# USING DATA TO SUPPORT TEACHING AND LEARNING

2020 Drexel Annual Assessment Conference
Pre-Conference Workshop
Wednesday, September 9th 2020

# WORKSHOP OVERVIEW

## PRESENTERS


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## AGENDA

1. *Understanding* the Relationship Between Data Analysis, Program Evaluation, and Assessment

2. *Using* **QUALITATIVE** Data to Gauge Teaching & Learning

**<BREAK>**

3. *Using* **QUANTITATIVE** Data to Gauge Teaching & Learning

**<BREAK>**

4. *Applying* Data Analysis to Promote Professional Growth

5. *Applying* Data Analysis to Promote Programmatic Change

6. Q&A Session

# Workshop Outcomes

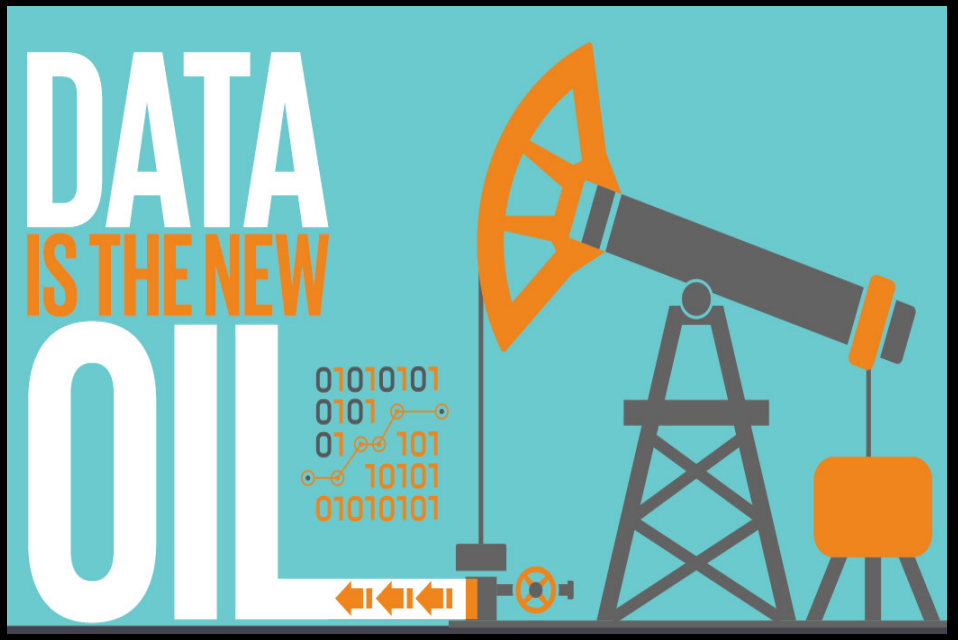
*By the end of this presentation you will…*

- ✓ Understand various types of data *and* what types of questions can be answered using each.
- ✓ Have had the opportunity to discuss with your peers your institution's data needs.
- ✓ Realize that data is a *means* to an *end.* Remember data analysis is *not* a substitute for well articulated decision making.
- ✓ Have a reduced feeling of **DATAPHOBIA**.

