IDENTIFYING YOUR STORY: ANALYZING ASSESSMENT DATA
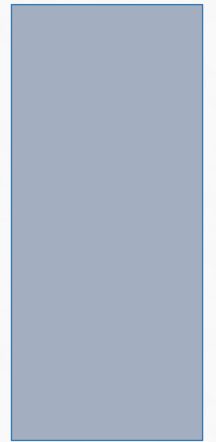
CONDUCTING ASSESSMENT IN STUDENT AFFAIRS-SESSION SEVEN

THE GOAL IS TO TRANSFORM DATA INTO INFORMATION, AND INFORMATION INTO INSIGHT
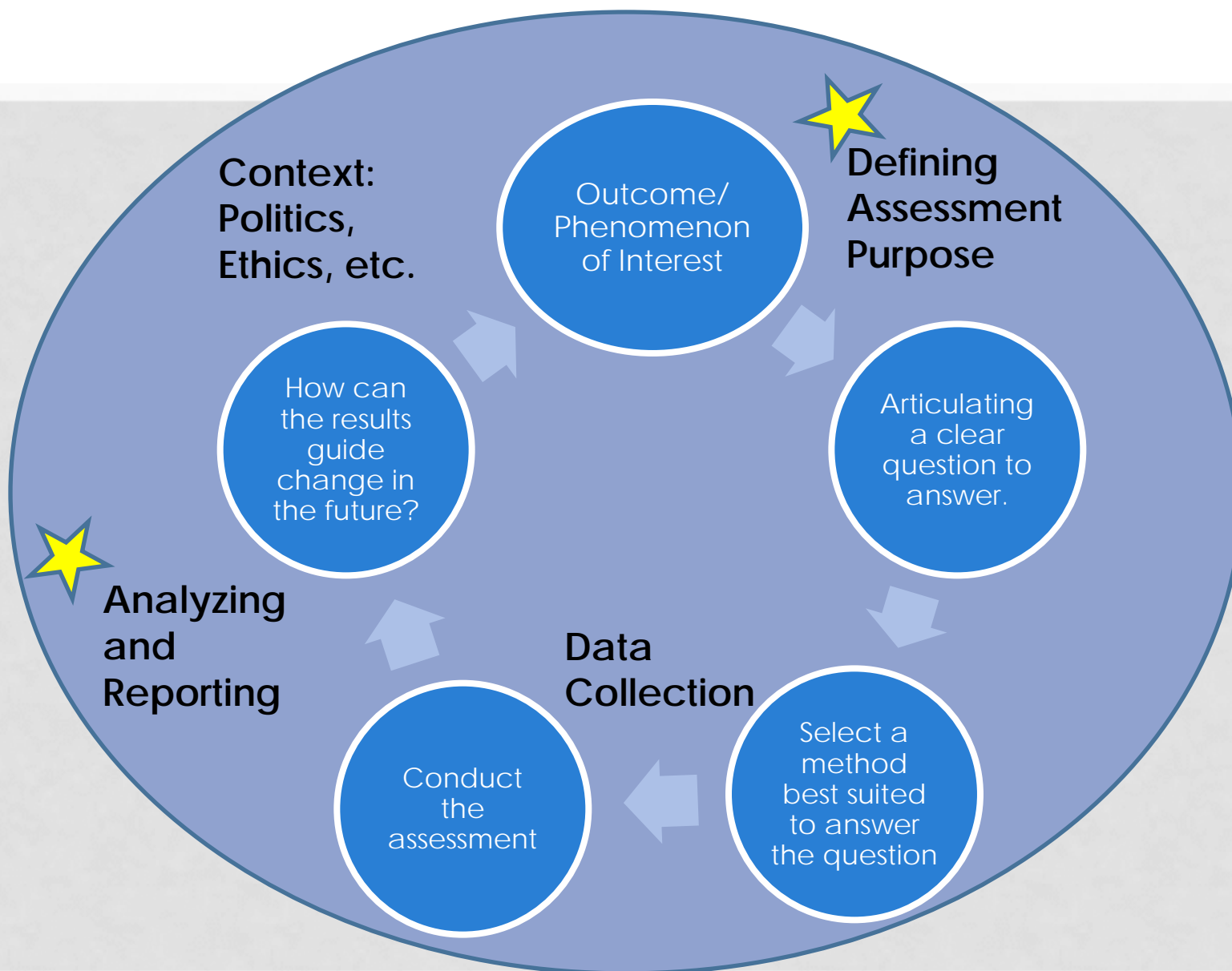
--CARLY FIORINA

SESSION OVERVIEW

- Assessment Cycle
- What to do with data?
- Analysis by Method
  - Qualitative
    - Organizing and analyzing qualitative data
    - Coding activity
  - Quantitative
    - Common methods of quantitative data analysis
    - Types of data reporting

ASSESSMENT CYCLE

Outcome/ Phenomenon of Interest

Context: Politics, Ethics, etc.

Defining Assessment Purpose

How can the results guide change in the future?

Articulating a clear question to answer.

