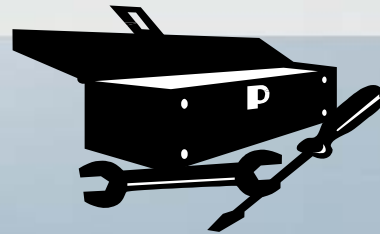


# VAG 2005 Spring Drive-In: Communicating Assessment Results



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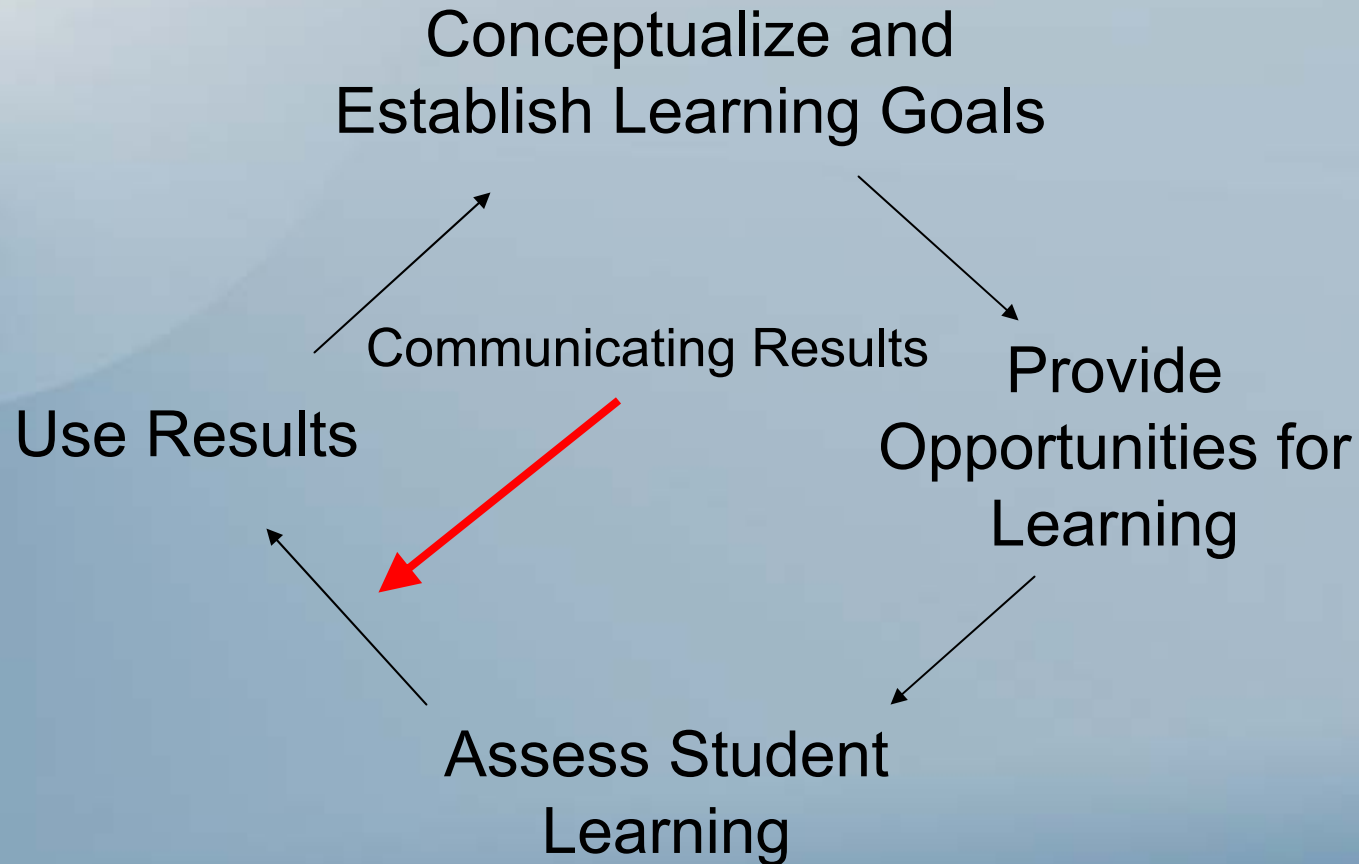
# Overview