# A FICKLE (AND SUBTLE) RELATIONSHIP

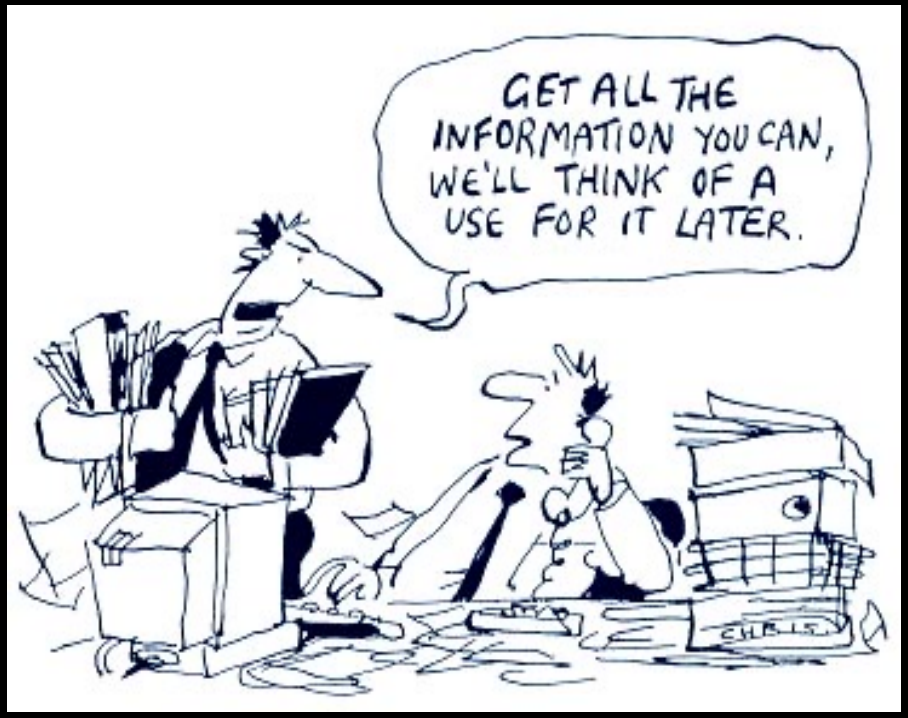
## Does Data Analysis Matter?

- Institutions are under increasing pressure to become more responsive.
- Data analysis provides you with a snapshot overview of your program.
- Institutions are sitting on more data then they every have been.




**DATA ANALYSIS IS HERE TO STAY.**

# But Data Analysis is not the Cure All!




- Data analysis is a means to an end.
- Data analysis *only* provides you with a snapshot overview of your program.
- Torture data enough and it will say anything you want.
- Data analysis cannot substitute sound decision making.

# QUALITATIVE DATA

# TYPES OF QUALITATIVE DATA

| METHOD OF ANALYSIS | APPLICATION |
| --- | --- |
| **Rubric Based Assessment** | ❖ Evaluate student learning<br>❖ Clarify program goals |
| **Surveys** | ❖ Investigate attitudes, beliefs, experiences<br>❖ Large group |
| **Focus Groups** | ❖ Investigate attitudes, beliefs, experiences<br>❖ Small group, interactive<br>❖ Exploratory |

# TYPES OF QUALITATIVE DATA

| METHOD OF ANALYSIS | APPLICATION |
| --- | --- |
| **Interviews** | ❖ Investigate attitudes, beliefs, experiences<br>❖ Individual<br>❖ Granular |
| **Textual Analysis** | ❖ Analysis of open-ended questions on surveys, focus group and interview transcripts<br>❖ Analysis of documents to observe trends or answer questions |