Analyzing and Reporting

Data Collection

Conduct the assessment

Select a method best suited to answer the question

SO… I'VE GOT ALL THIS DATA

- Where is the data located?
- What format is it in?
- What do you need to do to make it "ready" to analyze?
  - <u>Quantitative:</u>
    - *Enter the surveys into a computer?*
    - *Export the data into some format?*
    - *Nothing?*
  - <u>Qualitative</u>
    - *Write down my observations, feelings, etc?*
    - *Transcribe interviews, notes, etc?*
    - *Export the data into some format?*
    - *Nothing?*

FINDING THE STORY

- Step back and see the big picture
- Identify themes and trends
- Begin by thinking about what you need to report:
  - <u>Format</u>
    - *Written report?*
    - *Presentation?*
    - *Elevator?*
  - <u>Audience</u>
    - *What are your participants wondering?*
    - *What are your stakeholders asking?*
    - *What do you need to tell the campus about your students/program/experience?*

DATA ANALYSIS

TYPES OF DATA ANALYSIS

Quantitative Approach	Qualitative Approach
Answers specific, narrow questions	Answers broad, general questions
Deductive	Inductive
Collects quantifiable data	Gathers word/text-based data
Uses statistical analysis	Searches for themes
Focuses on numbers, scores, comparisons across and correlations between groups	Listens to viewpoints of participants; Recognizes value of lived experiences
Seeks generalizability	Seeks a detailed understanding of a particular phenomenon

QUALITATIVE DATA

Common sources of qualitative data :

- Transcriptions from interview or focus-group recordings
- Student journals and assignments
- Observation notes, field notes
- Written feedback from course, program, or instructor evaluations
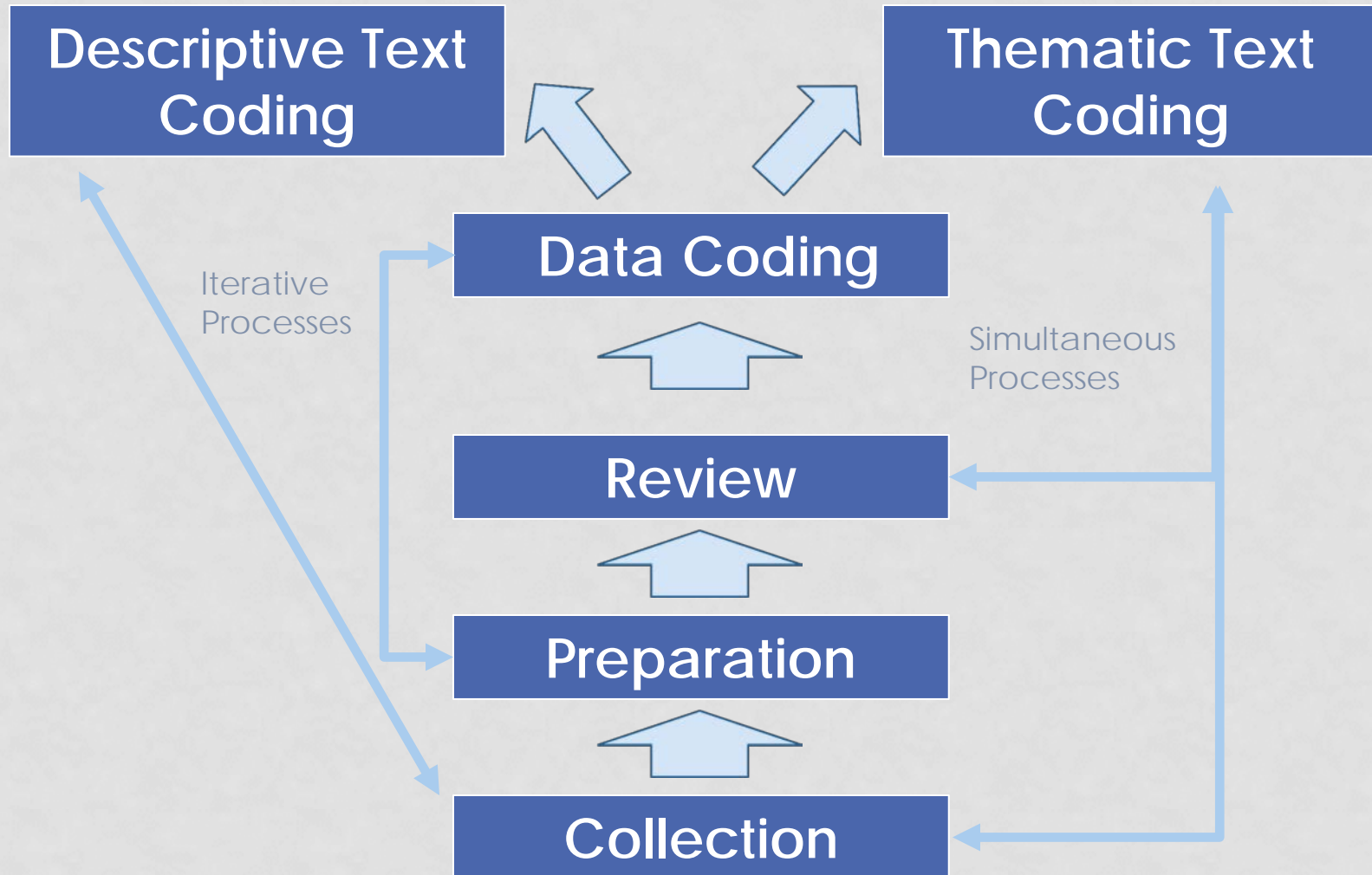- Open-ended responses from surveys

QUALITATIVE DATA

Other sources to consider:

