Quantitative and Qualitative Analysis Guide

Quantitative Analysis
Perform quantitative analysis on numerical data collected from methodologies such as surveys, following these steps:[1]   a. Encode, collate and tabulate data.   - Develop a data management system, such as spreadsheets or databases, if these are not yet in place.   - Review for errors in the raw data as well as in the encoded data, and make adjustments as needed.   b. Conduct quantitative data analysis. Some of the most commonly used statistics are: - frequencies or counting individuals or scores in each category or variable;   - percentage or the proportion of individuals or scores in each category or variable; and   - descriptive statistics (i.e., mean, median and mode).   Descriptive statistics are calculations of typical values in the dataset or often referred to as measures of central tendency.   - Mean is the average score for a variable.   - Median is the middle point or score where half of the scores are above the median and half of the scores are below the median.   - Mode is the value or score that occurs most frequently in the dataset.   Further disaggregate data across different variables, such as cross-tabulating sex with regional location, e.g., how many males and females are from Luzon, Visayas, and Mindanao, etc.   c. Review and interpret data.   - Identify patterns in the data.   - Consider similarities and differences among responses from respondents with different characteristics.   - Determine whether there are extreme data that fall significantly below or above the mean, median or mode.   - Reflect on what might explain the patterns in the data, the similarities and differences, and extreme scores.   d. Summarize the data.   - Develop tables, graphs, and charts to summarize findings.   - Consider the target audience or users of the data when choosing the best way to communicate results.

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[1] Adapted from Center for Disease Control (2009). Evaluation eTA Evaluation Briefs No.20, July 2009: Analyzing Quantitative Data for Evaluation. Retrieved from https://www.cdc.gov/healthyyouth/evaluation/pdf/brief20.pdf, accessed on 20 March 2018, and The Pell Institute (n.d.). Evaluation Toolkit: Analyze Quantitative Data. http://toolkit.pellinstitute.org/evaluation-guide/analyze/analyze-quantitative-data/, accessed on 20 March 2018.

Qualitative Analysis

Perform qualitative analysis on non-numeric data collected from methodologies such as interviews, observations, and focus group discussions.[2]

a. Review the data.
- Go over the data several times to get a good understanding of the content.
- Note down initial impressions of the data. These may be useful later on when interpreting the data.

b. Organize the data.
- Review the LNA objectives to help focus the data analysis and how the results will be used.
- To facilitate analysis, cluster the data. There are different ways to organize the data:
  - by topic or questions asked;
  - by type of respondent;
  - by data collection method (e.g., interviews, focus group discussion, etc.); and
  - by date or time period.
- It is helpful to keep track of the number of respondents who give the same or similar responses.

c. Categorize the data.
- Identify patterns or themes within the data. These are common ideas, concepts, behaviors, words or phrases used within the data.
- Provide a descriptive label for each theme.
- Labels may be pre-identified at the beginning of the analysis based on the objectives of the LNA and the data requirements, e.g., competency-based themes guided by Competency-Based Job Descriptions. Labels may also be emergent or may surface as data is reviewed and analyzed. These two approaches may be used in combination.
- Read and re-read the data to uncover all relevant themes in the data. Qualitative data analysis is an iterative process.

d. Interpret the data by reviewing each theme and identifying:
- similarities and differences in the way people responded;
- relationships between themes and how they are connected;
- larger themes of which smaller themes are part of; and
- relative importance of themes roughly based on the frequency they were brought up by respondents.

e. Develop a list of key points or important findings discovered from the analysis above, to include:
- critical performance gaps;
- competency and non-competency related factors that hinder performance;
- priority competency areas that need to be addressed
- individuals or groups that need to be prioritized for L&D interventions;

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[2] Adapted from Center for Disease Control (2009). Evaluation eTA Evaluation Briefs No.19, April 2009: Analyzing Qualitative Data for Evaluation. Retrieved from https://www.cdc.gov/healthyyouth/evaluation/pdf/brief19.pdf, and Taylor-Powell, Ellen and Renner, Marcus (2003). Analyzing Qualitative Data. Retrieved from http://learningstore.uwex.edu/assets/pdfs/g3658-12.pdf.

Qualitative Analysis
- profile of targeted individuals or groups, including learning styles; and   - conditions or considerations for successful learning interventions given the targeted group's background and work context.   f.   Summarize the data.   - Develop an outline for presenting results to targeted audience.   - Include quotes or descriptive examples to support findings.   - Use diagrams and other visual representations to reflect relationships, gaps and other highlights in the findings.   - Prepare an initial draft of LNA findings.