- 1) The Big Picture
- 2) The Meso- (Middle) Picture
- 3) The Nitty Gritty
- 4) Activity: Improving the Presentation of Results
- 5) Discussion/Q & A

# THE BIG PICTURE

- Where does communicating assessment results fit into the assessment process?
- Creating a productive assessment climate

# Big Picture: Where does Communication Fit in?



# Communicating Results...

...bridges the gap between analyzing assessment data and using the results for program improvement.

# Creating a Productive Climate

- Identify areas of need,
- but also...
- Showcase areas of strength
- Encourage administrators to reinforce faculty for good assessment practices (even if the results aren't flattering).
- FOLLOW THROUGH

# Creating a Productive Climate

- Make program goals highly visible...all of the time
- Ensure that stakeholders have been involved in assessment process
- Allocate time and plan activities to communicate results
- Provide money, prizes, recognition, etc. for quality assessment.

# Meso-Picture

- Who, What, How, and to Whom?
- Identifying what's important



# Meso-Picture: Who, What, How, and to Whom?

- Source of Information (Who)
  - The Message Communicated (What)
  - Mode of Presentation (How)
  - The Audience (To Whom)
- 
- Note: Majority of information in this section is adapted from:  
Erwin, T. D. (1991). *Assessing student learning and development: A guide to the principles, goals, and methods of determining college outcomes*. San Francisco: Jossey-Bass.

# The Source (Who)

- Source: Person(s) who convey(s) assessment results
  - Intrainstitutional (example, faculty)
  - Interinstitutional (example, dir. of asmt.)
  - External (example, SACS committee)

# QUIZ

- Who would be the best person to report results for these purposes?
  - Program improvement
  - Assessment of general education
  - Commentary of quality to state officials

# The Mode (How)

- Types of reports
  - Progress
  - **Final**
  - Technical
  - Summary
  - Media

# The Mode (How) Continued...

## Components of final report

- 1) Objectives
- 2) Assessment Methods
- 3) Analyses of Results
- 4) Uses
- 5) Future Assessment Plans and Goals

# The Message (What)

- Positive, negative, mixed
  - Positive: everyone's happy—make sure you showcase these results if they are meaningful.
  - Mixed: more common
  - Negative: See next slide...

# The Message (What) Continued...

- **Negative Results: What to Expect**
  - Blame of the instrument
  - Blame of the method
  - Blame of the source
- **Negative Results: How to Focus on Problems**
  - Spend time tightening methodology
  - Don't surprise stakeholders (communicate early and often)
  - Avoid analysis at the individual faculty level
  - Dig into problem areas with subsequent analyses
  - Celebrate good assessment

# The Audience (To Whom)

- Presentation should be geared toward audience.
- Example: quantitative reasoning.
  - Do the college president and math faculty need to have the same level of detail?
- Probably not
  - Faculty members needs diagnostic information.
  - The president needs an executive summary.
  - \*Sometimes I give the same report, but include an executive summary at the front (upper level administrators can read as little or as much as they want).



# The Audience (To Whom) Continued...

- Careful with complexity
  - Include complicated analyses when warranted by research questions, but stick details in technical report or appendices, or talk to someone individually after presentation.
  - Simplify language when talking to most audiences.

# Identifying What's Important

- Interpretation...please!
- Use statistics as a guide.
- Identify convergent findings.
- Discuss discrepancies.
- Tell a story.
- Dive in deeper when something looks unusual.
- Provide implications of results such as curriculum change or updated technology.