- Reflections from staff development exercises or retreats
- Letters or emails from students, parents, or customers
- Official documents: job descriptions, mission statements, archives, memoranda of understanding, proclamations
- Media: photos, news articles, Facebook and Twitter posts, Youtube Videos, forum posts, and user comments
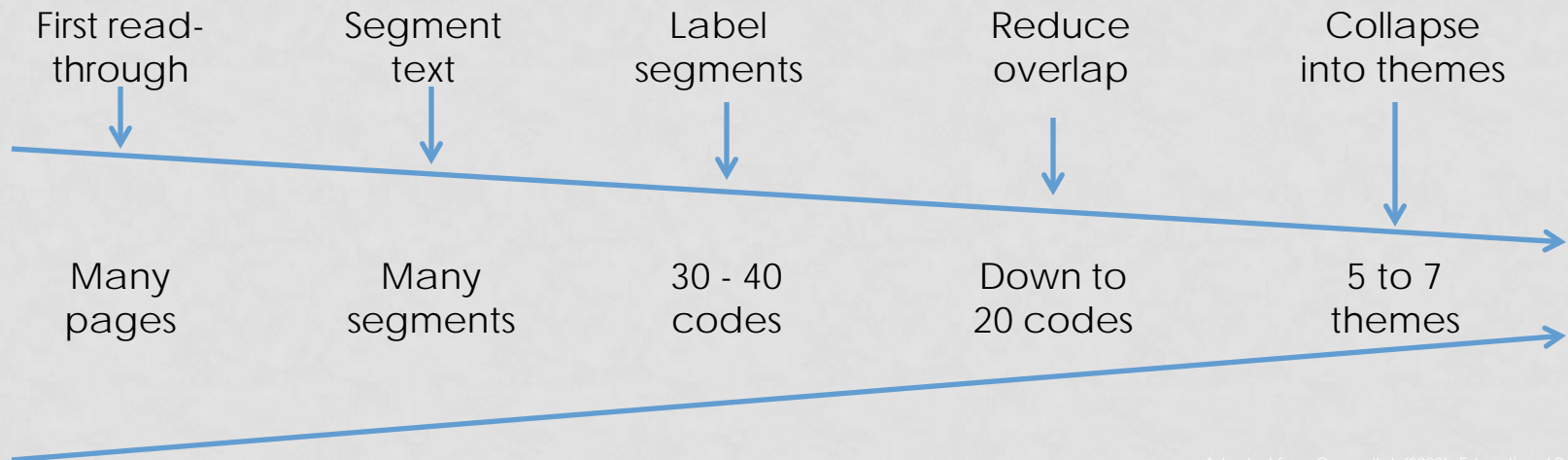
QUALITATIVE DATA ANALYSIS

Descriptive Text Coding

Thematic Text Coding

Data Coding

Iterative Processes

Simultaneous Processes

Review

Preparation

Collection

QUALITATIVE ANALYSIS

Descriptive Coding	Thematic Coding
Broad-to-narrow descriptions	*Ordinary Themes*: ones that you expect to find
Gives a vivid rendering of people, places, events in the setting	*Unexpected Themes*: surprises that you didn't expect to come up
Helps transport the reader to the setting	*Hard-to-Classify Themes:* ideas that don't easily fit or that overlap too much
Reports "the facts" through quotes and detail	*Major and Minor Themes:* broad ideas and subsets within them

QUALITATIVE HOW-TO-CODE

Exploratory Analysis

- Explore all data to get a general sense
- Memo ideas in the margins
- Think about data organization
- Consider whether you need more

Coding Process Model

First read-through	Segment text	Label segments	Reduce overlap	Collapse into themes
Many pages	Many segments	30 - 40 codes	Down to 20 codes	5 to 7 themes

QUALITATIVE CODING EXAMPLE

Descriptive

- Freshman essay about living on your own.
- Student recounts how he feels and his activities being on his own.
- Student reflects on pros and cons of living on his own.
- Student talks about what made him leave home.

When you move into your own home, you're alone. There is no bustle of people around the house. I miss having someone to chat to when I get home. I put the TV or some music so there's some background noise, the silence makes me feel so alone. Sometimes I will be sat watching trash TV and thinking I should be out doing something rather than watching this rubbish. I read a lot but sometimes I am too tired and just want to veg out. But it's been good to move out of mum and dads as it's not healthy to rely on them as they won't last forever. I become independent and made my own decisions. It's good they still there when I need them. It's good to have some distance as when I was at home I was arguing a lot with my dad and that was made me decide it was time to go.

feelings

Living alone

New relationship with parents

Independence

Old relationship with parents

Argument with Dad
Relation with father

Thematic

Feelings

- Loneliness
- Sadness
- Boredom

Living Alone

- Things you do in a new situation
- Passing the time
- Independence

Family

- Conflicts
- Growing up
- Changing relationships

QUALITATIVE EXERCISE

- Split up into groups of 2-3 people.

- Take about 5 minutes to read and code the transcripts individually.

- When you are done, discuss with your group partner(s):

  - 5 minutes:
    - Where do you agree? Disagree? Can you come to a common ground?
    - What are the key items you would include in an assessment report?

  - 5 minutes:
    - Combine your findings into a coherent story.
    - Make at least one implication for practice.

