to explore several indicators over time. Required columns: bubble name, time and 2 columns of numeric values. Optional columns: Numeric values or categories.

Gadget Settings

Range: Sheet1!A1:L289

Title: BMI Motion Chart

Default state: []

* Required

Apply & close Cancel



Step 12- Move Chart to New Sheet

My Drive - Google Drive x BMI Visualization- Google For x Changes in BMI x Visualization: Motion Chart - x

https://docs.google.com/a/utexas.edu/spreadsheet/ccc?key=0AjkuJuITCYFdhImdUowbkZzNfNkc2UQONCZ3FveUE#gid=0

UT Email Austin.utexas Calendar UT- Austin UT Library Blackboard Schwab Bank of America Citi Chase CNN Hotmail AISD PE Facebook Other bookmarks

bdauenhauer@utexas.edu

Changes in BMI ☆

File Edit View Insert Format Data Tools Help All changes saved in Drive

11 B I A

fx School Name

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	School Name	Year	BMI HFZ	CampSize	EcDis	SES	Hisp/AfAm	MINORITY	LimEngProf	LEP	Mobility	MOB				
1	A	2011	50.3%	379	95%	Low	98.6%	High	56.2%	Middle	18.4%	Middle				
2	B	2011	42.6%	555	95.7%	Low	99.1%	High	42.7%	Middle	21.9%	Middle				
3	C								66.3%	High	27.6%	High				
4	D								4.1%	Low	11%	Middle				
5	E								6.8%	Low	7.2%	Low				
6	F								63.1%	High	28.2%	High				
7	G								1.3%	Low	4%	Low				
8	H								35.6%	Middle	17.2%	Middle				
9	I								16.5%	Low	16.9%	Middle				
10	J								43.3%	Middle	23.5%	Middle				
11	K								63.8%	High	24.4%	Middle				
12	L								33.2%	Middle	25.8%	Middle				
13	M								9%	Low	16.8%	Middle				
14	N								13.1%	Low	17%	Middle				
15	O								29.3%	Middle	27.7%	High				
16	P								66%	High	18.1%	Middle				
17	Q								3.7%	Low	3.7%	Low				
18	R								42%	Middle	27.5%	High				
19	S								25.6%	Middle	24.5%	Middle				
20	T								18.3%	Low	14.6%	Middle				
21	U	2011	76.5%	821	4.1%	High	12.8%	Low	3.4%	Low	3.9%	Low				
22	V	2011	77.9%	871	2.9%	High	15.8%	Low	5.6%	Low	5.3%	Low				
23	W	2011	34.8%	908	96.6%	Low	93.6%	High	66%	High	26.5%	High				
24	X	2011	42.4%	807	66.7%	Middle	70.7%	Middle	13%	Low	17.4%	Middle				
25	Y	2011	62.5%	781	32.9%	Middle	47.8%	Middle	7.7%	Low	9.7%	Middle				
26																

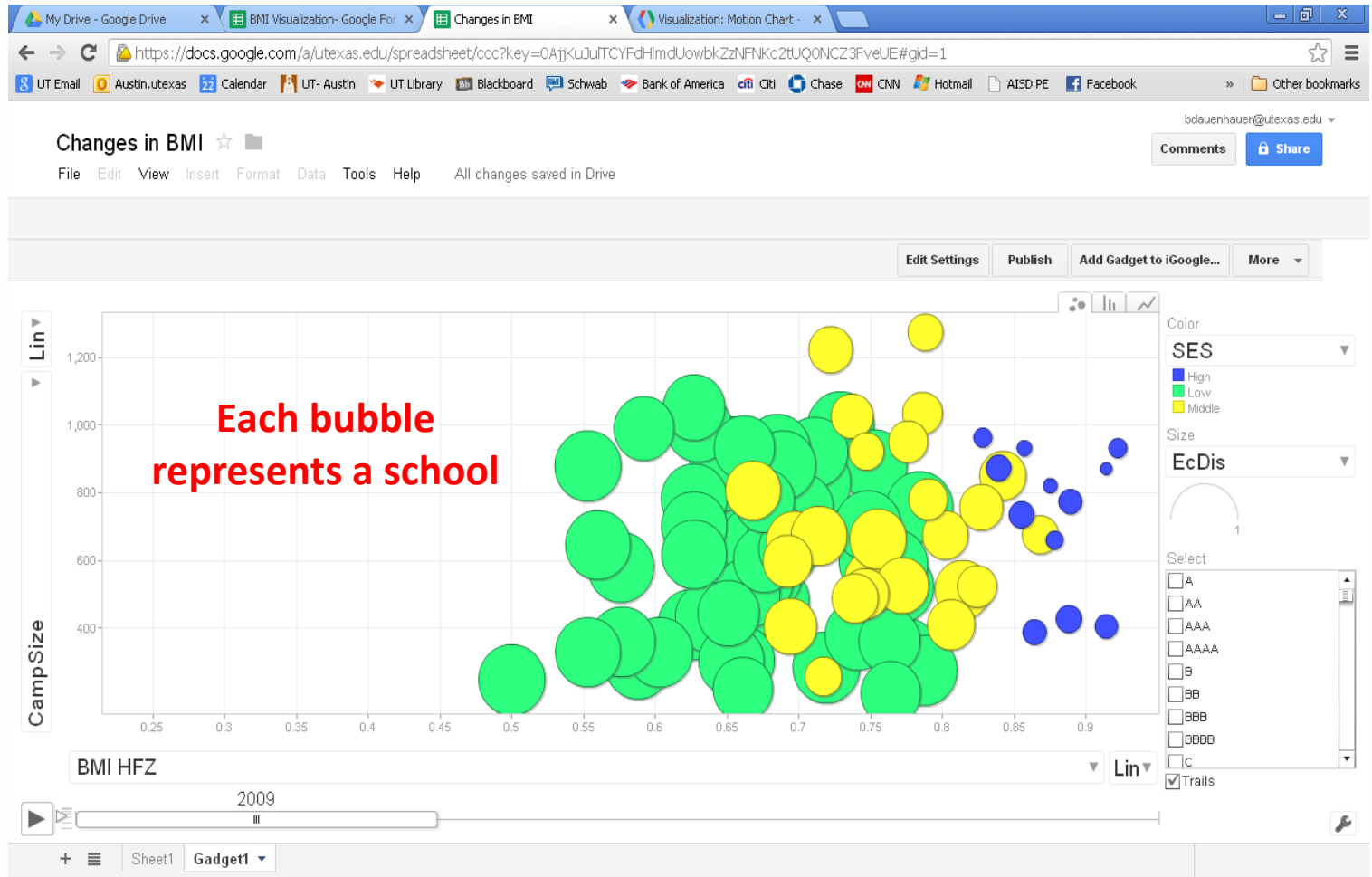
Color SES
High Low Middle
Size EcDis
Trails