# The Nitty Gritty

- Understanding data
- Summarizing data
- Presenting data

# Now that you've collected the data...

- Clean up the data before analyzing
  - Multiple responses
  - Inapplicable responses
  - Missing data
  - Data entry errors
  
- Keep track of how you handled unusual data points

# What kind of data do you have?

- Qualitative: open-ended questions, interviews, speeches
  - *What was the biggest surprise about college?*
- Categorical: numbers used to label categories and are arbitrary
  - *Which of the following best describes your employment setting? (1 = small animal practice, 2= mixed, 3=equine)*

# What kind of data do you have?

- Ordered: responses are ordered in a logical manner
  - *What is your salary range? (1 = under \$15,000; 2 = \$15,000 - \$19,999; etc.)*
- Scaled: Scores on a continuous scale
  - *SAT scores, GPA, test grades*

# Summarizing the data

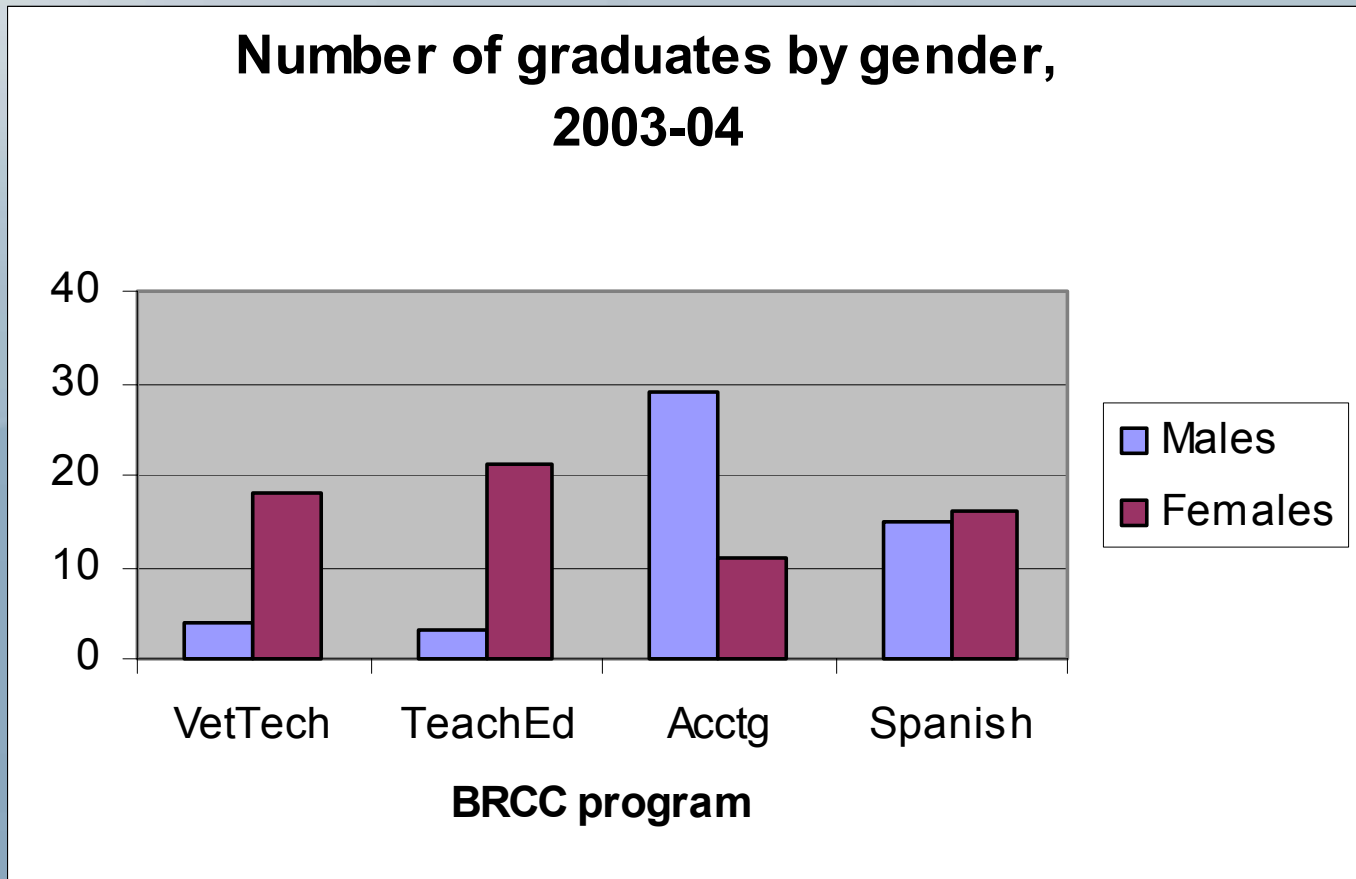
- Qualitative
  - Group responses together; combine similar responses into larger category
  - Provide a tallied list of responses and/or modal responses
  - Could do a bar graph if the picture tells an interesting story
  - Bar graphs: good for comparing information in frequency or percentage distributions