# TEMPLE UNIVERSITY CASE STUDY #1

## ORAL COMMUNICATION DIRECT ASSESSMENT

**PART I:** Rubric-based assessment using VALUE rubric

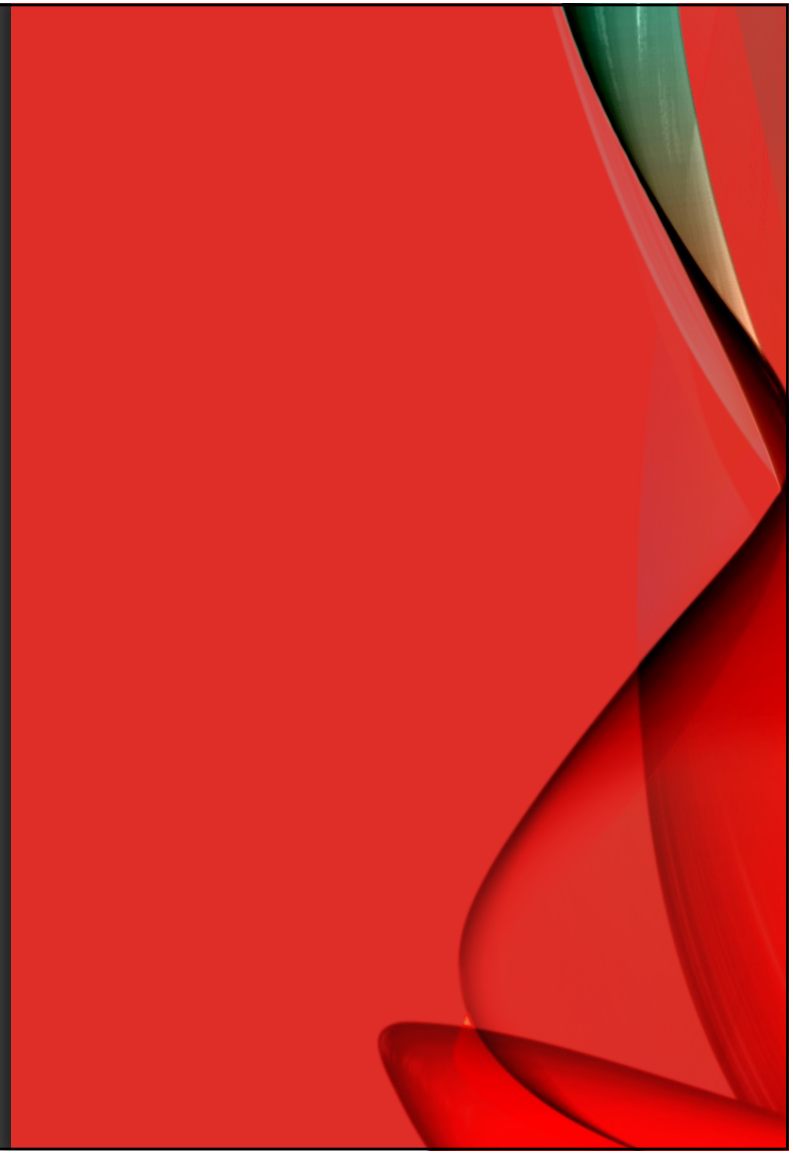
- ✓ 16 scorers (GenEd instructors)
- ✓ 100 recorded presentations

**PART II:** Survey of instructors to understand instructional strategies

- ✓ 287 respondents
- ✓ Using an Online Instructor Survey As Part Of A Comprehensive Assessment: An Example In Oral Communication. *Research and Practice in Assessment*, Vol. 18

# Lessons Learned

- ✓ Rubric was a poor fit for oral communication in the GenEd classroom.
- ✓ Reflected survey finding that instructors addressed oral communication in a variety of ways beyond formal presentations.
- ✓ Majority of instructors assess oral communication but many fewer provide formal instruction