BMI HFZ 2009

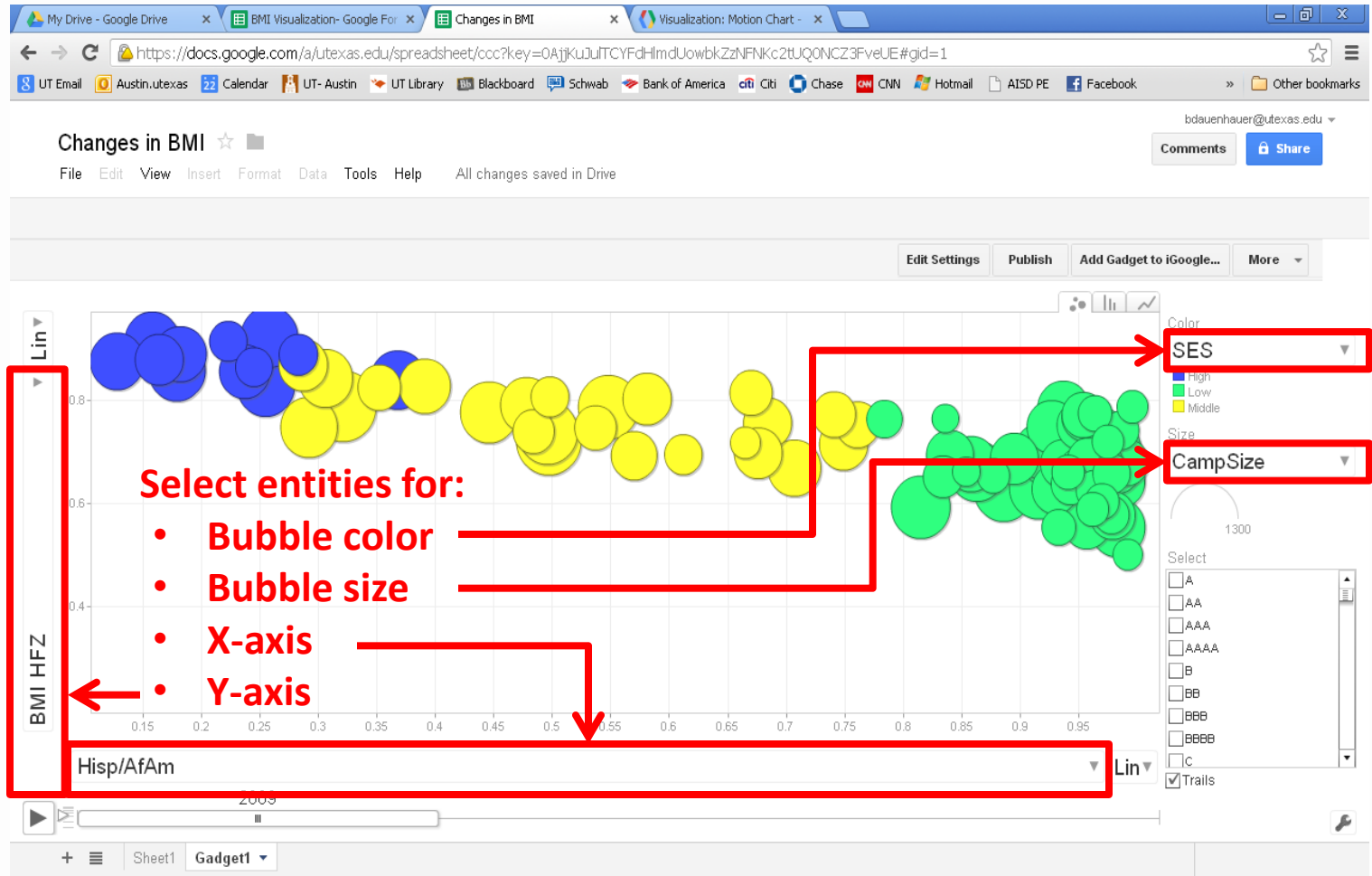
Sheet

Move to own sheet...

