The Student Undergraduate Research Experience: Using Institutional Data to Answer Real Questions

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Introduction

- Student interested in statistics and research
- Office of Institutional Effectiveness
- Data research internship
  - 6hr/week
  - September to December

What was the project?

Intern's To Do List:

- Analyze workload per professor and department across Carroll College
- Figure out how to count lab sections
- Get more experience with data analytics in R Studio


RUN, R CODE
RUN
Thanks to Paramount Pictures and memegenerator.net

Project Methods

- Data dictionary and metrics
- Exclude adjunct taught classes, honors theses, and other
- Cut by 1st and 3rd quartiles
- Note what was cut by the quartiles
- Output metrics by faculty and department
- Output averages of both faculty and department

Metric	Definition	Code
Taught credits	Contact hours multiplied by percent taught. Note that this metric will be less that catalog credit determined contact hours	TC
Credits received	Taught credits divided by student count	CR
Total Professors (count of professors)	Professors teaching a class within the time period in question	TotalPROFS (CP)
Average taught credits	Total taught credit divided by total professors	avgTC
Average credits received	Total credits received divided by total professors	avgCR
Count of courses taught	Courses on record within the time period in question	CT (CCT)
Average professor course load	Count of courses taught divided by count of professors	APCL
Count of students taught	Enrolled students on record within the time period in question	ST (CST)
Average professor student load	Count of students taught divided by count of professors	APSL
Count of contact hours	Contact hours on record withing the time period in question	CCH
Average professor contact hour load	Count of contact hours divided by count of professors	APCHL

$$TC = CH \times PT$$

$$CR = TC / SC$$

EX 101
50 students
3 credit course
Taught by 2 professors 50/50

Professor I. E.
TC = 50(3) x 0.5 = 75
CR = 75 / 50 = 1.5

What about labs?

1. Counted as ⅔ contact hours if they occur more than once, otherwise none
2. First lab is 1:1, the rest are ⅔ contact hours
3. Labs count as a normal class
4. No labs are counted (control)
5. All labs are ⅔ contact hours

What was different?

Real World vs. Class

- It is very messy, and can be sensitive
- Work means something beyond GPA
- Motivation is different
- Data exists for the question, not for demonstration

What did I learn?

1) Mouth Shut...Ears Open

2) Dummy data is helpful

3) Data journaling is important

4) Data dictionaries are important

5) Coursework matters, but not how you may think...

6) Learning curves are a thing

7) Ask for opportunities

Questions?