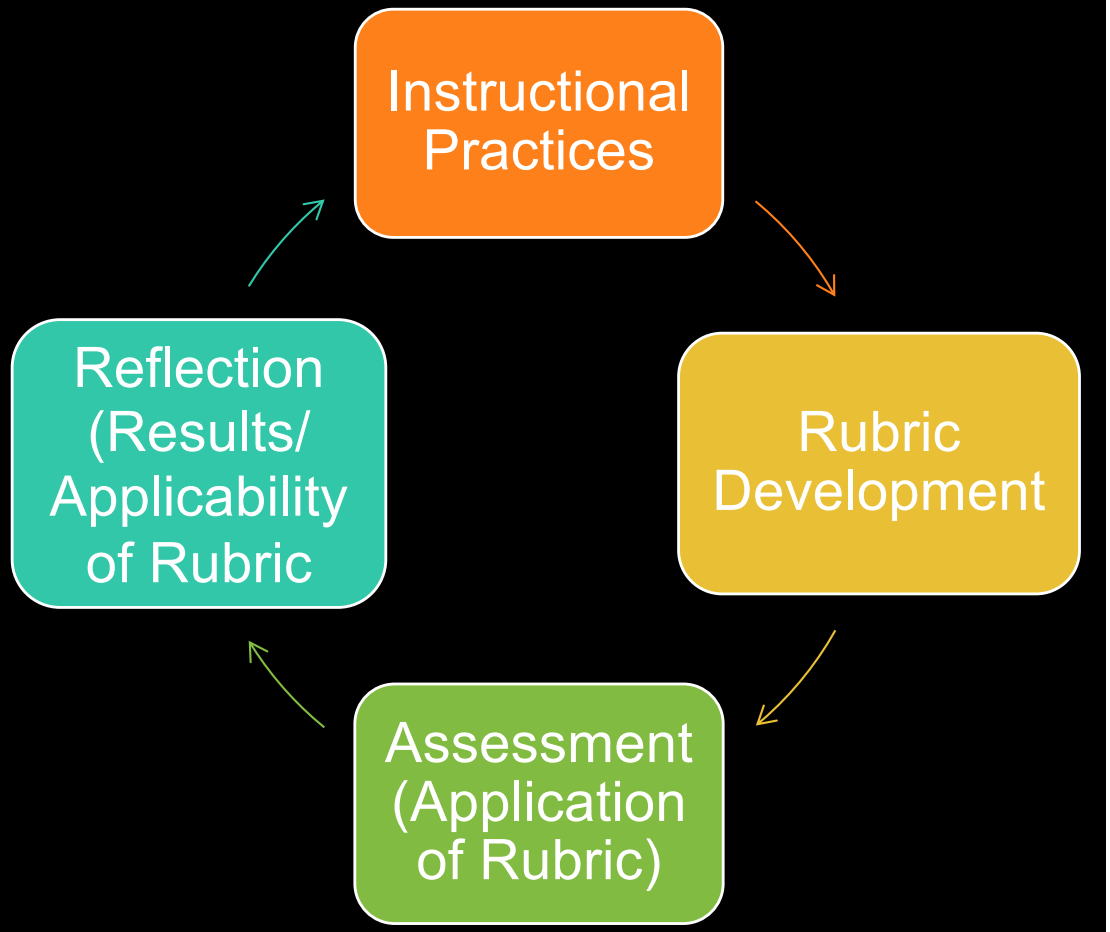
# CONNECTION TO TEACHING AND LEARNING

## ORAL COMMUNICATION TOOLKIT

- Working with instructors, we created a three-part resource which included:
  - ✓ Goal
  - ✓ Instruction (What skill will be developed?)
  - ✓ Assessment (What activity will be used to assess the skill?)
- Linked to learning goal development
- Guide will inform rubric redevelopment
  - ✓ Closing the assessment loop
  - ✓ Aligning assessment tools with institutional priorities for student learning
  - ✓ Expertise of instructors informs institutional priorities

# Assessment = Instructor Reflection on Teaching

- Comments on survey suggested that the survey itself influenced reflection
- Direct assessment scoring = in-depth engagement with teaching practices and evidence of learning



# Breakout Group Discussion


- ✓ What do you want to learn about or understand?
- ✓ Do you know a lot or a little about your question?
- ✓ Does the topic impact many students/instructors or a specific sub-population?
- ✓ What method might serve you best?