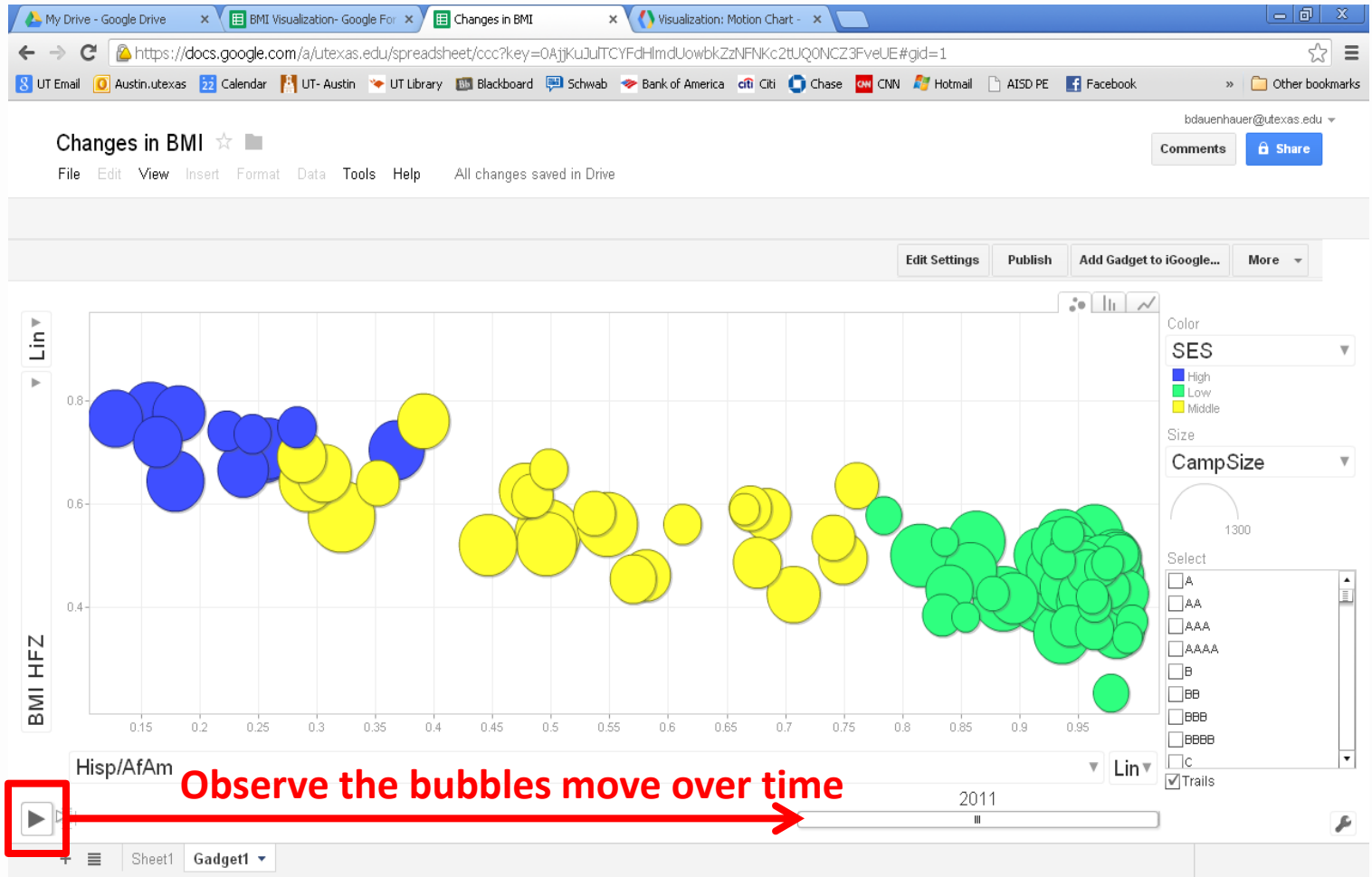
The Motion Chart



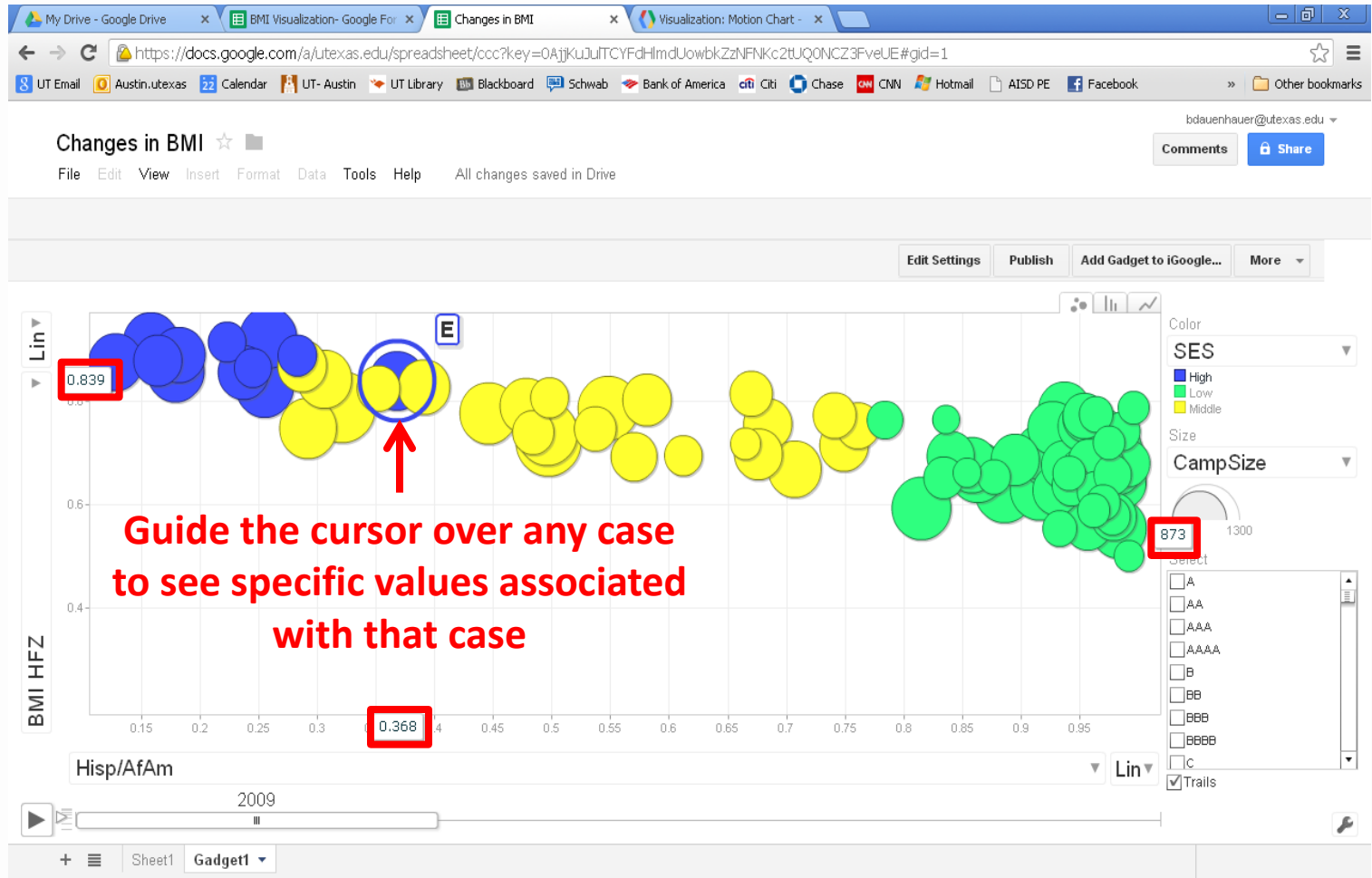
Adjusting Entities



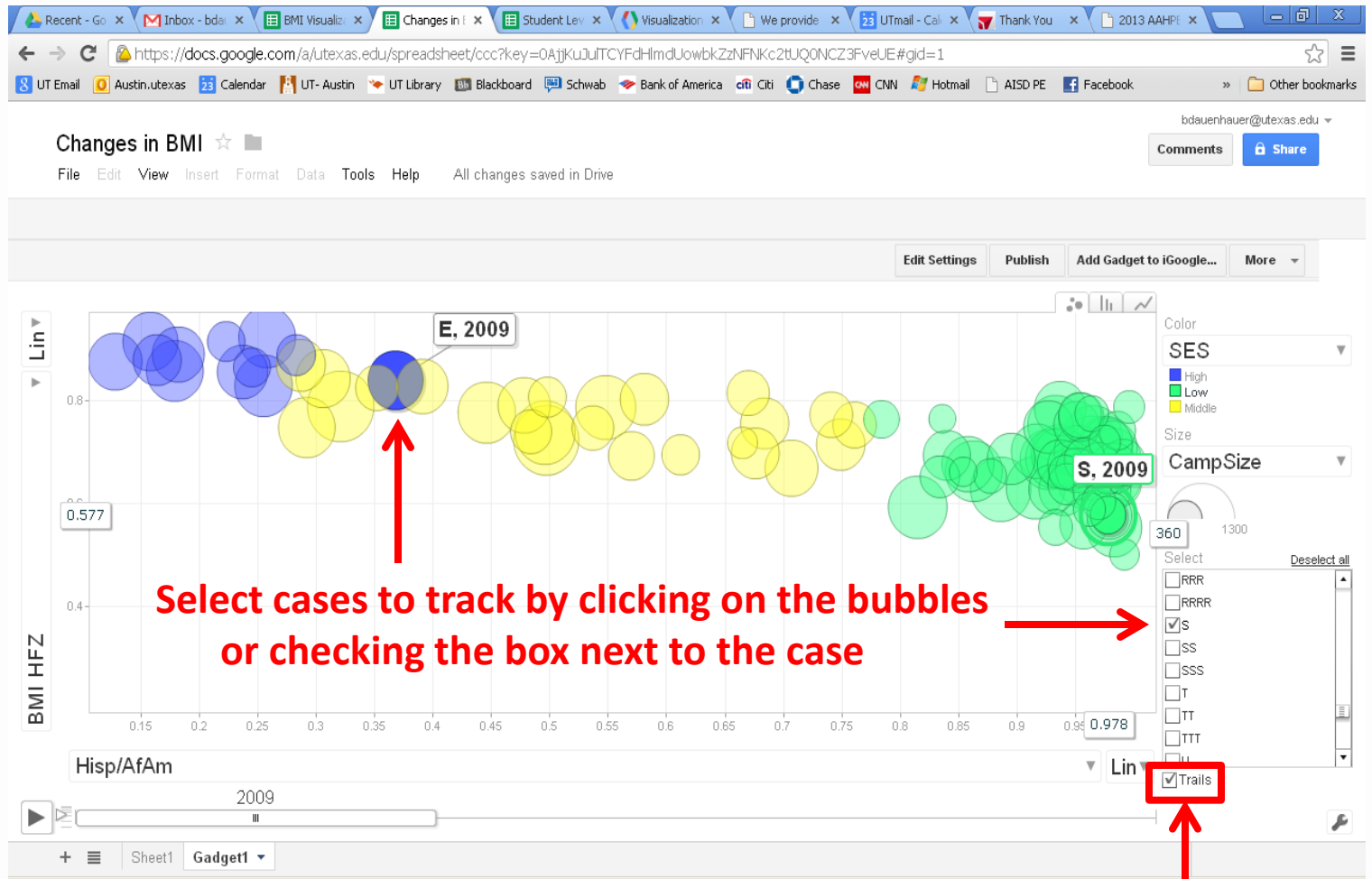
Set the Chart in Motion



View Details of Cases

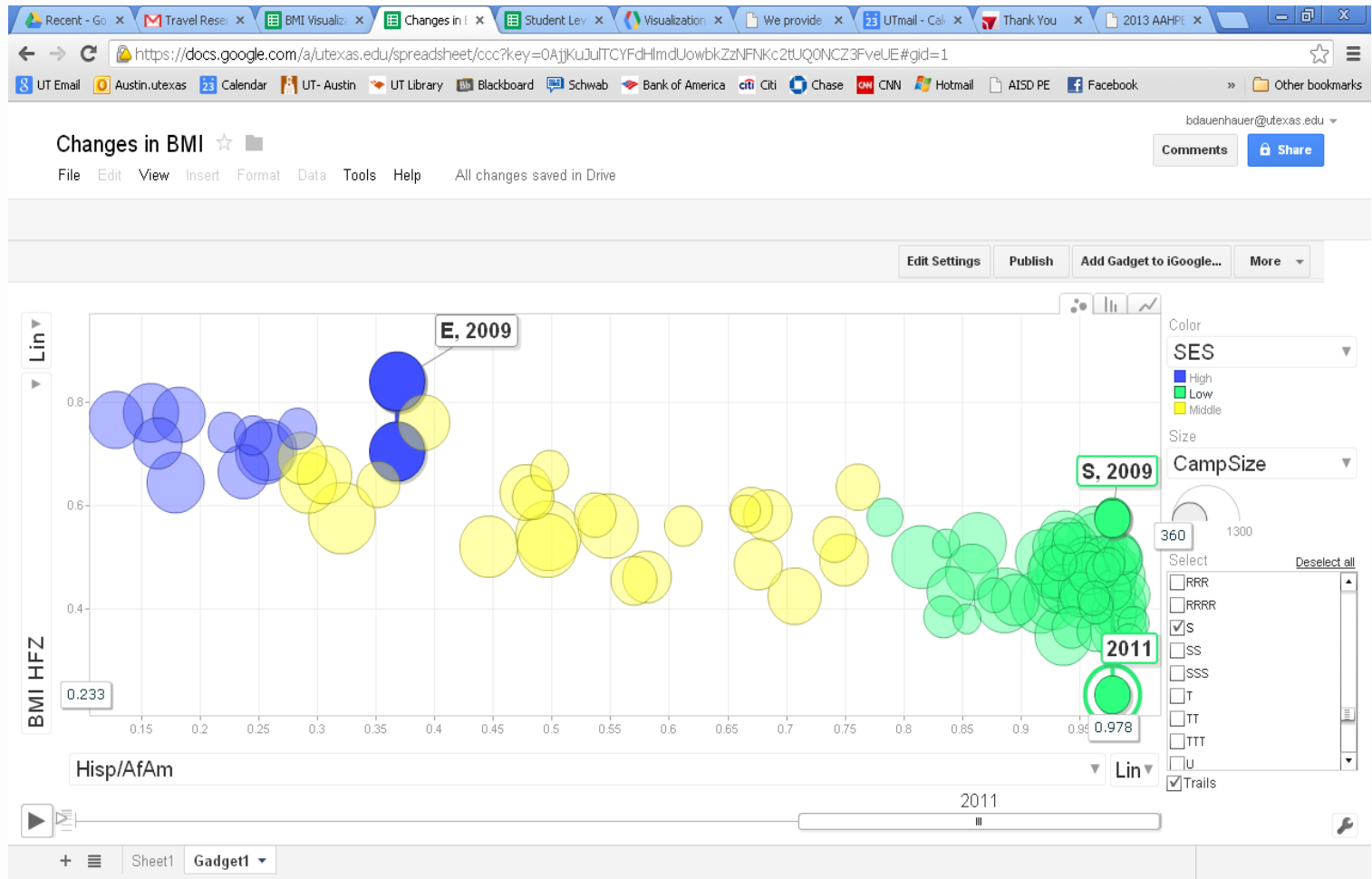


