

INTERPRETING FINDINGS

ANALYZING AND UNDERSTANDING DATA
FOR PROGRAM EVALUATION

Jacob Campbell, Ph.D LICSW
Heritage University

Spring 2024
SOWK 460



THE BLIND MEN AND THE ELEPHANT

BY JOHN G. SAXE (READ BY TOM O'BEDLAM)

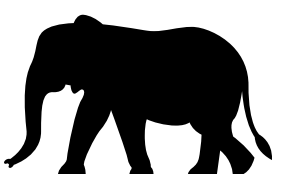
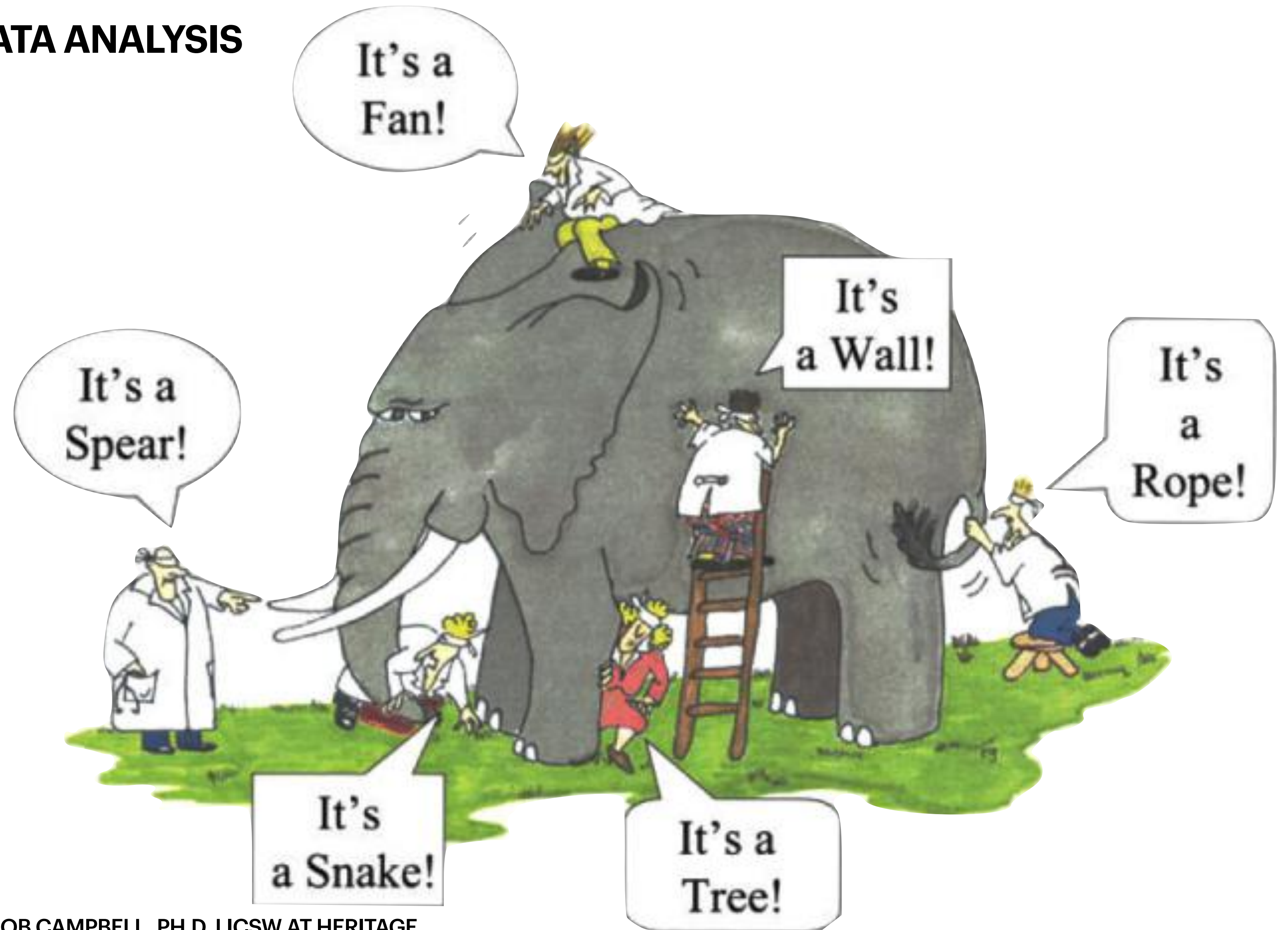
[HTTPS://YOUTU.BE/BJVbQEFNXIW](https://youtu.be/BJVbQEFNXIW)



THE BLIND MEN AND THE ELEPHANT

A PARABLE AND CONNECTION WITH DATA ANALYSIS

They all all touched different parts of the elephant and believed that they were



AGENDA

PLAN FOR CLASS TIME

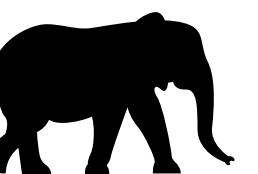
What is the purpose of data analysis

Scales of measurement

Types of calculation

Practical application of interpreting findings

How we implement it for program evaluation



PURPOSE OF DATA ANALYSIS

WHY DO WE DO THIS?