# QUANTITATIVE DATA

# OH NO! STATISTICS!

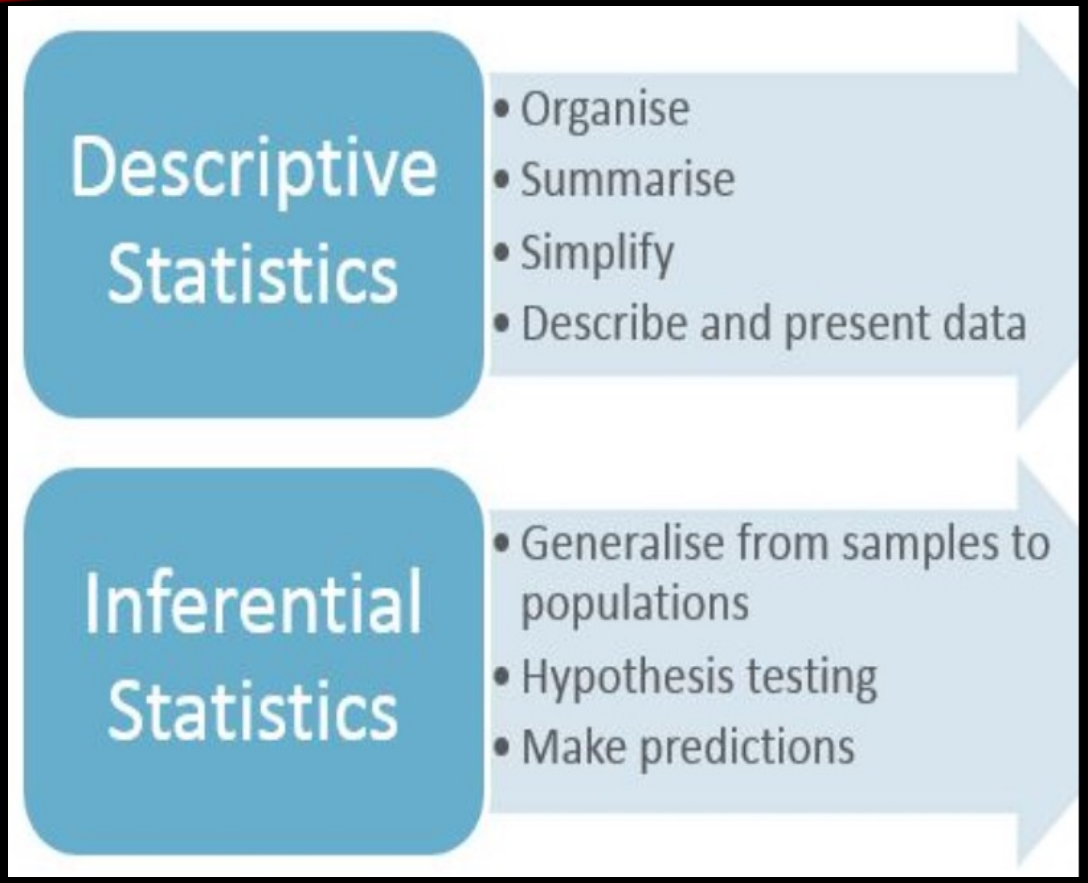
- Quantitative data analysis (statistics) is a great way to measure *discrete outcomes.*

- Common types of approaches include:
  - ✓ Identification (How much knowledge/skill?)
  - ✓ Exit Exams (Was there any mastery?)
  - ✓ Pre- and Post-Testing (Was there any growth?)

