

ANALYZING DATA

A Guide to Getting Started



WHEN IT COMES TO ANALYZING DATA, I AM....

Just getting started with analyzing data

You are new to the data analysis process and are looking for a guide to get started.

Reviewing an existing data analysis process

You've got an existing data analysis process that could use some editing and revising.

Happy with my data analysis process, what's next?

You're feeling good about your data analysis process and don't have many revisions or edits.

Whether you are new to analyzing data or are experienced and already have an existing data analysis process, there is always room for improvement and more steps to the process you can consider.

The next few pages will outline next steps for the various states you may find yourself in when working to analyze data.



Locating your Data

Where is the data available to you?
This may shape your analysis.

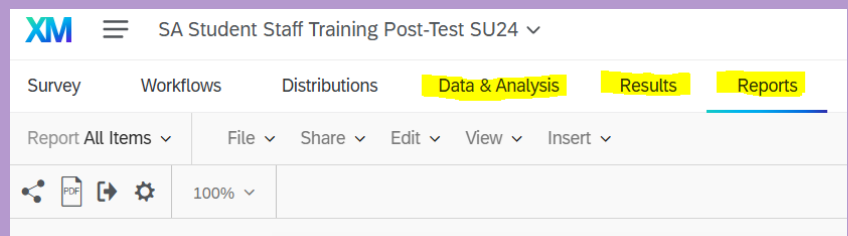
Excel Spreadsheet

Check out the **Reporting Results Guide** and **Supplemental Excel Templates** to help you get started with your analysis



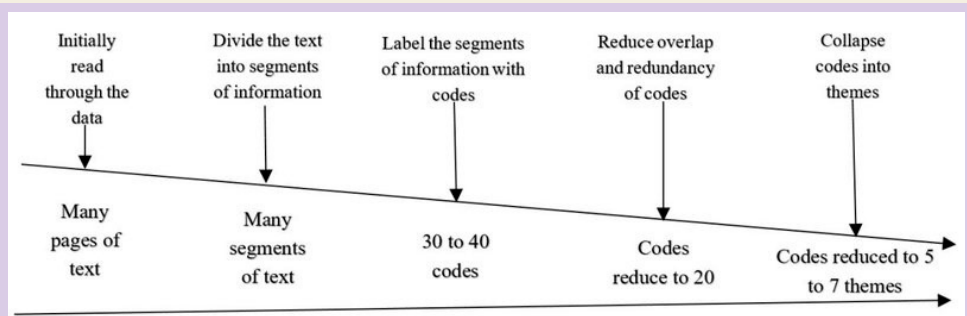
Survey Platform

e.g. Qualtrics or QuestionPro



Word Document

e.g. written reflections or assignments



Third Party System

e.g. Belnvolved, Handshake, Fusion

Determine if you can export the data from the system and to what format (CSV file, txt file etc.)

To learn how via Belnvolved

Scan this!



Approaches to Qualitative Analysis

If you collected student written responses you may want to consider qualitative coding. This is the process of sorting and organizing responses so that you can understand trends, patterns and outliers.

There are two approaches to qualitative coding:

1

Inductive

Begins with observations rather than predetermined categories
Approach is exploratory and specific to the topic assessed

2

Deductive

Begins with predetermined and defined categories e.g. looking for a "positive" vs. "negative" response

Deductive Coding

If you are interested in a deductive coding approach, use the space below to explore what predetermined categories you might be looking for in your data analysis process. Recall your programmatic learning outcomes: Are there any outcomes that could be measured via qualitative responses?

E.g. List 3 resources from this workshop

Deductive coding could be: Yes/No – students who could list 3 vs. those that could not

Glossary

Common Descriptive Statistics

Minimum (Min)

The minimum observed score.

Maximum (Max)

The maximum observed score.

Mean (M)

The average. Calculated by taking the sum of a collection of numbers divided by the count of numbers in the collection

Mode

The most frequently occurring value.

Median (Mdn)

The middle, or centermost number, of a sorted list of numbers.