# Summarizing the data

- Categorical (nominal) data
  - Like qualitative data, the most you can do is list frequencies (tallies) and modes
  - Bar graph, pie chart are options
  - Pie charts: Divides up total amount of some variable. Each “wedge” represents a portion (usually percentage) of the total. Often used for budgets.

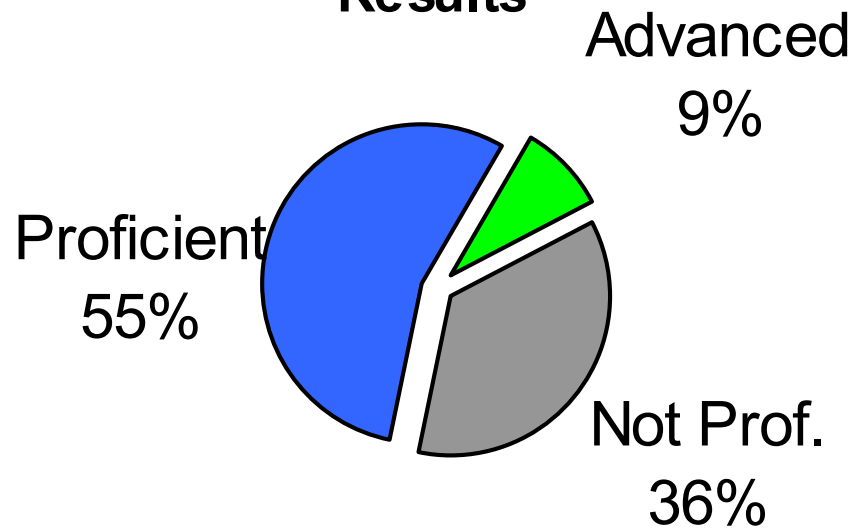


# Example: Bar Graph



# Example: Pie Chart

## VCCS Quantitative Reasoning, Spring 2004 Results



# Summarizing the data

- Ordered (ordinal, ranked) data
  - Results are meaningful in their order: a “2” is higher than a “1,” for example.
  - In addition to mode and frequency data, you can also calculate a median as a way to describe the data.
  - There are nonparametric statistics that can be applied to ordered data.