## WHAT IS IT? AND WHEN DO I USE IT?


**DON'T MAKE GARBAGE SOUP BY THROWING ALL TYPES OF DATA INTO YOUR ANALYSIS!**

# TYPES OF ANALYSES

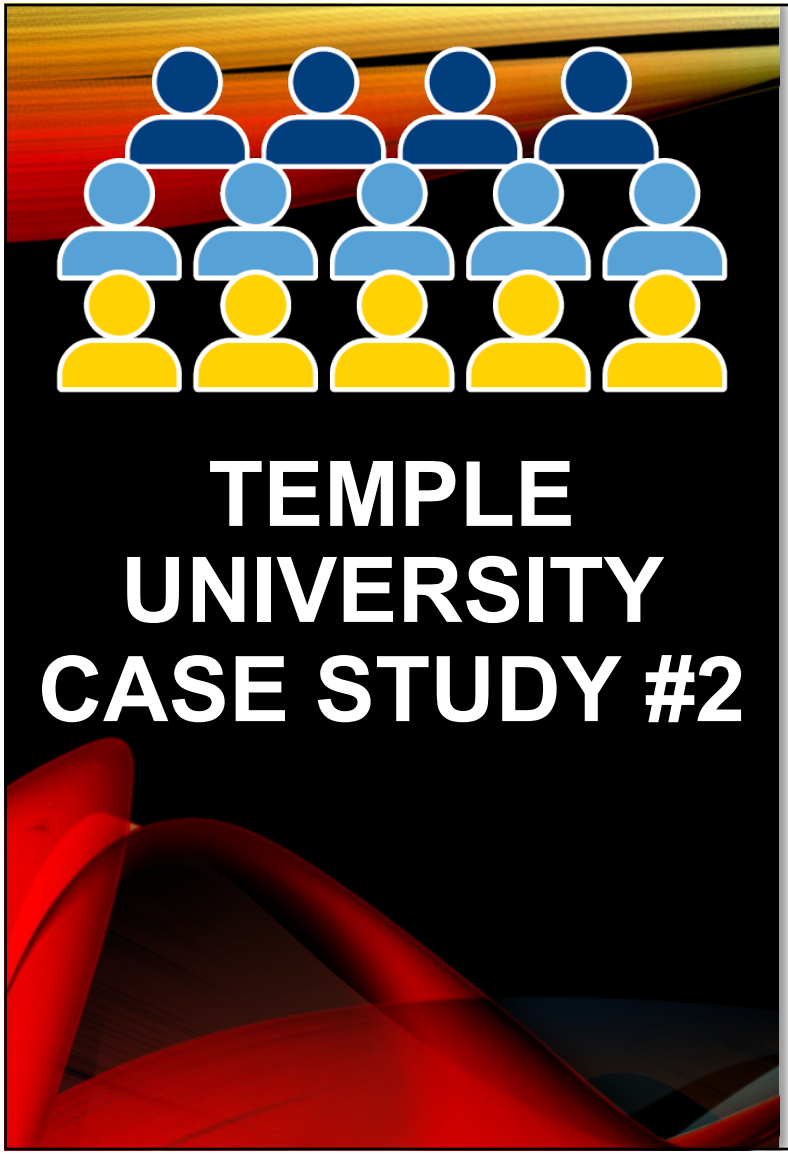



## DESCRIPTIVE QUESTIONS

- What is the average class size by college or department?
- What percentage of students are transfers?

## INFERENTIAL QUESTIONS

- Does class size influence student grades?
- What factors influence student retention among first generation college students?