- Discuss with Class

BREAK
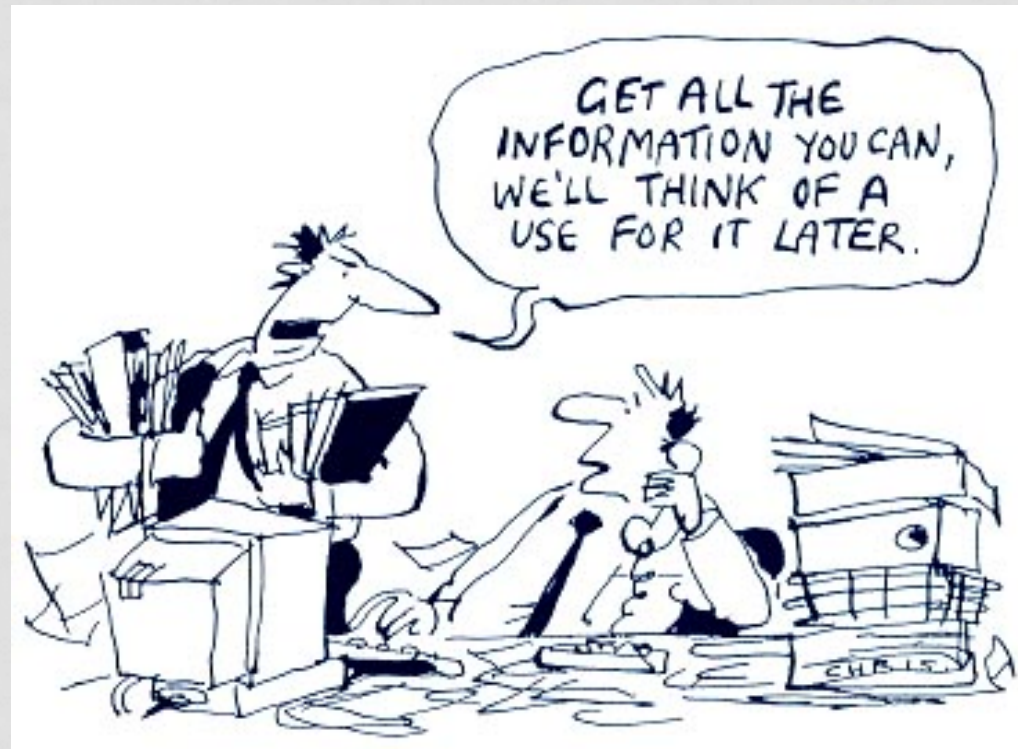
(What not to do when conducting assessment!)

QUANTITATIVE ANALYSIS

- Quantitative methods generate numerical data
- Quantitative analysis involves use of statistical procedures to interpret numerical data

- Sources of quantitative data:
  - Institutional records
  - Surveys
  - Document/content analysis
  - Scoring of rubrics and portfolios
  - Numerical data from observations (e.g. counts and tallies)

WHAT ARE STATISTICS?

The word "statistics" is used in several different senses.

- In the broadest sense, "statistics" refers to a range of techniques and procedures for analyzing data, interpreting data, displaying data, and making decisions based on data.

- In a second usage, a "statistic" is defined as a numerical quantity (e.g., the mean).

BOTTOM LINE…

Statistics are the tools you use to:

- Put data in summary form

- Transform it either into words or pictures

- Communicate or describe a specific situation

- In other words…they are the means you use to communicate your data or tell your story

TELLING THE STORY WITH DESCRIPTIVE STATISTICS…

- Count, Percent, Frequency, Crosstabs
- Show how often something occurs
- How many people do/say/think X?

Measures of Frequency

- Mean, Median, Mode
- Show the average or most common response
- What does the average person do/say/think?

Measures of central tendency

- Range, Variance, Standard deviation
- Show how spread out the responses are
- How consistent were the responses?

Measures of dispersion or variation

STATISTICAL ANALYSIS

Are there differences?

- T-test
- ANOVA
- Chi Square

Are things related?

- Correlation
- Regression
- Factor Analysis

WHAT DOES THE AVERAGE PERSON DO, SAY OR BELIEVE?

This question is generally answered using measures of central tendency:

Mean Scores:

- Preferably used with continuous variables
- Can be heavily influenced by "outliers"
- Not useful for dichotomous variables

Median & Mode:

- Less common in assessment reporting

MEANS: BASELINE EXAMPLE

Frequency | Graph | Cross Tab

Q4. Please indicate your level of agreement with the following statements. Select "Not applicable" for any item that you cannot answer or was not relevant to your experience: - Overall, it is easy to use Baseline to develop assessment projects.

	Count	Percent		
☐	0	0.00%		Strongly disagree
☐	0	0.00%		Disagree
☐	0	0.00%		Neutral
☐	5	41.67%	▰▰▰	Agree
☐	5	41.67%	▰▰▰	Strongly agree
☐	2	16.67%	▰	Not applicable

12 Respondents   ⊟ Statistics

Top	2 ▾	100.00% (10)	Bottom	2 ▾	0.00% (0)
Mean		4.50	**Std Deviation**		0.53
Median		4.5	**Std Error**		0.17
Mode		4,5	**Confidence Interval @ 95%**		4.17–4.83

MEANS: TABLE EXAMPLE

Perceptions of Campus Climate	Mean
Friendly (1) to Hostile (6)	2.11
Caring (1) to Impersonal (6)	2.91
Intellectual (1) to Not Intellectual (6)	1.98
Tolerant of Diversity (1) to Not Tolerant (6)	2.07
Safe (1) to Dangerous (6)	1.95
Too Easy Academically (1) to Too Hard (6)	3.96
Affordable (1) to Not Affordable (6)	3.31

Source: UCUES, 2008

MEANS: CHART EXAMPLE

Sense of Belonging Factor Mean Scores (n=5,858)

- Native American (n=11): 48.3
- Asian*** (n=2,277): 50.4
- Black **(n=82): 47.8
- Hispanic (n=737): 50.9
- White*** (n=1,530): 52.3
- Multiracial (n=308): 51.9

