Choose an Evaluation Design

What is a Research Design?

A research design is simply a plan for conducting research. It is a blueprint for how you will conduct your program evaluation. Selecting the appropriate design and working through and completing a well thought out logic plan provides a strong foundation for achieving a successful and informative program evaluation. Building your evaluation on anything less intentioned and structured or organized may cause various unforeseen obstacles in your evaluation process

Research Design vs. Data Collection Method

As you continue working through the Evaluation Guide, please remember not to confuse research design with data collection methods. No specific research design must be accompanied by a specific data collection method. These are two distinct and separate concepts. You will select a data collection method after a design has been identified.

Selecting a Design

Before you decide on the most appropriate evaluation design, it is important that you are clear about the primary evaluation questions. Once you have defined the most important evaluation questions, there are several designs that may be able to adequately answer your evaluation question. You can select a specific design by considering the following:

- Which design will provide me with the information I want?
- How feasible is each option?
- How valid and reliable do my findings need to be?
- Are there any ethical concerns related to choosing a specific design?
- How much would each option cost?

Types of Research Designs

Below we describe four types of research designs that offer suitable options depending on your specific needs and research questions.

1. Pre-experimental designs
2. Experimental designs
3. Quasi-experimental designs
4. Ex post facto designs

Definitions

You can click on the tabs at the bottom of the page to learn more about each type of design, but below are some definitions that may be helpful before you move on.

- Dependent variable (DV) – A dependent variable is the primary variable of interest in a study. Researchers

seek to determine how dependent variables are influenced by changes in independent variables.

- Independent variable (IV) – In an experiment, the independent variable is the variable being manipulated or changed. In non-experimental studies, independent variables are observed variables that may influence a variable of interest (the dependent variable).
- Treatment / intervention – In an experiment, the treatment or intervention is the main independent variable that is being manipulated. The treatment or intervention is something that only participants in the experimental group are given. Participants in the control or comparison groups do not receive the treatment or intervention.
- Treatment or experimental group – A group of study participants who have been exposed to a specific treatment of intervention.
- Control group – A group of study participants who have not been exposed to a particular treatment. The term is typically used in experimental designs with random assignment.
- Comparison group – A group of study participants who have similar attributes and characteristics as a treatment or experimental group. This term is typically used in quasi-experimental designs where random assignment has not been used.
- Pretest – A test administered prior to a specific treatment or intervention. This provides a baseline measure that can be compared to subsequent tests taken after an intervention or treatment.
- Posttest – A test administered after a specific treatment or intervention. A posttest can help determine how study participants have responded to a treatment or intervention.
- Randomization (random assignment) – The process of randomly placing study participants in a treatment or control/comparison group.

Pre-Experimental Design | Experimental Design | Quasi-Experimental | Ex Post Facto Designs

Pre-experimental designs are the simplest type of design because they do not include an adequate control group. The most common pre-experimental design is the pretest/posttest design. A pre- and post-intervention design involves collecting information only on program participants. This information is collected at least twice: once before participants receive the treatment (baseline information) and immediately after participants receive the treatment.

A pretest/posttest design can be effective for evaluating:

- Changes in participants' knowledge (e.g. about college or financial aid)
- Changes in participants' attitudes towards college
- Changes in participants' grades and test scores

This type of design is the least rigorous in establishing a causal link between program activities and outcomes. However, findings using this design may be enough to indicate your program is making a difference depending on how rigorous the proof needs to be, proximity in time between the implementation of the program and the progress on outcomes, and the systematic elimination of other alternative explanations.

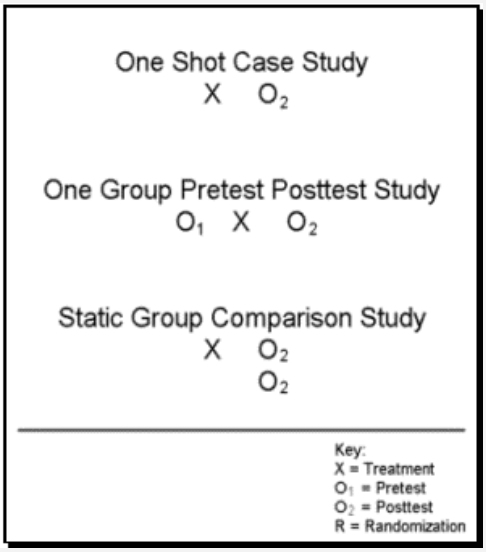
Characteristics of Pre-Experimental Designs

- Not an authentic experimental design
- Design does not control for many extraneous factors
- Subject to many threats to validity
- Typically conducted for exploratory purposes
- Usually convenient and financially feasible

The three types of pre-experimental designs are:

- The one-shot case study
- A one group, pretest / posttest study
- The static group comparison study

The image below provides more specific insight on these designs.



Pre-experimental Designs

Image taken from: http://allpsych.com/researchmethods/preexperimentaldesign.html