# Nonparametric statistics

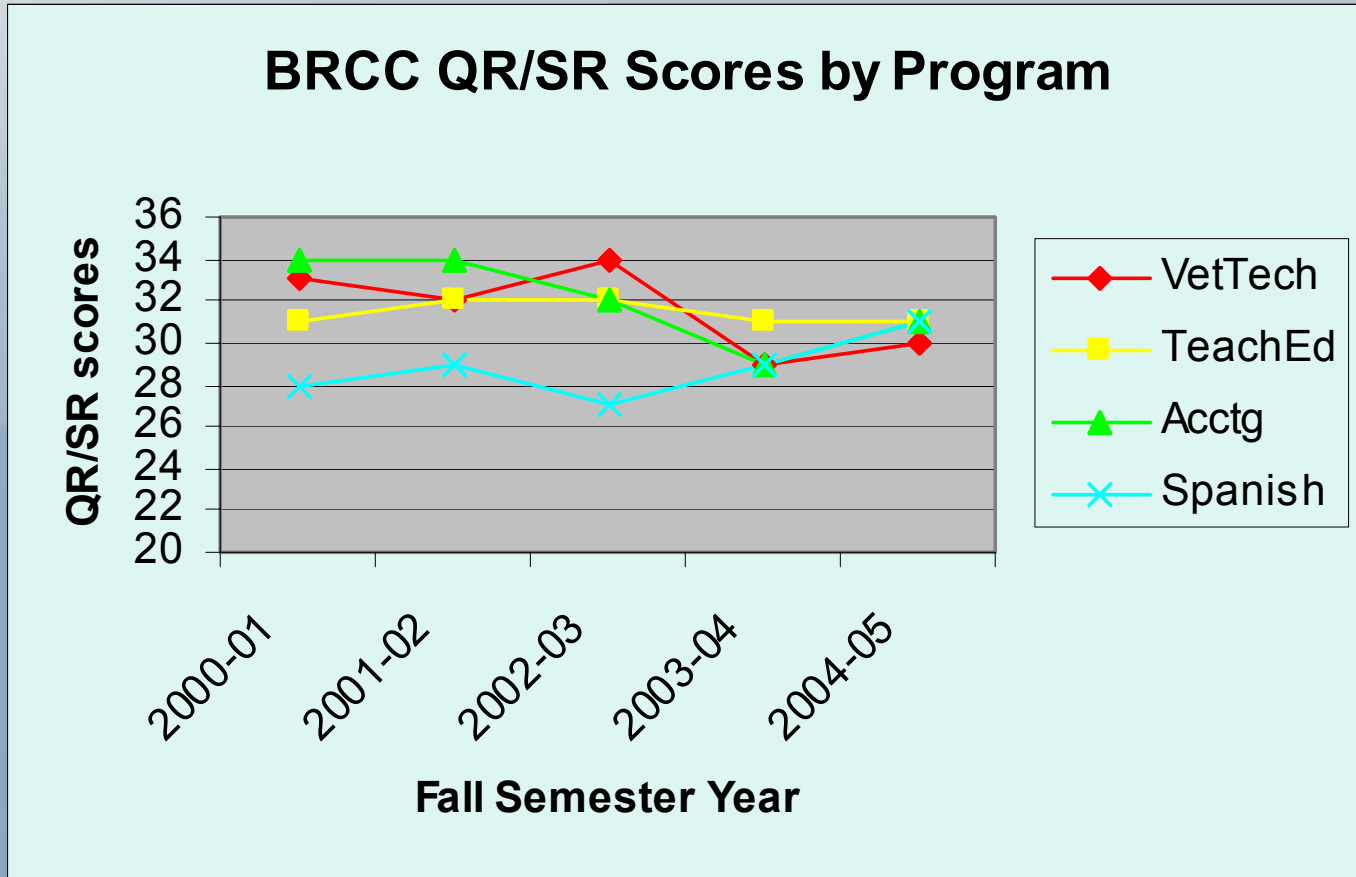
From: [www.tufts.edu/~gdallal/npar.htm](http://www.tufts.edu/~gdallal/npar.htm)

Some Commonly Used Statistical Tests		
Normal theory based test	Corresponding nonparametric test	Purpose of test
$t$ test for independent samples	Mann-Whitney U test; Wilcoxon rank-sum test	Compares two independent samples
Paired $t$ test	Wilcoxon matched pairs signed-rank test	Examines a set of differences
Pearson correlation coefficient	Spearman rank correlation coefficient	Assesses the linear association between two variables.
One way analysis of variance ( $F$ test)	Kruskal-Wallis analysis of variance by ranks	Compares three or more groups
Two way analysis of variance	Friedman Two way analysis of variance	Compares groups classified by two different factors