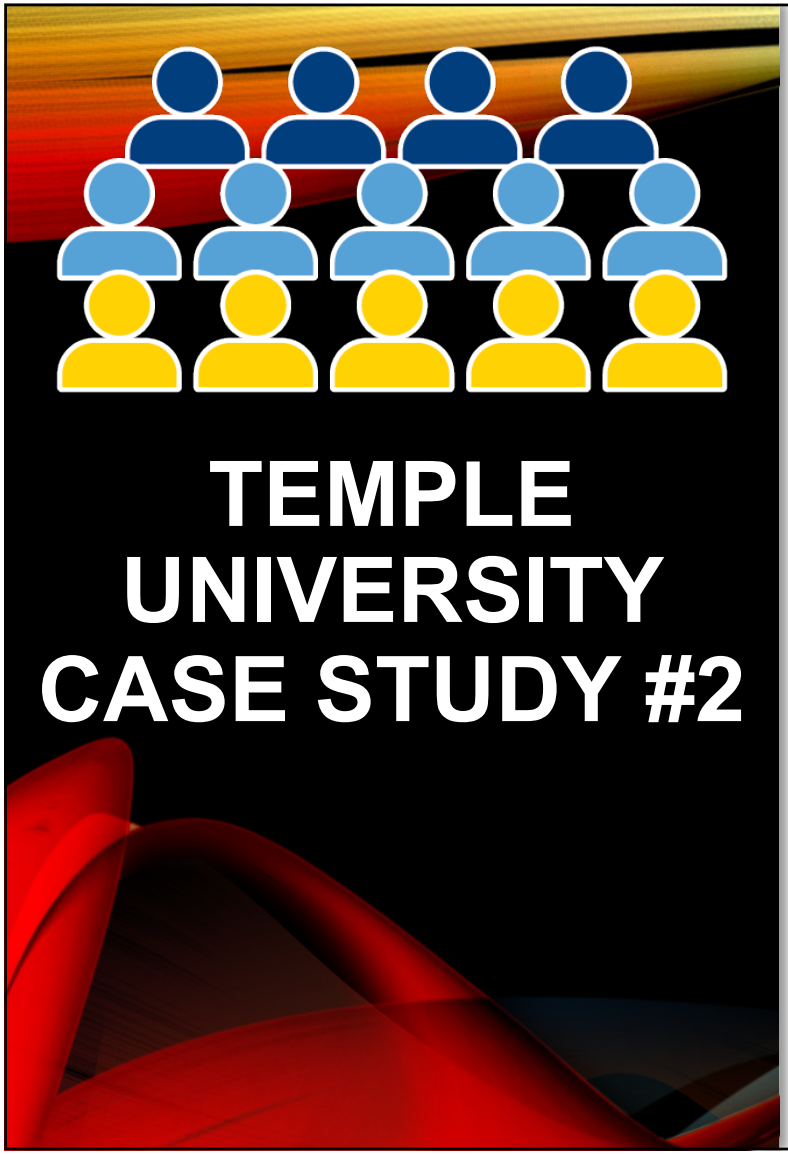



# CLASS SIZE STUDY

## PART I: Data Collection

- 15 semesters (Fall 2011 – Spring 2016, including summer session) with ~10,000 observations (GenEd course section).

- Multiple sources
  - BannerWeb (GenEd course grade, student gender, race)
  - University Admissions (HS GPA, SAT Math/Verbal)
  - Institutional Research and Assessment (instructor demographics, class size, SFF responses)




# CLASS SIZE STUDY

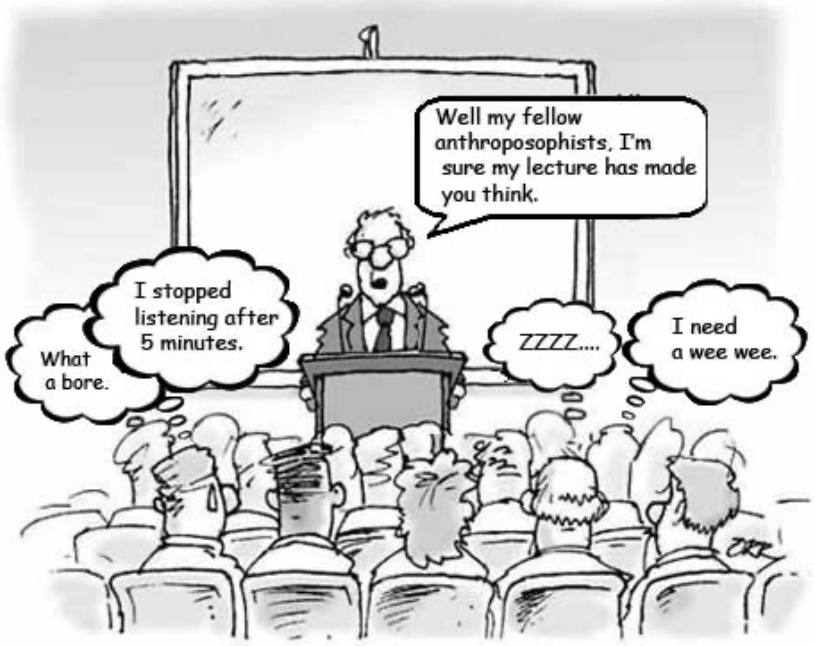
**PART II:** Data Analysis

- ✓ Cross-Classified Multilevel Modeling (GenEd courses by student; student could be multiple courses)
- ✓ Disaggregated the results by race, gender, and GenEd course type
- ✓ Ake-Little, E., von der Embse, N., & Dawson, D. (2020). Does Class Size Matter in the University Setting? *Educational Researcher*, 0013189X20933836.