Legend: Mean Scores — Overall Mean (50.8)
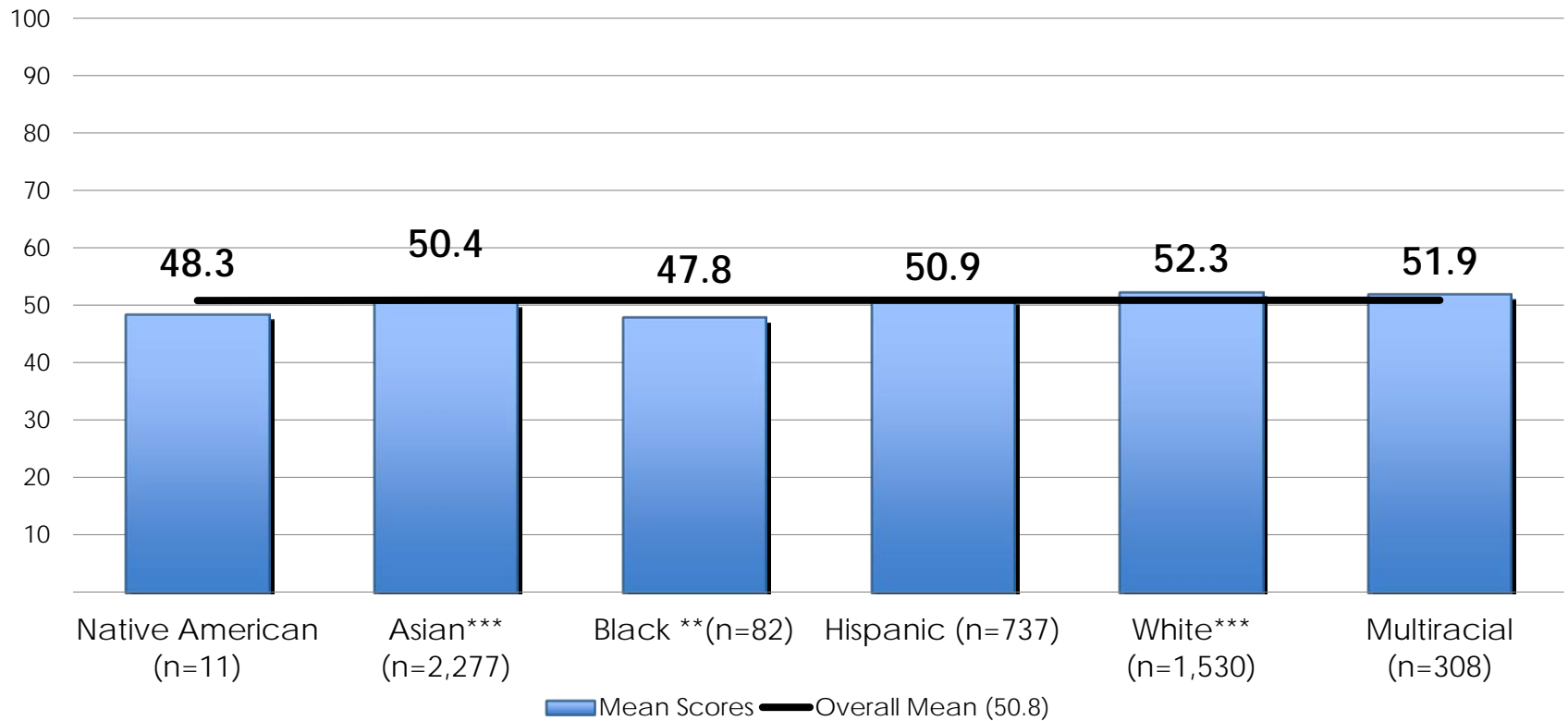
Note significance levels: ***p≤.001; **p≤.01;

HOW MANY PEOPLE DO/SAY/BELIEVE X?

This question is generally answered using measures of frequency:

Counts:

- Use to convey information about the total number of responses

Percentages/Proportions:

- Best to use when comparing data (especially if groups are not the same size)

Crosstabulations:

- Use to combine data from multiple questions

PERCENTAGES: BASELINE EXAMPLE

Frequency | Graph | Cross Tab

Q4. Please indicate your level of agreement with the following statements. Select "Not applicable" for any item that you cannot answer or was not relevant to your experience: - Overall, it is easy to use Baseline to develop assessment projects.

	Count	Percent	
☐	0	0.00%	Strongly disagree
☐	0	0.00%	Disagree
☐	0	0.00%	Neutral
☐	5	41.67%	Agree
☐	5	41.67%	Strongly agree
☐	2	16.67%	Not applicable

12 Respondents ⊟ Statistics

| Top	2 ▼	100.00% (10)	Bottom	2 ▼	0.00% (0)
Mean	4.50		**Std Deviation**	0.53	
Median	4.5		**Std Error**	0.17	
Mode	4,5		**Confidence Interval @ 95%**	4.17-4.83	

PERCENTAGES: TABLE EXAMPLE

Rate current skill level compared to other people in your field including peers, faculty, post-docs, etc.

