

# Empowering Students with Data Analysis Skills through Question Driven Discovery



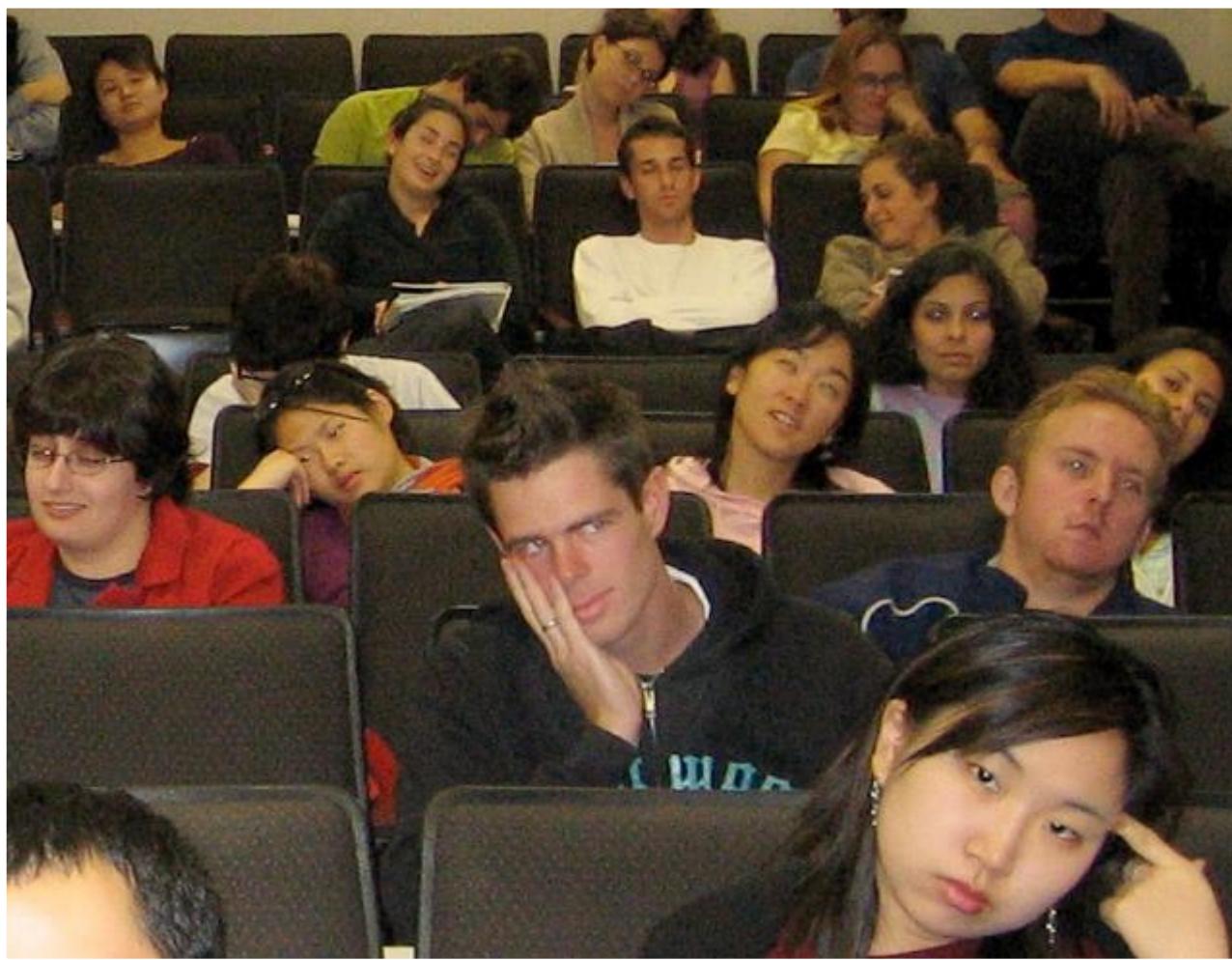
Barb Nangle, Program Coordinator, Yale-Bridgeport GEAR UP



Heather Ericson, Program Coordinator, Utah State GEAR UP

National GEAR UP Conference  
San Francisco, CA  
July 18, 2017

We'll show you how to go from this...



