

# **INTERPRETING FINDINGS**

**ANALYZING AND UNDERSTANDING DATA  
FOR PROGRAM EVALUATION**

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SOWK 460**



# **THE BLIND MEN AND THE ELEPHANT**

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

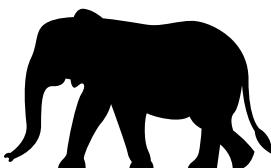
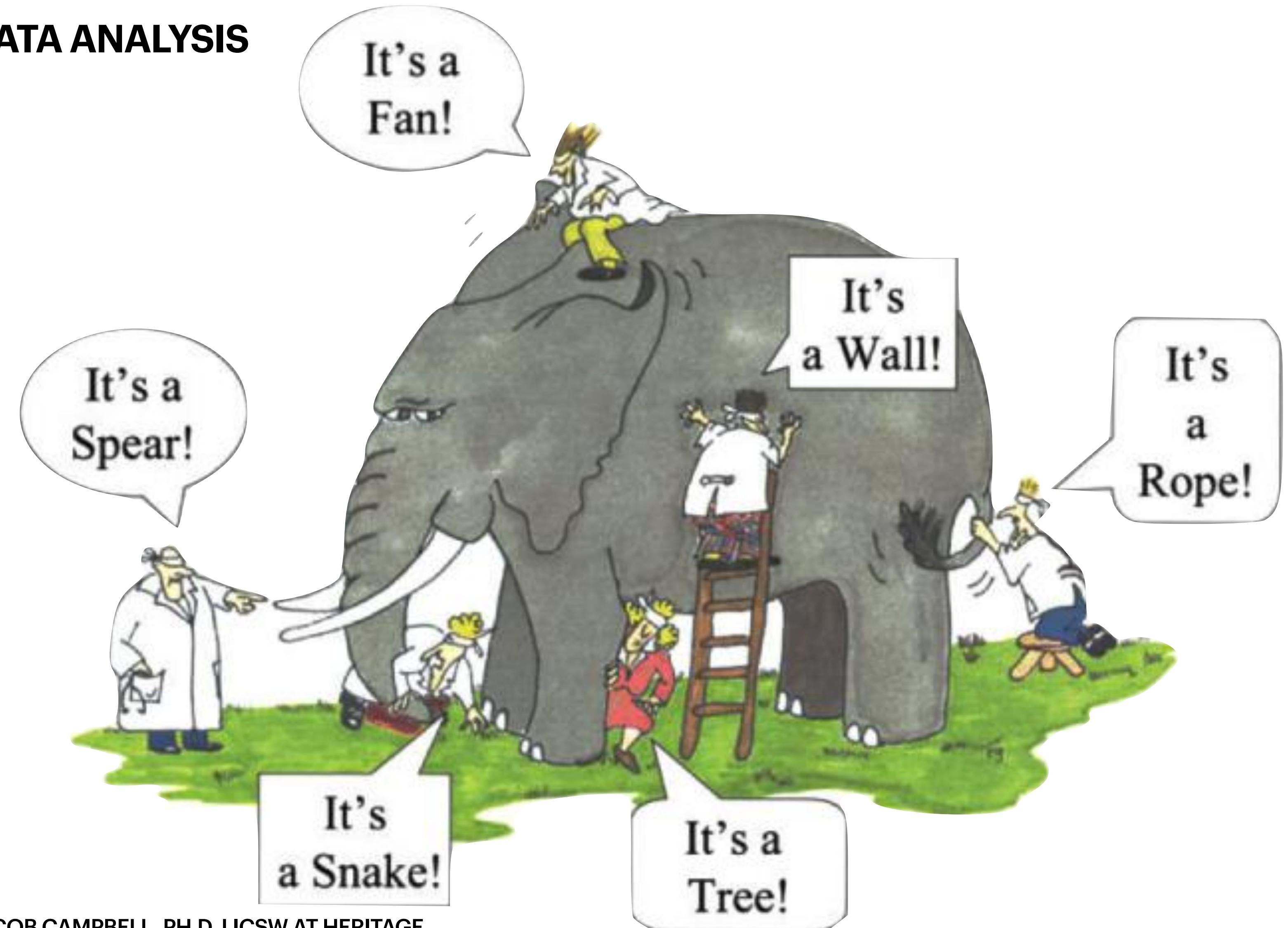
**[HTTPS://YOUTU.BE/BJVBQEFNXIW](https://youtu.be/BJVBQEFNXIW)**



# 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

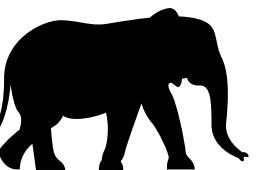
**What is the purpose of data analysis**