	Percent rating self as "Below Average" or "Lowest 10%"
Conducting research in my field	17.0
Writing a journal article	30.0
Writing a thesis/dissertation	28.0
Writing a grant	46.0
Writing a course paper	7.0
Giving a formal oral presentation	13.0
Professional networking	31.0
Understanding relevant ethical concerns in my field	5.0

Source: UCLA Student Affairs Graduate and Professional Student Survey, 2010

PERCENTAGES: CHART EXAMPLE

Q28. Please indicate your level of agreement with the following statements. Select "Not applicable" for any item that you cannot answer or was not relevant to your experience: - Baseline products serve as a valuable resource for UCLA Student Affairs staff and community.
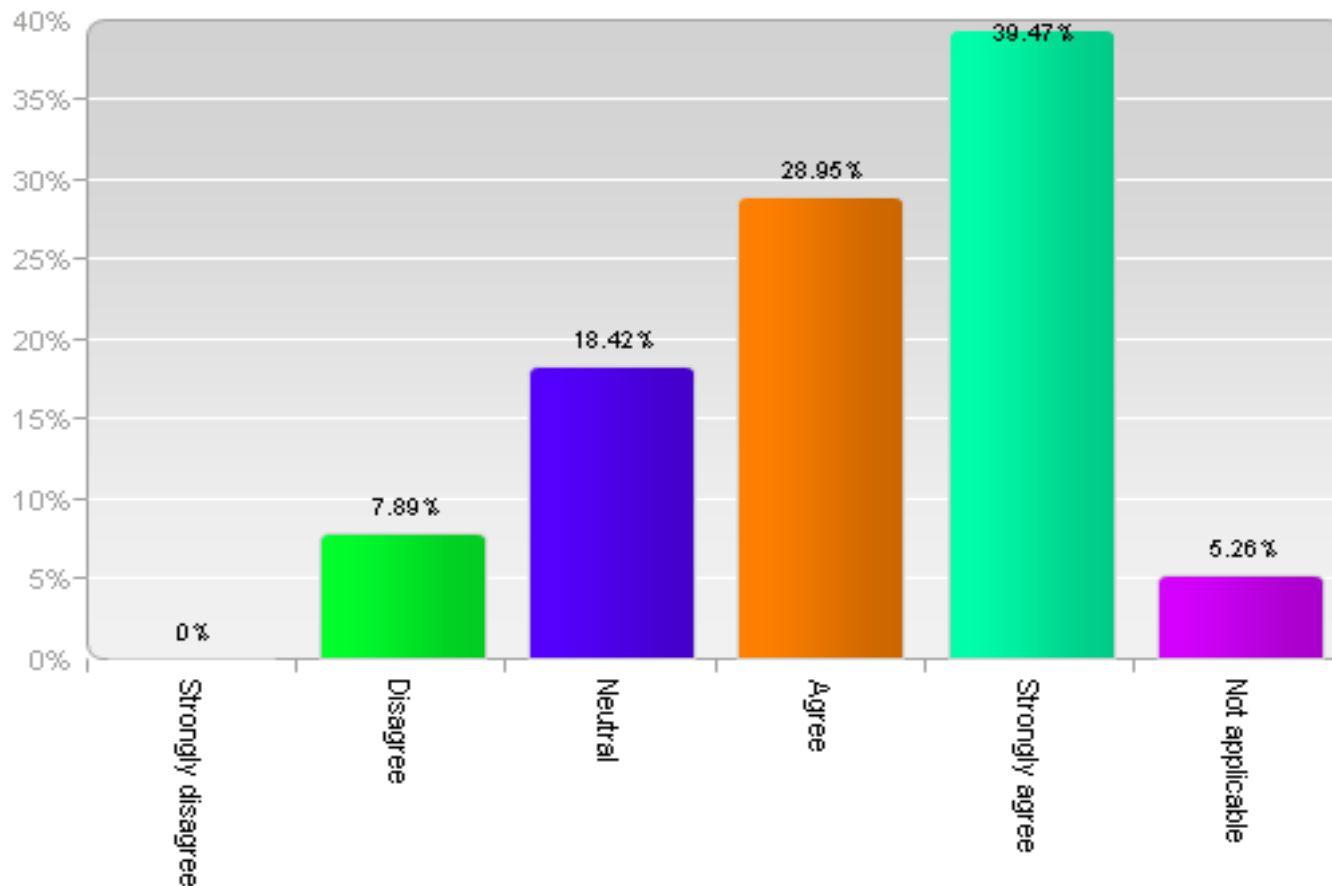
AGGREGATION AND DISAGGREGATION

- Aggregation:
  - How to do in Baseline
  - Why do it? Manageability of your data
- Disaggregation:
  - Crosstabs (later)

s			⊟ Statistics
% (10)	Bottom 2 ▾		0.00% (0)
4.50	Std Deviation		0.53
4,5	Std Error		0.17
4,5	Confidence Interval @ 95%		4.17-4.83

COMPARISON: TABLE EXAMPLE

	Transfers	Freshmen
	% "agree" or "strongly agree"	
The federal government should do more to control environmental pollution	40%	85%
Dissent is a critical component of the political process	40%	76%
A national healthcare plan is needed to cover everybody's medical costs	43%	70%
Through hard work, everybody can succeed in American society	49%	78%
Undocumented immigrants should be denied access to public education	50%	46%
Realistically, an individual can do little to bring about changes in our society	54%	22%
Racial discrimination is no longer a major problem in America	57%	17%

Source: 2009 CIRP; 2009 UCLA Transfer Student Survey

CROSSTABS: BASELINE EXAMPLE

Frequency | **Graph** | **Cross Tab**

e your level of agreement with the following statements. Select "Not applicable" for any item that you cannot answer or was not rele

- Baseline products serve as a valuable resource for UCLA Student Affairs staff and community.