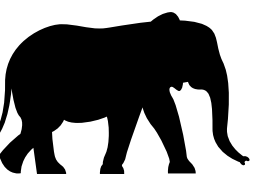
DESCRIBE AND SUMMARIZE THE DATA

IDENTIFY RELATIONSHIPS BETWEEN VARIABLES

COMPARE VARIABLES

IDENTIFY THE DIFFERENCE BETWEEN VARIABLES

FORECAST OUTCOMES



SCALES OF MEASUREMENT

Data can be classified into a non-numerical or named categories, and the order in which these categories can be written or asked is arbitrary.

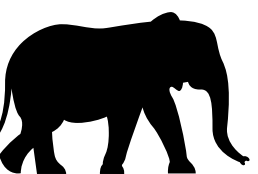
NOMINAL
SCALE

The data can be classified into non-numerical or named categories an inherent order exists among the response categories. Ordinal scales are seen in questions that call for ratings of quality (for example, very good, good, fair, poor, very poor) and agreement (for example, strongly agree, agree, disagree, strongly disagree).

ORDINAL
SCALE

Where numbers represent the possible response categories there is a natural ranking of the categories zero on the scale has meaning there is a quantifiable difference within categories and between consecutive categories.

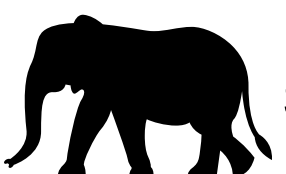
NUMERICAL
SCALE



TYPES OF CALCULATION

METHODS USED TO CALCULATE DATA

- Count (frequencies)
- Percentage
- Mean (average)
- Mode (number of times)
- Median (middle number)
- Range
- Standard deviation (amount of change)
- Cross tabulation (comparative)
- Change score (pretest / post test)
- Quantitative analysis (SPSS)



TYPES OF TRIANGULATION

(Thurmond, 2001)

INCREASING CONFIDENCE IN RESEARCH DATA, CREATING INNOVATIVE WAYS OF UNDERSTANDING A PHENOMENON, REVEALING UNIQUE FINDINGS, CHALLENGING OR INTEGRATING THEORIES, AND PROVIDING A CLEARER UNDERSTANDING OF THE PROBLEM. (P 254)