# Summarizing the data

- Scaled data
  - Gives you the most options in presenting the data: use parametric statistics (which look at variance around the mean)
  - Mean, median, standard deviation
  - Line graph would be good choice since variable is on a continuous scale
  - Line graphs: Used to display information about a single variable. Points are plotted, then connected by a line.
  - To summarize data, could also pool data into categories and construct a frequency distribution

# Example: Line graph



# Presenting your data

- There is not one correct way to summarize and present your data. You need to take into account:
  - Who is reading/using it?
  - Is it for descriptive purposes? Will it be used to make major changes?
  - What type of report was requested?
  - Does the audience want you to look beyond the data for trends, to surmise about reasons, or simply to describe the data that was collected?

# Tables and Graphs

- Title should be descriptive
  - Blah: *Student Responses*\*
  - Aaahhh! : *Freshman Self-Ratings of Critical Thinking Skills*
- Be creative! Try using questions or “headlines” as titles
  - *Why Do Students Drop Out?*
  - *Women Are Generally More Satisfied Than Men*

\*  
Examples borrowed from *Assessing Student Learning: A Common-Sense Guide* by Linda Suskie (2004)



# Tables and Graphs

- Should be able to stand on their own ... readers should be able to understand them without referring back to text.
- Label headings and axes
- Don't use abbreviations; avoid jargon
- Convert numbers into percentages and round to whole numbers
- Not too much info in one place; consider multiple tables or graphs if crowded

# Tables and Graphs

- Should “tell the story”
- Highlight trends and differences for the reader
- **Example table:** from *Assessing Student Learning: A Common-Sense Guide* by Linda Suskie (2004)

## Table 1

### Example of “highlighting the differences” for the reader

Percent of first-year students saying chances are “very good” that they will:	St. Stephen’s University	All Private Universities	Difference
Get a bachelor’s degree	78%	74%	<b>+4%</b>
Be satisfied with your college	70%	49%	<b>+21%</b>
Make at least a “B” average	51%	42%	<b>+9%</b>

# Giving your report impact

- Visual impact: important since many readers scan, rather than read, the report
- If you are comparing your department or college to others, put your results in **bold** or use shading for the columns of a table
- Pull quotes

# Credibility

- Proofreading
- Cite sources
- Offer to make original data available upon request

# Credibility

- How well does the sample used for assessment reflect the population?
  - Talk about your sample. If it is not representative of the population, come clean.
  - If data is available, lay out comparison for the reader (esp. an external audience)
    - “We sampled 246 students, 145 female (59%) and (41%), which is reflective of the overall gender split at our institution (60% female; 40% male).”

# Go beyond the statistics ...

- People may not want to (or know how to) take the time to figure out what it all means. Interpret!
- “Math phobia” phenomenon – readers may glaze over from reading too many numbers, percentages, etc. Interpret!

# Engage the audience

- Not too much information
- Put it in an order that makes sense to the reader
- Avoid unsurprising information
  - Not really surprising if you report more females than males are entering the Nursing program.



# Reviewing your report

- Have various people review it prior to submission
- At least one person who is not familiar with the assessment should read it and offer suggestions on how to improve clarity

# Discussion/Activity

# Discussion

- How would you respond to someone who tells you that "no one ever reads assessment reports?"
- You are trying to convince your institution that assessment is important, and you are going to start by explaining how assessment is both an art and a science. What can you tell them?
- You are preparing yet ANOTHER report for the Health Professions department. You know that every year, they check off the box for "completed assessment report" and put the report in a filing cabinet. What can you do differently this year to see that the report is used to help the department (and your time is not wasted)?
- The Nursing department administered a 10-item survey to its graduates, with 8 questions on the front and two on the back. At least half of the respondents did not know there were questions on the back of the sheet, so you have a lot of missing data. What are some ways to handle the data from the last two questions?