Track Individual Cases Over Time

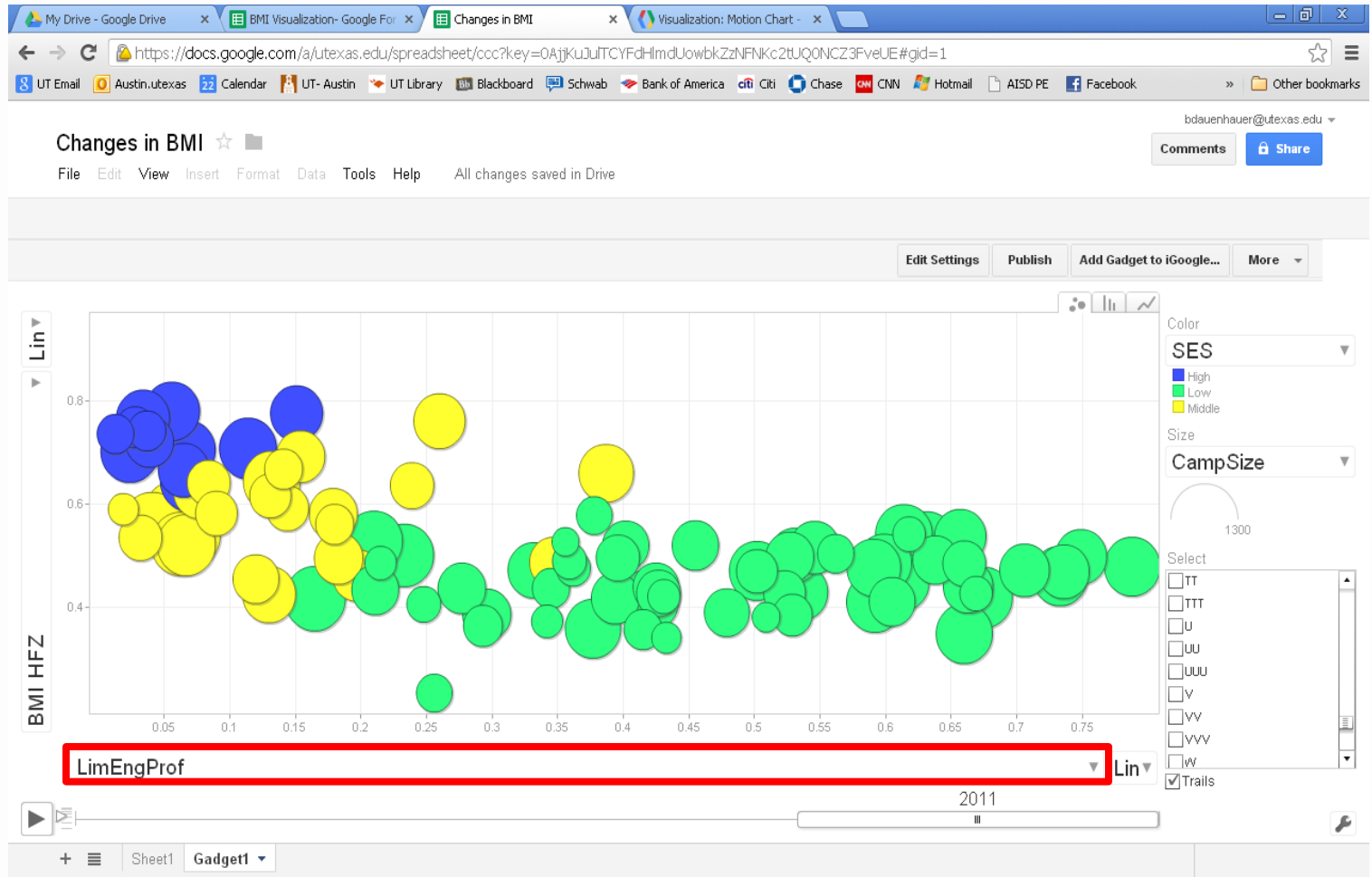


Check the "trails" box

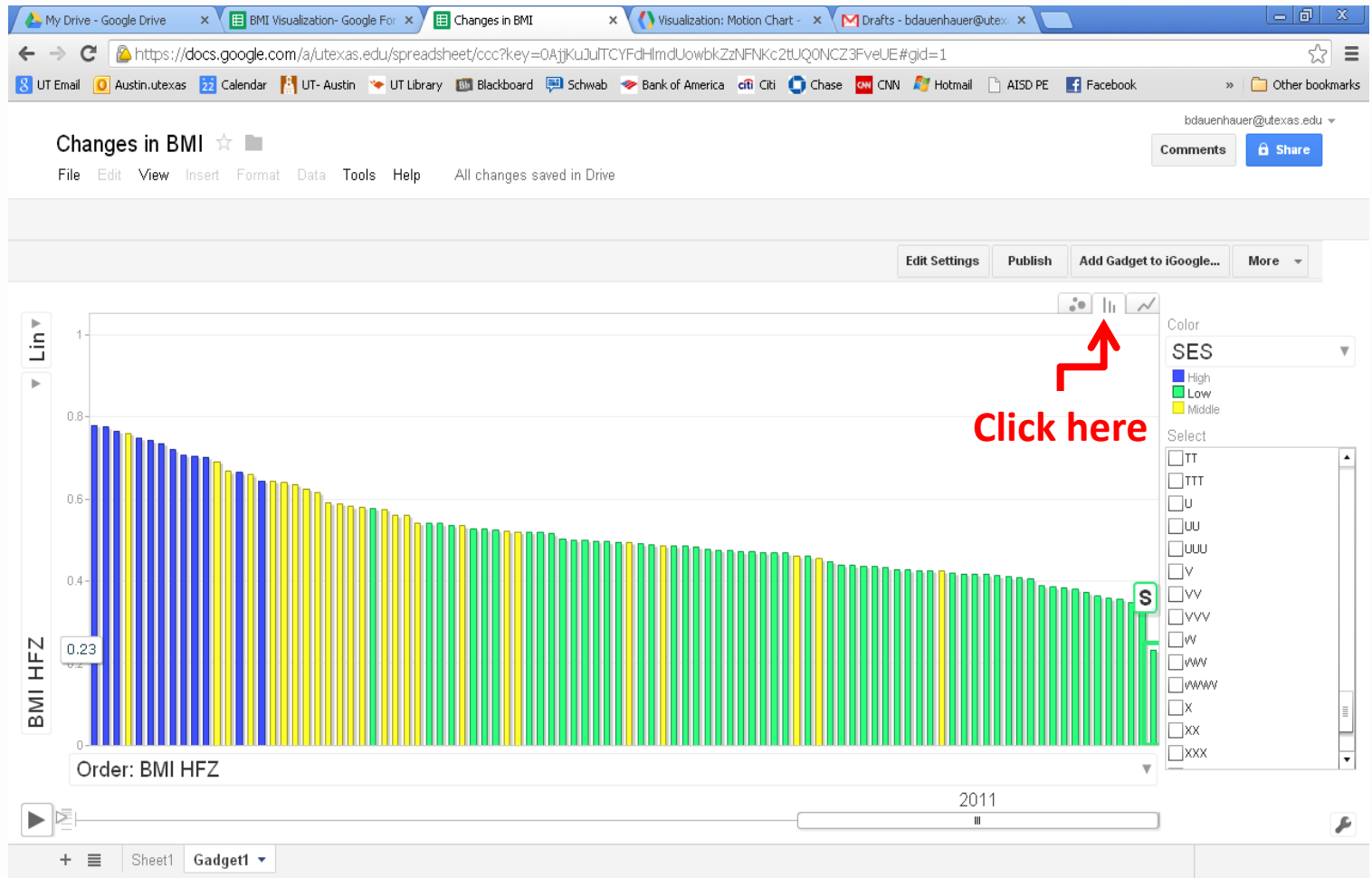
Track Individual Cases Over Time



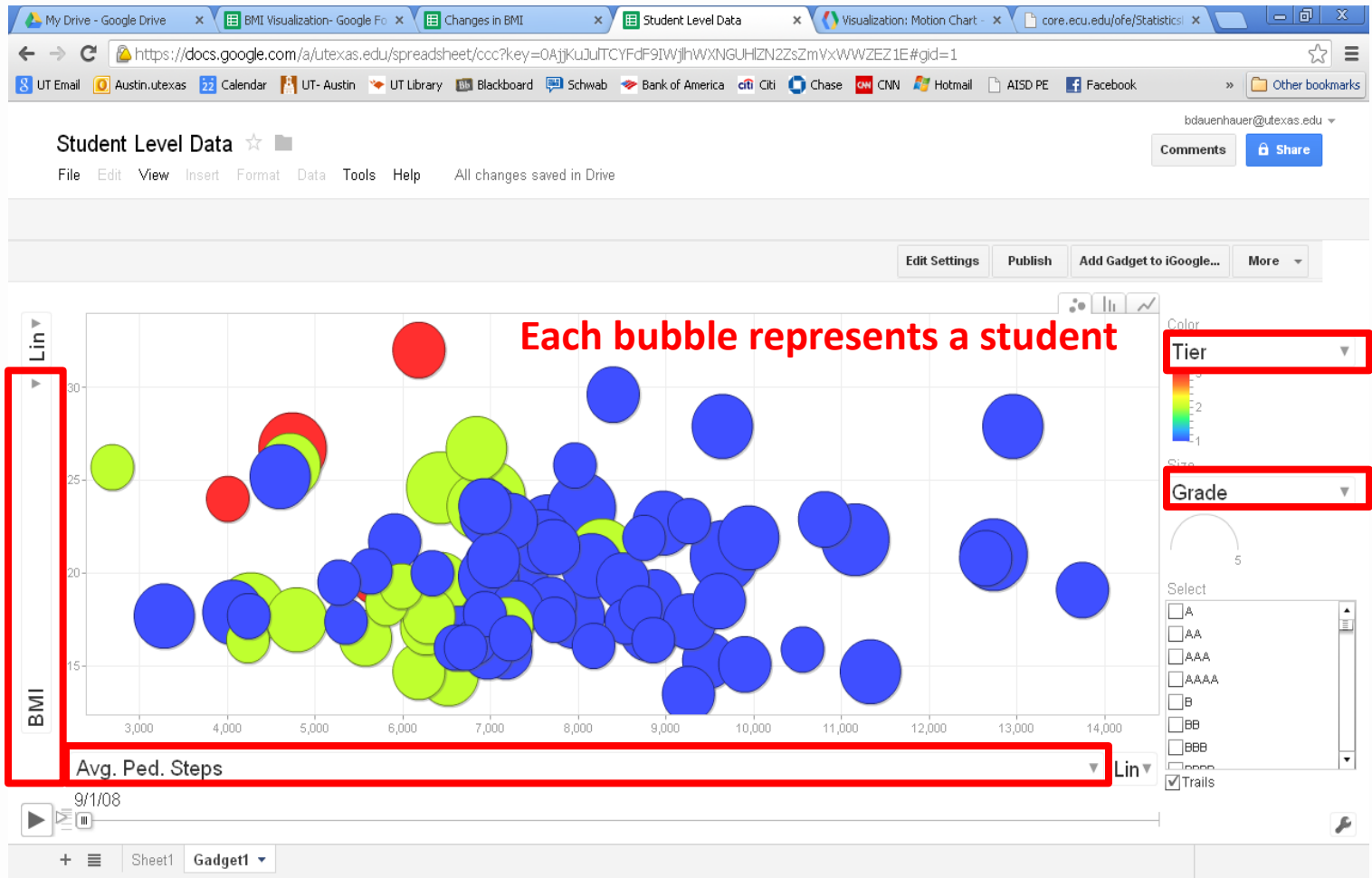
Explore With Different Entities



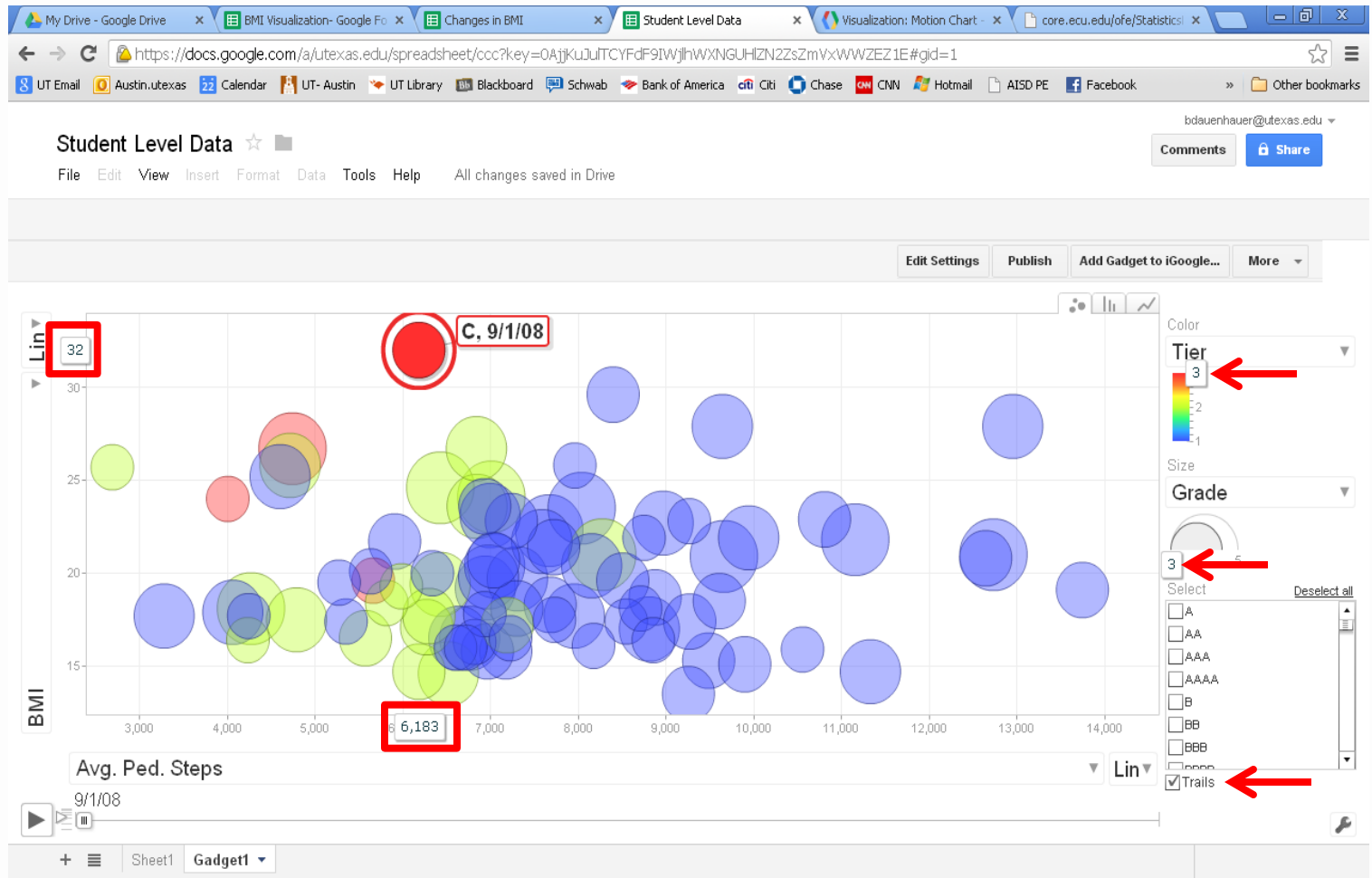