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Not applicable			
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Pe
I am a registered user with a login ID, but I haven't used it yet.	0	0.00 %	1	33.33 %	2	28.57 %	4	36.36 %	5	33.33 %	2	100.00 %	14	36
I currently do not have an assessment project in Baseline but I am familiar with it (e.g., attended webinars, browsed through the resources).	0	0.00 %	1	33.33 %	5	71.43 %	4	36.36 %	3	20.00 %	0	0.00 %	13	34
I have used/am using Baseline for an assessment project.	0	0.00 %	1	33.33 %	0	0.00 %	3	27.27 %	7	46.67 %	0	0.00 %	11	28
Total	0	0.00 %	3	100.00 %	7	100.00 %	11	100.00 %	15	100.00 %	2	100.00 %	38	10

orted are percent responses.

CHARTING CROSSTABS: BASELINE

Frequency | **Graph** | **Cross Tab**

Q10. Is English your native language?

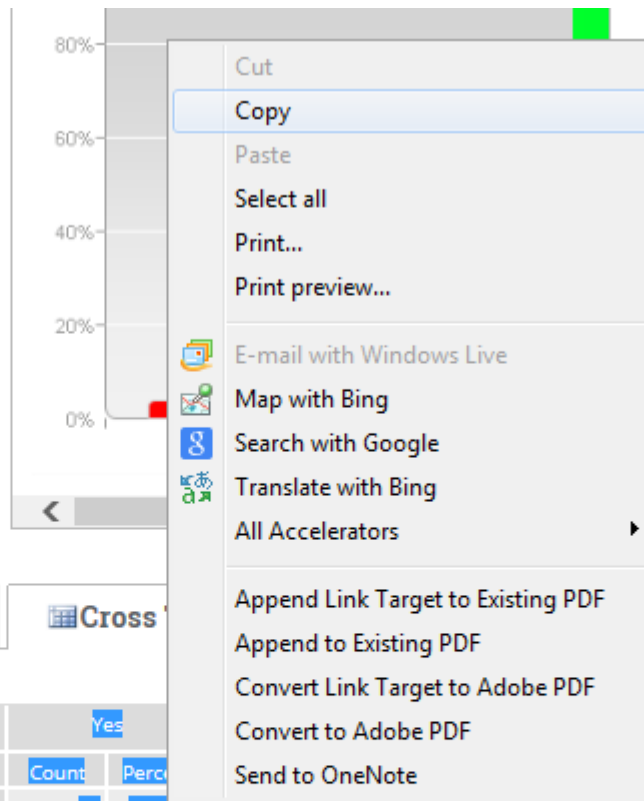| ☐ Summary View		Yes		No		Total	
		Count	Percent	Count	Percent	Count	Percent
✖ Q123. Think about your current abilities and tell us how strong or weak you believe you are in each of the following areas: - Foreign language ability	A major strength	86	15.64 %	231	41.47 %	317	28.64 %
	Somewhat strong	127	23.09 %	185	33.21 %	312	28.18 %
	Average	131	23.82 %	113	20.29 %	244	22.04 %
	Somewhat weak	123	22.36 %	24	4.31 %	147	13.28 %
	A major weakness	83	15.09 %	4	0.72 %	87	7.86 %
	Total	550	100.00 %	557	100.00 %	1107	100.00 %

Note: Percentages reported are percent responses.

Add Question:

Select Question ⌄

Table Table Picture Clip Art Shapes SmartArt Screenshot Column Line Pie Bar Area Scatter Other Charts Line Column Win/Loss Slicer Hyperlink Text Box

Tables | Illustrations | Charts | Sparklines | Filter | Links

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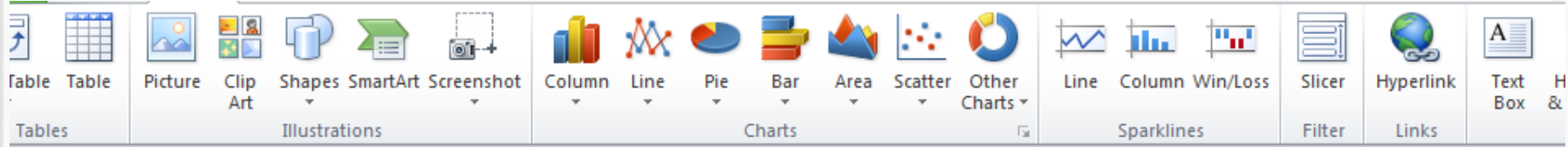
Q10. Is English your native language?

Summary View		Yes	No	Total
Q123. Think about your current abilities and tell us how strong or weak you believe you are in each of the following areas: - Foreign language ability	A major strength	15.64%	41.47%	28.64%
	Somewhat strong	23.09%	33.21%	28.18%
	Average	23.82%	20.29%	22.04%
	Somewhat weak	22.36%	4.31%	13.28%
	A major weakness	15.09%	0.72%	7.86%
	Total	100.00%	100.00%	100.00%