# LESSONS LEARNED

- Class size does *not* have one single outcome (i.e. bigger class sizes are good/bad)
- Under-represented students *benefit* from large class sizes in the social sciences but not in STEM courses
- Type of instruction also matters (quantity vs. quality issue)

## A CLASS IS MORE THAN A COLLECTION OF BODIES…



# CONNECTION TO TEACHING AND LEARNING

- Recommended to General Education Executive Committee policies and practices based on three critical needs
  - ✓ A bigger class size needs *targeted* support.
  - ✓ Instructors need to be conscious about their instructional approach regardless of class size.
  - ✓ Instructors value being part of a professional learning community.

- Next Step: Examining classroom practices
  - ✓ Looking at the same data but through another analysis lens - SEM
  - ✓ Using course evaluation responses as outcomes
  - ✓ Are there certain teaching styles that positively or negatively influence student feedback?

# Breakout Group Discussion


- ✓ Pick one of the three topics:
  - ❑ Program Review/Evaluation
  - ❑ Student Retention/Graduation
  - ❑ Student Life/Socioemotional Health
- ✓ What is your question and what is your outcome?
- ✓ What kind/type of data would you need to answer your question?
- ✓ Where might you get this data? (And what potential issues might you encounter getting it?)

# USING DATA TO PROMOTE PROFESSIONAL GROWTH

# THE MORNING AFTER (YOUR ANALYSIS)

## Taking Ownership of Your Analysis

- Whether you feel comfortable or not, your colleagues will see you as the data person.
- You will need to be clear about *why* you analyzed the data a certain way and *what* the results say.
- Be clear in your use of language; it is easy for people to hear your results as casual rather than correlational.
- Generating “buy-in” is critical for instructor growth; approaching your work like a researcher will help to abate some skepticism.

# Supporting Teaching & Learning


- Instructors see the terms “administrator” and “data analysis” and think “(punitive) evaluation”.
- Avoid that trap! Ground your decision making in what supports teaching and learning.
  - What are instructors supposed to be teaching?
  - What are students supposed to be learning?
- Use results to encourage reflective inquiry amongst instructors.
  - In what ways does your course embody critical thinking skills?
  - Do your assignments reflect the student learning objectives defined in your syllabus?

# LESSONS FROM OUR EXPERIENCE

## THE FOCUS SHOULD BE CLASSROOM PRACTICE

- Counteract pressures not directly related to teaching and learning
- Basing recommendations on *actual* teaching practices, student outcomes and student population
  - ✓ Related to testing assumptions
  - ✓ GenEd program-wide competencies
- Faculty involvement is critical in terms of
  - ✓ Understanding scope and sequence,
  - ✓ Cultivating a culture of transparency, *and*
  - ✓ Creating a professional learning community.

# KEY TAKEAWAYS

- Data analysis is about questioning and testing assumptions
  - ✓ Teaching vs practicing/assessing (Oral Communication Direct Assessment)
  - ✓ Comparing content and outcomes in Math 701 vs GenEd Quantitative Literacy courses

- Remember this saying **"People use statistics like a drunkard uses a lamppost – for support rather than illumination."**

# MIDDLE STATES ACCREDITATION

# NAVIGATING THE ACCREDITATION PROCESS


- **REMEMBER** that direct assessment of student learning is key.
- **FOLLOW** the Assessment Loop (Slide 12)
  - You must document how assessment is being used to improve learning outcomes.
- **INCLUDE** constituencies (authentically) in assessment planning, implementation, analysis and next steps planning
  - ✓ Instructors
  - ✓ Students
  - ✓ Administrators
  - ✓ Advisors
- **REPORT** your results since part of closing the loop is making findings available.


Q&A
THANK YOU!
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