View Data as a Bar Graph



Examining Student Level Data



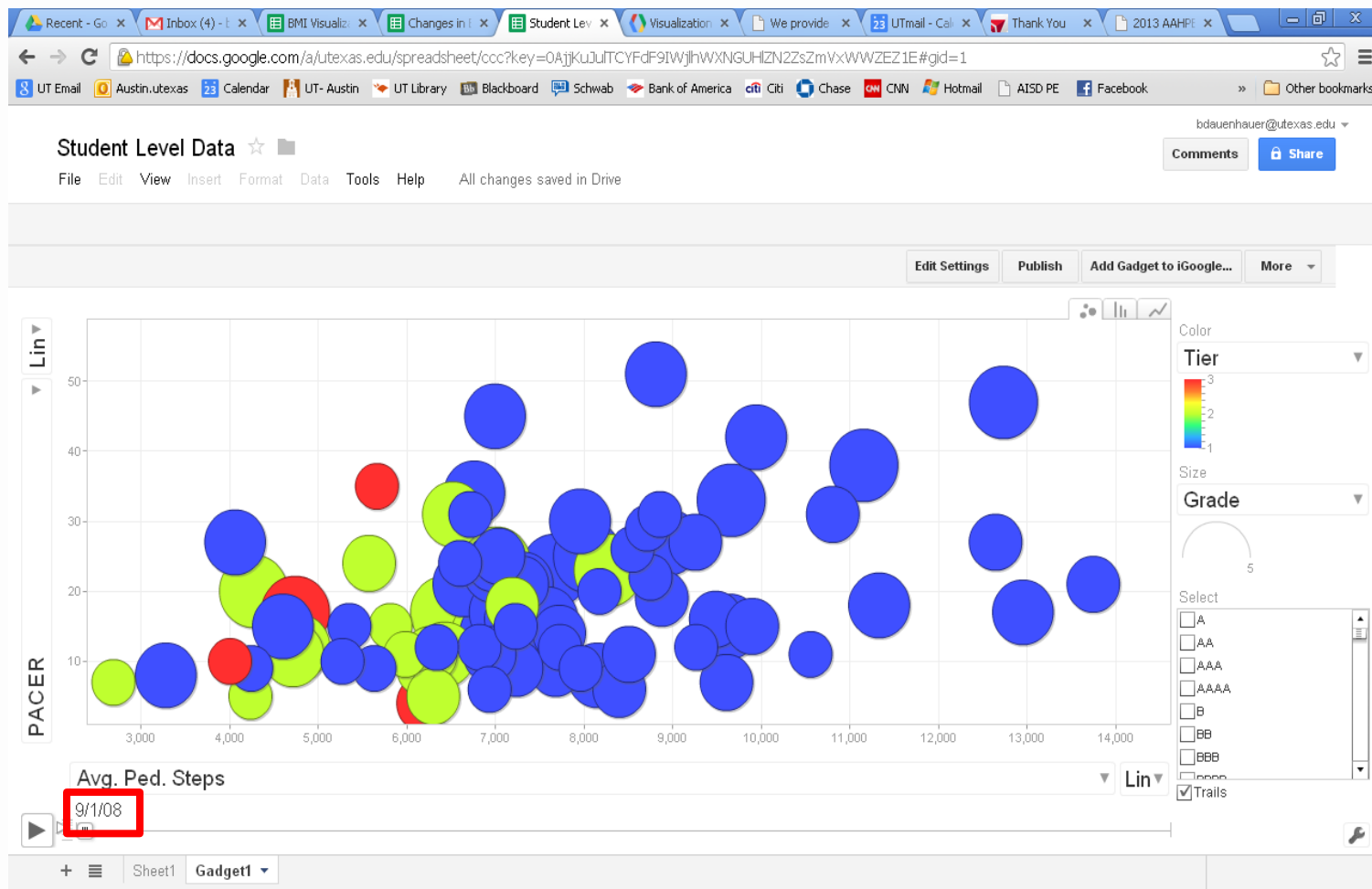
Tracking Individual Student Progress



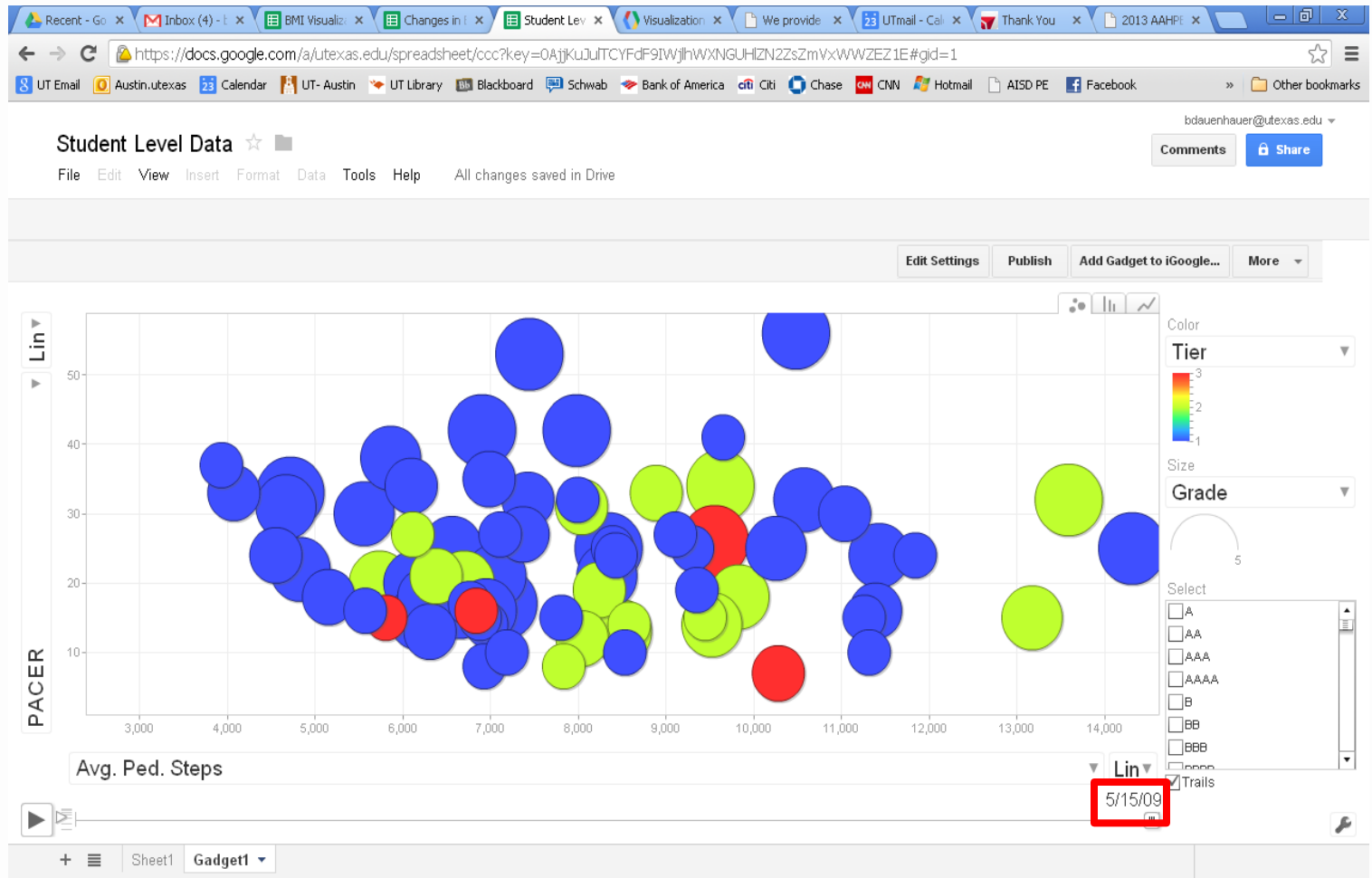


The screenshot shows a Google Docs spreadsheet titled "Student Level Data". The main content is a bubble chart. The Y-axis is labeled "BMI" and ranges from 15 to 30. The X-axis is labeled "Avg. Ped. Steps" and ranges from 3,000 to 14,000. A large red bubble is highlighted with a red circle and labeled "C, 9/1/08" and "5/15/09". Other bubbles are colored by tier (1 to 3) and sized by grade. The chart includes a legend for Color (Tier), Size (Grade), and Select (A, AA, AAA, AAAA, B, BB, BBB, BBBB, Trails). The chart is titled "Student Level Data" and has a "Comments" button.

Examining Program Effectiveness



Examining Program Effectiveness





To Whom Should We Present Our Data?

1. Students
2. Teachers
3. Administrators
4. Parents
5. School board members
6. Community members
7. Businesses

In other words... **EVERYONE!**



Questions/Comments

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