Is English your native language?
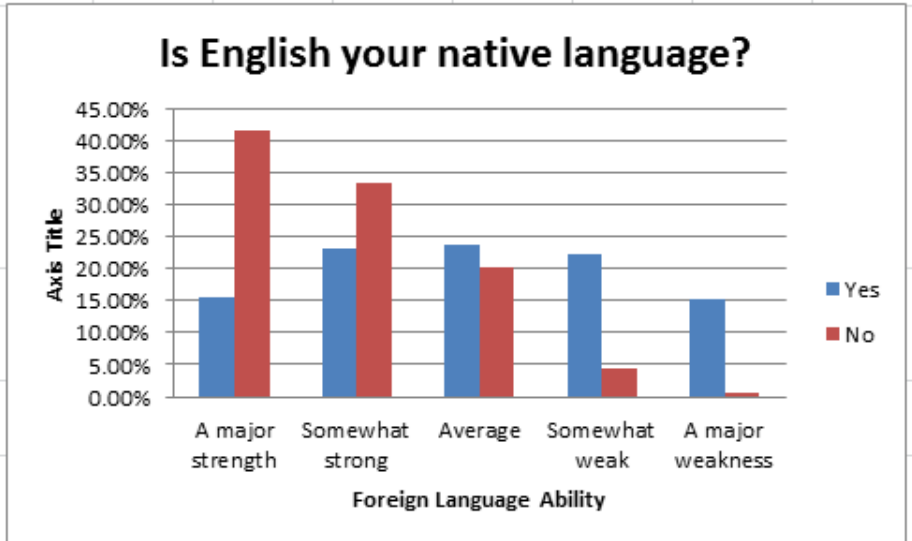
Create your chart!

CROSSTABS: CHART EXAMPLE

Diversity is Important to this Campus
Percent "somewhat agree," "agree" and "strongly agree"
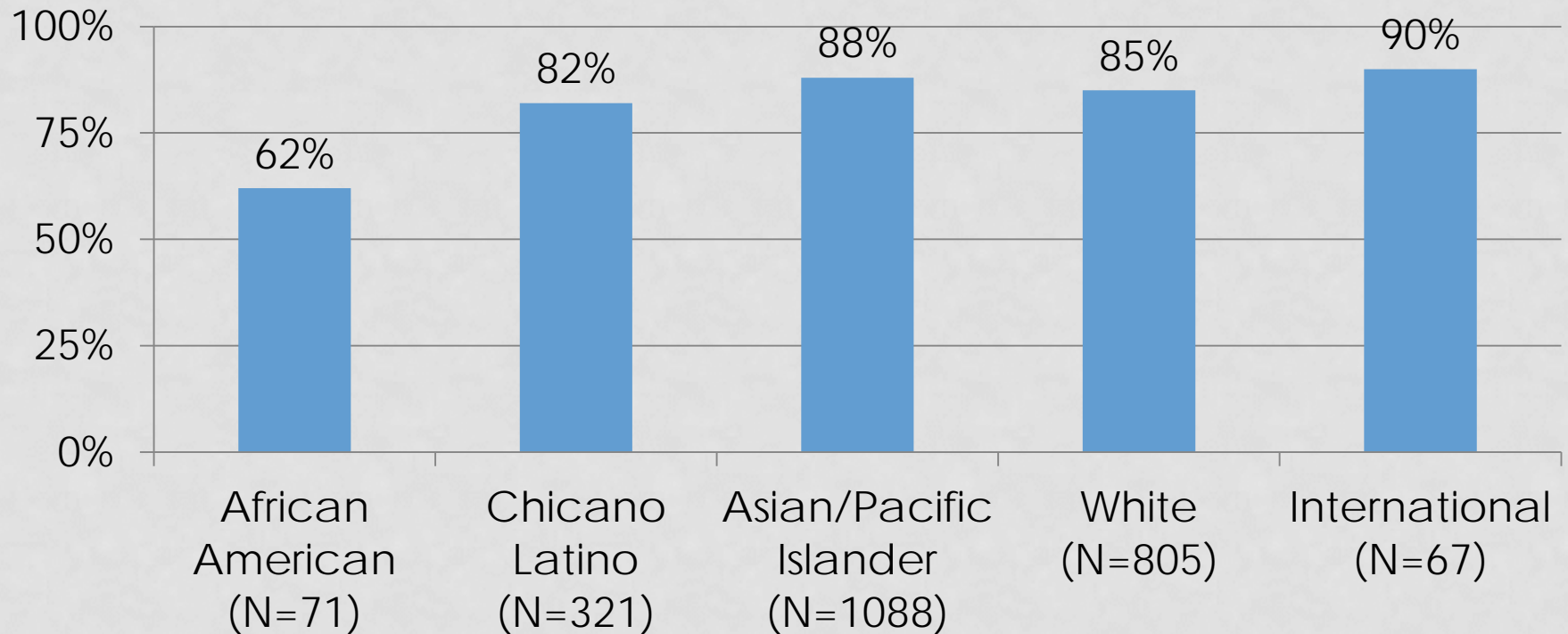
Source: UCLA, UCUES 2008

QUANTITATIVE ACTIVITY

- Review the results from two questions on the handout

- Consider the means: what do they mean?

- Consider the scales: what is the data telling you about the outcomes of the workshop?

- How would you present this data?

PREPARING TO TELL YOUR STORY

- Consider your audience
  - What sub-populations are important (if any)?
  - What types of data does your audience want to know?
    - Program improvement
    - Satisfaction
    - Needs analysis

- Organize your results logically
- Share your results locally before creating a report
- Jot down your notes about your data/findings

RESOURCES FOR ANALYSIS

- Focus Group analysis: http://www.youtube.com/watch?v=Vft9sDzMoJQ

- Baseline webinars (need baseline acct): http://baselinesupport.campuslabs.com/home

- Research Methods Knowledge Base:
- http://www.socialresearchmethods.net/kb/analysis.php

NEXT TIME

- "Telling your story"
  - Focus on reporting
    - Charts/Graphs
    - Quotes
    - Form and Function
    - Documentation and Reporting
- Bring questions re: Assessment Plan
  - Process of assessment?
  - Method of data collection?
  - Method of analysis?
  - How to analyze?
  - *** *last meeting before Plans are due!*