**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?

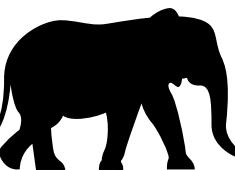
**DESCRIBE AND SUMMARIZE THE DATA**

**IDENTIFY RELATIONSHIPS BETWEEN VARIABLES**

**COMPARE VARIABLES**

**IDENTIFY THE DIFFERENCE BETWEEN VARIABLES**

**FORECAST OUTCOMES**



# SCALES OF MEASUREMENT

NOMINAL  
SCALE

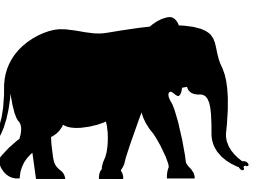
ORDINAL  
SCALE

NUMERICAL  
SCALE

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

**T**he 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).

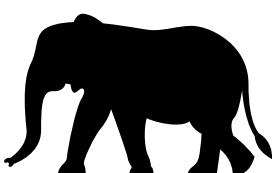
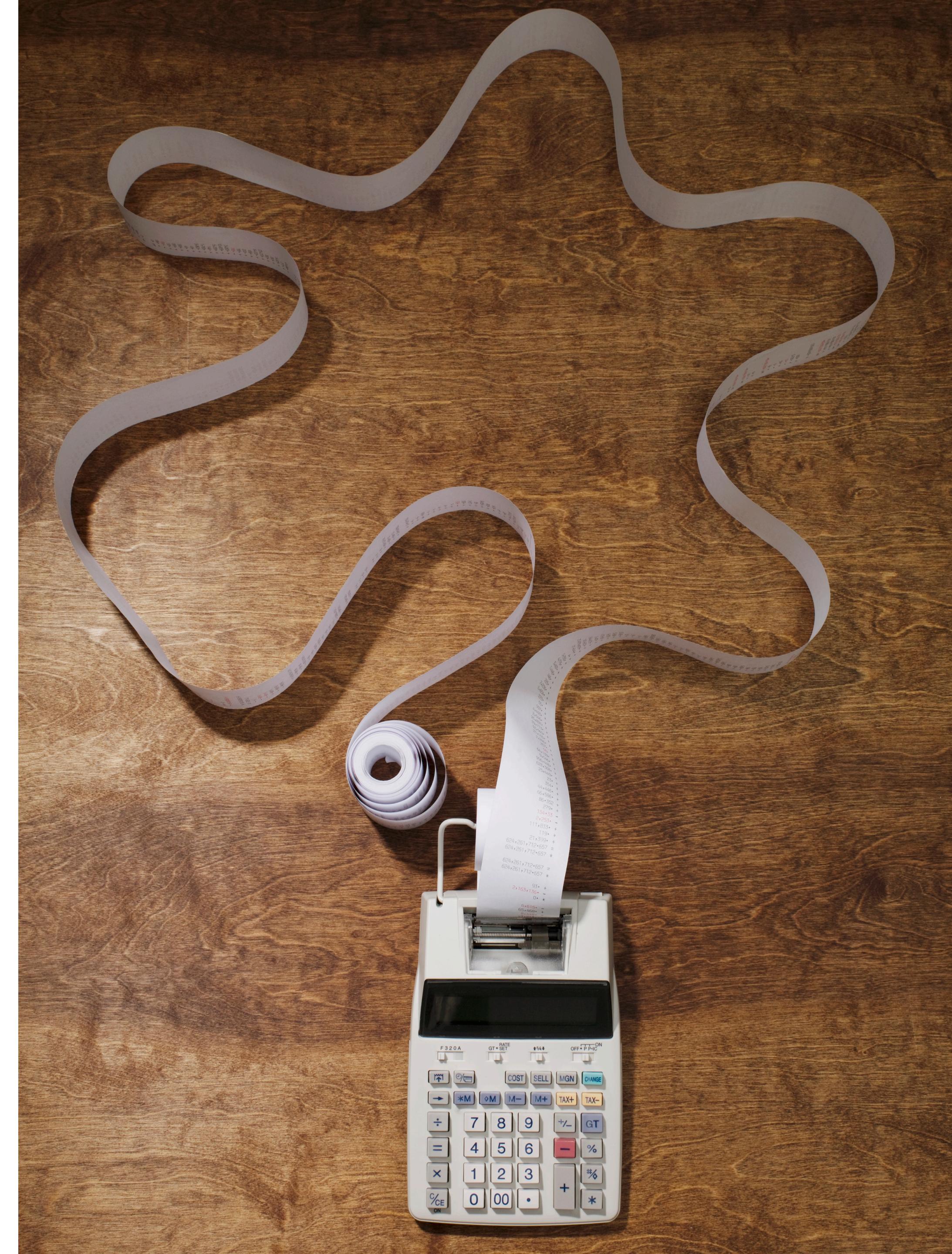
**W**here numbers represent the possible response categories there is a natural ranking of the categories zero on the scale has meaning there is a quantifiable difference within categories and between consecutive categories.



