

MODULE 5: APPLICATION

Application of Knowledge: Writing & Analysis

Lesson 22: Data Analysis 101

Guiding Questions

- How do you analyze data?
- How do you write about data analysis?

If you are using quantitative methods, the data analysis method will be dependent on which particular methods and measurements you use. This will require you to become more familiar with your specific methods and analysis, and potentially the software you will need for analysis, i.e. SPSS. Most likely, to analyze quantitative data, you will be using descriptive and/or inferential statistics. Descriptive statistics refers to data analysis that describes or summarizes data in an organized or tabular means to support the visibility of patterns emerging from the data.

Descriptive statistics may be shown through finding measures of central tendency, including mean, median, and mode, as well as measures of spread, such as standard deviation. Inferential statistics, on the other hand, help a researcher delve further into the data and extract inferences about the data or generalizations about the populations from which the study sample is selected (Laerd, 2018). The inferential statistics test you use will be dependent on your sample and purpose of your research, i.e. chi-squared test, simple regression.

As for qualitative data, the most common form of data analysis is thematic analysis. In this method, you must first become familiar with your data by reading through it several times, perhaps after transcribing it (i.e. typing the answers of survey participants from audio recordings to your computer). While reading through the data, you will start to extract various themes or patterns that come up often. Keeping in mind your research objectives, track and note the data and themes that will help you answer the research question. Come up with a system for organizing your themes, such as a chart to organize each theme and supporting quotes or information. Once you have this organized, it is your job to interpret and analyze or extract implications from the various themes that stand out from your data. First, summarize the data. What does it say? What are the results? Then, analyze. Think deeper about what your data really means. What are the implications? What can your data tell you about your topic?

PHASES OF THEMATIC ANALYSIS (ADAPTED FROM BRAUN & CLARKE, 2006)

	PHASES	DESCRIPTION OF ANALYSIS PROCESS
1	Familiarising myself with data	i) Narrative preparation, i.e. transcribing data ii) (Re-)reading the data and noting down initial ideas
2	Generating initial codes	i) Coding interesting features of the data in a systematic fashion across entire data set ii) Collating data relevant to each code
3	Searching for themes	i) Collating codes into potential themes ii) Gathering all data relevant to each potential theme
4	Reviewing themes	i) Checking if themes work in relation to the coded extracts ii) Checking if themes work in relation to the entire data set iii) Reviewing data to search for additional themes iv) Generating a thematic "map" of the analysis
5	Defining and naming themes	i) On-going analysis to refine the specifics of each theme and the overall story the analysis tells ii) Generating clear definitions and names for each theme
6	Producing the report	i) Selection of vivid, compelling extract examples ii) Final analysis of selected extracts iii) Relating the analysis back to the research question, objectives and previous literature reviewed