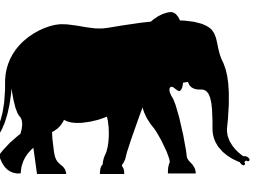
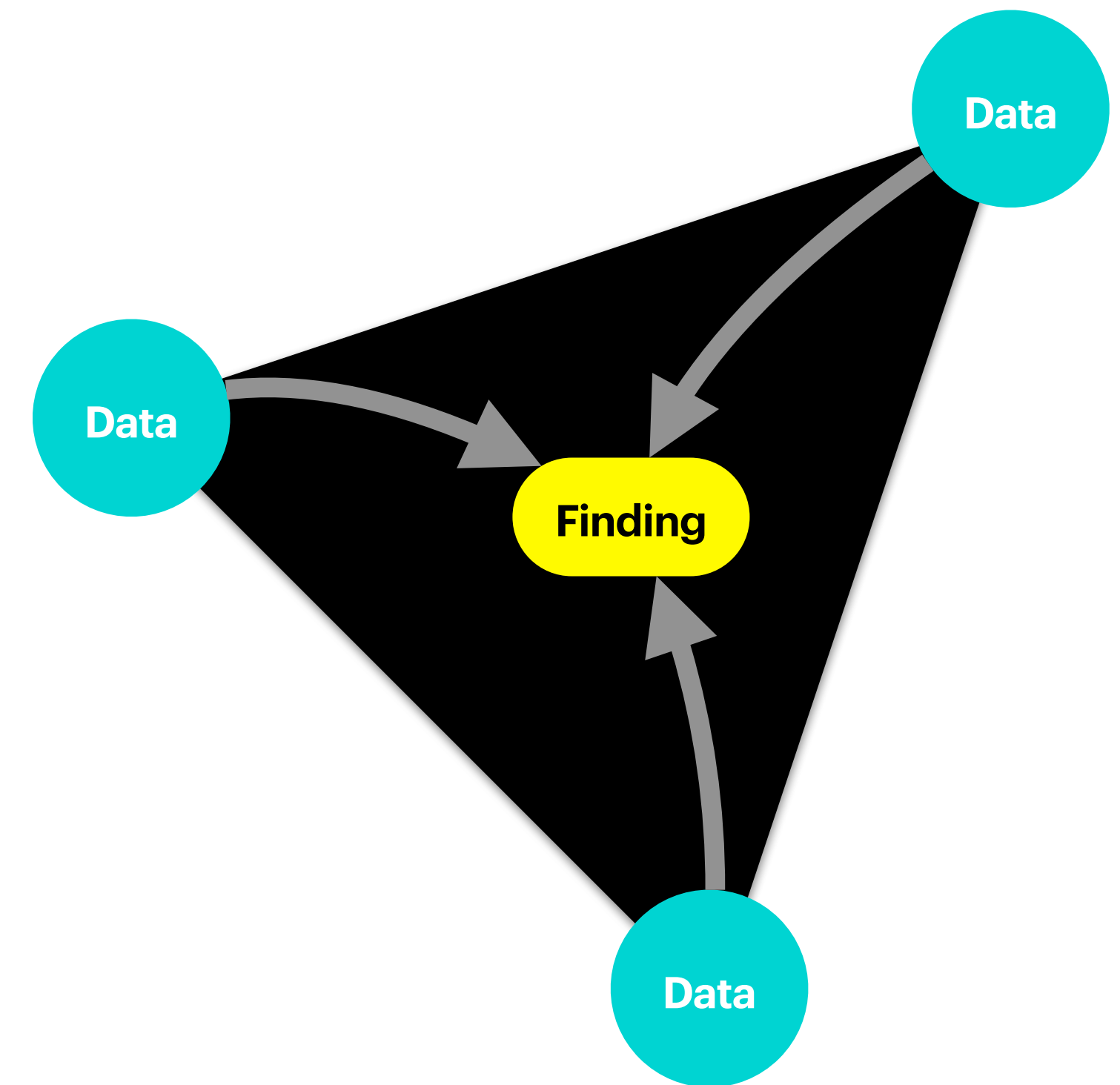
Data Source Time, space, and person

Investigator Multiple researchers

Methodological Using multi-methods in investigation


Theoretical Using multiple theories or hypotheses

Data-Analysis Two or more methods of analyzing data




PRINCIPLES OF EFFECTIVE DATA VISUALIZATION

Midway, S. R. (2020). Principles of effective data visualization. *Patterns*, 1(9), 100141.
<https://doi.org/10.1016/j.patter.2020.100141>


Consider an infographic 


 Get an independent figure review

Distinguish models from data 

 Include a detailed, standalone caption

Include any relevant metric of uncertainty 

 Use small multiples (if appropriate)

Use the correct geometry; consider showing the data 




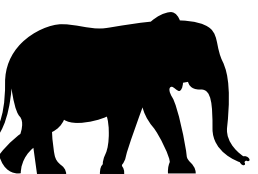
 Use an effective color scheme

Diagram first, focus on message 

 Adopt the best software for your needs

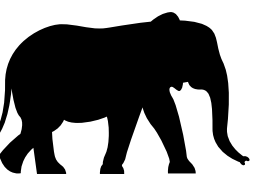


SMALL GROUP ACTIVITY

Develop some questions you might want to learn about your peers. Consider questions that collect different types of data.

MAKING INTERPRETING FINDINGS PRACTICAL

DEVELOPING A SURVEY FOR BASW SENIORS

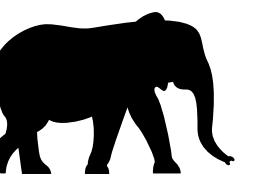


CLASS ACTIVITY

**Build a single questionnaire
as a class. Have each
individual take the survey.**

MAKING INTERPRETING FINDINGS PRACTICAL

DEVELOPING A SURVEY FOR BASW SENIORS

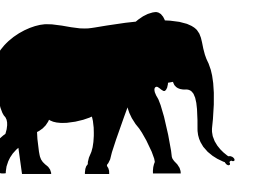


SMALL GROUP ACTIVITY

As small groups, come up with how you would want to present some of the data collected to your peers. What are some of the insights you found?

MAKING INTERPRETING FINDINGS PRACTICAL

DEVELOPING A SURVEY FOR BASW SENIORS



SO WHERE DO WE GO FROM HERE?

What kind of data have you collected

How are you analyzing it

Technical support

Time to work in your groups