# **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)**

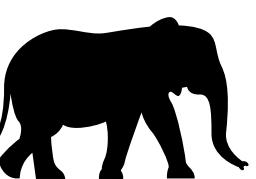
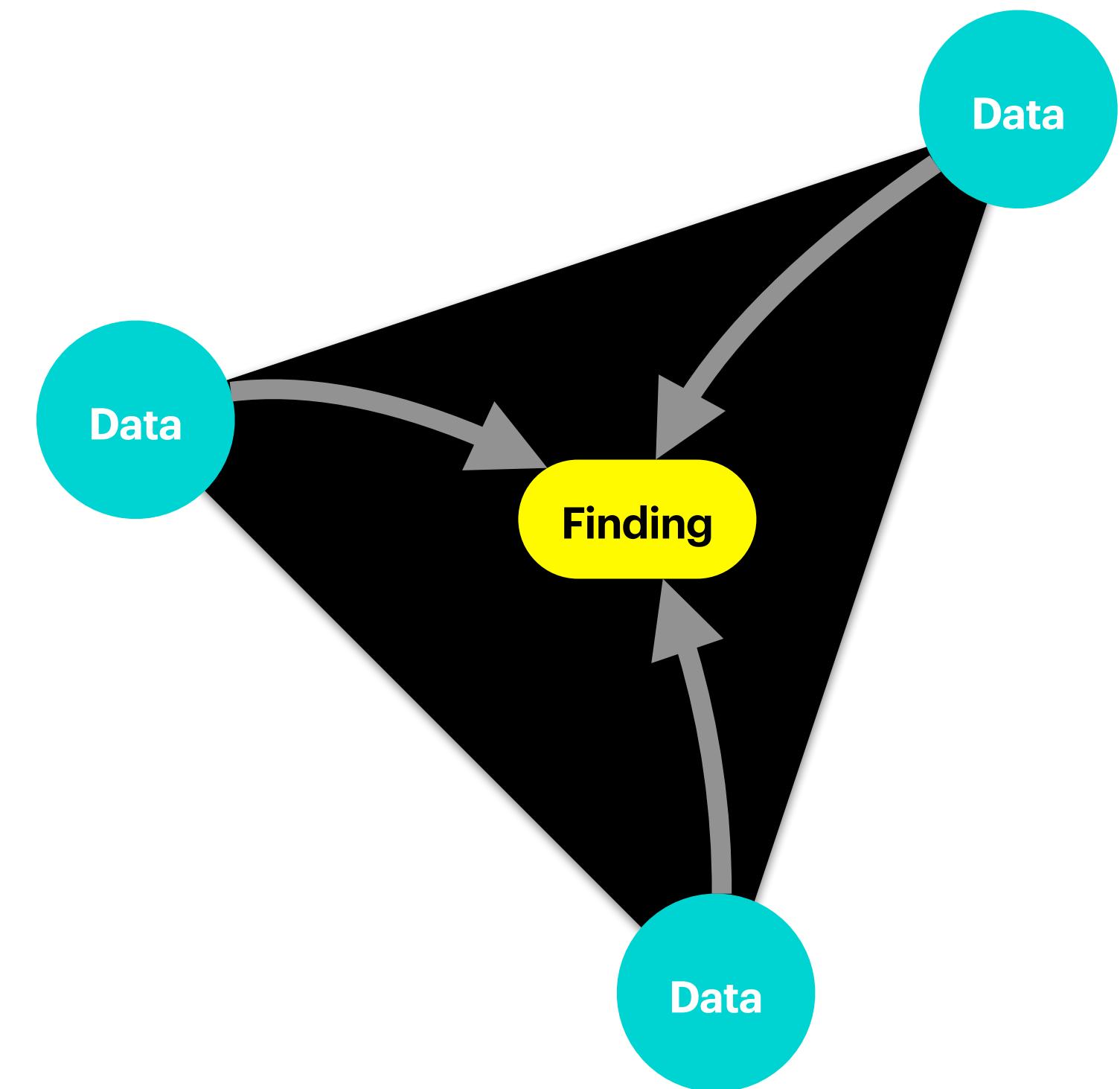
**Data Source** Time, space, and person

**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

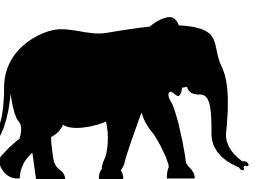


Adopt the best software for your needs

Figure design

Figure making

Figure review



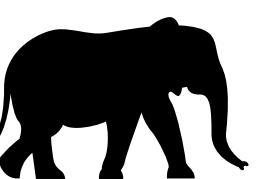
# **SMALL GROUP ACTIVITY**



**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**

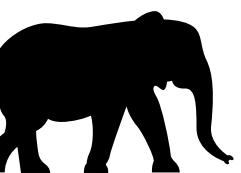


# CLASS ACTIVITY

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

MAKING INTERPRETING FINDINGS PRACTICAL

# DEVELOPING A SURVEY FOR BASW SENIORS



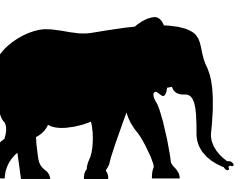
# **SMALL GROUP ACTIVITY**

**MAKING INTERPRETING FINDINGS PRACTICAL**

# **DEVELOPING A SURVEY FOR BASW SENIORS**

**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?**



# **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**