# To this...



New Haven, CT



Ephraim, UT

Students engaged in learning... alone,  
with each other and with instructors



New Britain, CT



New Haven, CT



Salt Lake City, UT

# PDS Partnerships at Work

- July 2016 [Yale-Bridgeport GEAR UP](http://passiondrivenstatistics.com/2016/09/21/gear-up/)  
<http://passiondrivenstatistics.com/2016/09/21/gear-up/>
- June 2017 [Utah State GEAR UP](https://www.youtube.com/watch?v=DSO5fkCtr68&feature=youtu.be)  
<https://www.youtube.com/watch?v=DSO5fkCtr68&feature=youtu.be>
- July 2017 Central CT State University TRiO Program
- July 2017 Washington State GEAR UP



# Program Variations Thus Far

	Yale-Bpt. GU “Story Telling with Data”	Utah State GU “Data Camp”	CCSU TRiO “Passion Driven Statistics”
<b>Date</b>	July 2016	June 2017	July 2017
<b>Population</b>	Rising 12 <sup>th</sup> graders	Rising 9 <sup>th</sup> graders	Rising 9-12 <sup>th</sup> gr.
<b>Numbers</b>	2 class of 18	1 class of 15	1 class of 15
<b>Duration</b>	2 hours/day, 9 days	3 hours/day, 5 days	2 hours/day, 10 days
<b>Material Covered</b>	Univariate, bivariate, multivariate, Chi Square, ANOVA	Univariate, bivariate (some multivariate)	Univariate, bivariate (some multivariate)
<b>Program Details</b>	2 week summer residential prog.	1 week stand alone summer program	2 week summer program
<b>Lisa’s Staff</b>	4	3	5
<b>GU/TRiO Staff</b>	3	3	2
<b>Poster Session</b>	2 <sup>nd</sup> Thursday evening	Following week Tuesday evening	2 <sup>nd</sup> Friday



# Who?

- Rising 9th-13th graders
- One passionate leader with vision
- Lisa's staff + your staff to = 1:4 teacher: student
- Photographer/videographer (optional)
- Evaluators for the poster session



# What?

- Passion Driven Statistics
- Computer coding using SAS programming language
- Project-based learning
- Teaching statistics in context
- A flexible curriculum focused on empowering students to explore their passions



# When?

- At least 10 days in a row, 2 hours/day + poster session
- Mornings are preferable
- Part of a summer program OR as a stand-alone program





# When?

- Lisa will lead during summers
- If your staff leads
  - School vacations
  - Intensive after school program
  - Embedded into the classroom
  - As a capstone project



# Where?

- In your school district or at your university

# Why?

- Provides students with data analysis skills and exposes them to wide open career field
- Allows them to answer questions they are interested in which engages learning
- Project-based learning
- Sustainable project after GEAR UP ends

# Featuring SAS Studio (FREE, cloud-based)



```
CODE | LOG | RESULTS
-----|-----|-----
[Icons: Run, Undo, Save, Print, Copy, Paste, Refresh, Undo, Redo, Find, Copy, Paste, Line#, Run, Stop, Refresh, Print, Copy, Paste]
1 LIBNAME mydata "/courses/d1406ae5ba27fe300" access=readonly;
2
3 DATA new; set mydata.gapminder;
4
5
6 PROC SORT; by country;
7
8
9 proc freq; tables country;
10
11 run;
12
```

# SAS: The # 1 Career Skill

Study this:  
SAS\* is the No. 1 career skill

## The Study

15,000  
job titles, from entry-level to executive



54 million  
employee profiles



350  
industries



2,300  
specific skills



## The Results

- #1 SAS**  
The No. 1 most valuable career skill. Understanding of this data analysis software commands the highest salary premium on the list. **+6.1%** pay premium
- #2 Data Mining/Data Warehousing**  
The No. 2 most valuable career skill. These skills involve integrating large data sets and combing through them for patterns with bottom-line impact. **+5.1%** pay premium
- #4 Data Modeling**  
The No. 4 most valuable career skill. This database design skill is correlated with a juicy pay bump across several job types, from the sciences to finance. **+5%** pay premium



SAS\* skills + big data =  
Bigger paychecks

According to a massive study by Money and PayScale.com, teaching your students to make sense of big data is the best thing you can do for their careers.

SAS was the No. 1 skill when it came to boosting paychecks, while data mining and data modeling - both of which are accomplished using SAS - ranked second and fourth, respectively.

Learn more about the study - and the value of SAS skills - on the other side of this postcard.

Jump-start a career in analytics for free.  
[sas.com/analyticsu](http://sas.com/analyticsu)

  
THE POWER TO KNOW.

Source: Money and PayScale.com  
© 2010 SAS Institute Inc. All rights reserved. 100174-312001-0010

  
THE POWER TO KNOW.

# Thank you for attending this session

For more information: [passiondrivenstatistics.com](http://passiondrivenstatistics.com)

Lisa Dierker: [ldierker@wesleyan.edu](mailto:ldierker@wesleyan.edu)

Barb Nangle: [barb.nangle@gmail.com](mailto:barb.nangle@gmail.com)

Heather Ericson: [heather.ericson@usu.edu](mailto:heather.ericson@usu.edu)

This presentation will be available at:

<http://www.edpartnerships.org/materials>