

Definitions for Meta-Analysis (or Big Data) Research Projects

Meta-Analysis Research Projects, or more precisely, “Statistical Meta-analyses”, are projects which collect, process, or produce statistical data from multiple publicly available scientific studies or data reports, combining and/or using the information to explore a relationship that had not previously been explored, or to evaluate the combined data in a broader scope.

Meta-analysis projects require a well documented lab journal with background and research notes, source data and graphs; and a research report including relevant background, research question and hypothesis and how it relates to the background; discussion of experimental design and procedures used by source researchers; data analysis and interpretation, conclusion and bibliography. Meta-analysis projects do NOT require the researcher to perform first-hand physical experiments.

Engineering Design Projects

Engineering Design Projects are projects which address a clear, focused engineering design problem or need; where criteria for success are identified; preliminary designs prepared; a prototype is created and tested with results clear