Variance (s^2)

A measure of variability of scores on the squared-metric of the variable.

Standard Deviation

Measures variability of scores. The average deviation of observed scores from the mean.

REVIEW THE DATA ANALYSIS PROCESS UTILIZING THE RUBRIC

Utilize the rubric to review and make final revisions to your existing data analysis process and when you're done, be sure to create your Data Analysis Section in the Assessment Improvement Report Template.

Criteria	Exemplary (3)	Proficient (2)	Developing (1)	Missing (0)
Appropriateness of Analyses	All outcomes are evaluated using appropriate analyses.	Most outcomes are evaluated using appropriate analyses.	Some outcomes are evaluated using the appropriate analyses.	No outcomes are evaluated using appropriate analyses.
Interpretation of Analyses	Interpretations of all presented results are provided, and the interpretations are accurate. Interpretations conducted by at least 2 people.	Interpretations of all presented results are provided, and interpretations are accurate.	Interpretations were attempted but were not accurate (not supported by results) or not complete (some results are presented but not interpreted).	No interpretation of analyses was attempted.
Equity Centered	Data are intentionally disaggregated to reflect existing student populations and analyzed by multiple individuals, (faculty/students) to examine differential program effectiveness across student populations. Care is taken to avoid language or assumptions that every student in a sub-population is the same. A method to represent findings from small samples is employed and explained. Students are invited to engage in the data analysis process.	Data are intentionally disaggregated to reflect the existing student populations and analyzed (unclear by how many individuals) to examine differential program effectiveness across student populations. Care is taken to avoid language or assumptions that every student in a sub-population is the same.	Data are disaggregated crudely and analyzed to examine differential program effectiveness across broad student populations.	There is no disaggregation of data by student populations.

REVIEW THE DATA ANALYSIS PROCESS UTILIZING THE RUBRIC
RATE DATA ANALYSIS PROCESS

Utilize the table below to rate your progress with data analysis using the Assessment Improvement Rubric, providing justification for your rating and plans for future improvements. Be sure to consider how and when you plan to make necessary changes to the measure and who might need to be involved in these changes.

Criteria	Self Rating	Justification for current rating	Improvement Plan
Appropriateness of Analyses			
Interpretation of Analyses			
Equity Centered			

HAPPY WITH MY DATA ANALYSIS PROCESS, WHAT'S NEXT?

REPORTING ON THE DATA ANALYSIS PROCESS

Below is an example of how you could record and report on your data analysis process. This is a great way to get ahead of the game if you are planning to submit an Assessment Improvement Report for your program. This process will also help with replicability, growth and improvement of the program from year to year.

WHAT TO INCLUDE IN THE DATA ANALYSIS SECTION

Name the data analysis method(s) used

Provide an explanation of why the analysis method(s) were chosen

Describe the claim(s) that you want to make with the analysis

Additionally, consider addressing the following in your data analysis section of the report

- What particular programming features had the greatest impact on student learning and development?
 - What was the influence of other factors beside programming?
- What unintended outcomes (positive and negative) were produced?
- How will you integrate implementation fidelity data and outcomes data?
 - To what extent can changes in student learning and development be attributed to the implemented program?
- Can you make inferences about program effectiveness given the data collected? Why or why not?
- To what degree can any of the results be attributed to threats to design validity (e.g., maturation, self-selection)?

Equity Considerations

- Were you able to intentionally disaggregate data?
 - If so, what results were determined related to the programs effectiveness across student populations?
- How were students engaged in the data analysis process?

RESOURCES FOR GETTING STARTED WITH DATA ANALYSIS

SASS Website Resources for Data Analysis

The “Data Collection and Analysis” Section can help you can find general guidelines and additional resources for collecting outcomes information.



Documentation of Assessment Results: A Guide for Practitioners

This guide provides common vocabulary, text, tables, and figures for common quantitative data analysis, which you can copy-and-paste and update with your result values.

It also comes along with an editable *Supplemental Excel Template* where you can create tables and figures just by putting in your result numbers!

