

## The Best Design for the Question

Study Type	Design	Representation (X= treatment; O=measures/effects; R=random assignment)	Advantages	Disadvantages
Quantitative Case Study	One-shot Post-test only Design	X O	Takes fewer resources Can present a “snapshot” of a point in time	Doesn't look at change
Quasi- experimental Study	One-shot Pre-test- Post-test Design	O <sub>a</sub> X O <sub>b</sub>	Looks at change over time	Other things besides treatment could be causing change
Quasi- experimental Study	Post-test Only Intact Group Design	X O O	Compares to another group	Doesn't control for any initial differences in groups
Quasi- experimental Study	Pre-test- Post-test Intact Group Design	O <sub>a</sub> X O <sub>b</sub> O <sub>a</sub> O <sub>b</sub>	Allows statistical control for possible extraneous variables	Doesn't control for any effect of testing
Experimental Study	Post-test Only Design With Random Assignment	X O R O	Controls for pre test effects Random assignment reduces the chances of extraneous group differences	Random assignment is often not possible in evaluation Doesn't control for extraneous variables
Experimental Study	Pre-test- Post-test Design With Random Assignment	O <sub>a</sub> X O <sub>b</sub> R O <sub>a</sub> O <sub>b</sub>	Allows statistical control for possible extraneous variables	Random assignment is often not possible in evaluation. Doesn't control for any effect of testing
Experimental Study	Solomon Four Group Design	O <sub>a</sub> X O <sub>b</sub> R X O <sub>b</sub> O <sub>a</sub> O <sub>b</sub> O <sub>b</sub>	Strongest quantitative design controls for all possible extraneous variable	Random assignment is often not possible in evaluation Very resource intensive
Quasi- experimental Study	Time Series Design	O <sub>a</sub> O <sub>b</sub> X O <sub>c</sub> O <sub>d</sub>	Looks at longer term change	Doesn't control for extraneous variables

Ethnography	Participant observer examination of group behaviors and patterns	NA	Explores complex effects over time	Resource intensive Story telling approach may limit audience Potential observer bias
Case Study	Exploration of a case (or multiple cases) over time	NA	Provides an in-depth view Elaborates on quantitative data	Limited generalizability
Content Analysis	Systematic identification of properties of large amounts of textual information	NA	Looks directly at communication Allows for quantitative and qualitative analysis	Tends too often to simply consist of word counts Can disregard the context that produced the text
Mixed Methods Study	Use of more than one of the above designs	NA	Can counteract the disadvantages of any one design	None

Adapted from:

Donald T. Campbell and Julian C. Stanley, *Experimental and Quasi-Experimental Designs for Research* (Chicago: Rand McNally, 1963).

Gary Inersoll, *Experimental Methods (in Encyclopedia of Educational Research (Fifth Edition); Harold Mitzel ed. New York: The Free Press 1982. pp 624-631.*

Lydia's Tutorial *Qualitative Research Methods*

<http://www.socialresearchmethods.net/tutorial/Mensah/default.htm> Accessed April 15, 2007.

Writing@CSU <http://writing.colostate.edu/index.cfm> Accessed April 15, 2007.

## Resources on Design

### Research Methods Knowledge Base: Design

<http://www.socialresearchmethods.net/kb/design.php>

A short, but comprehensive, on-line overview of quantitative designs covering the following areas:

[Introduction to Design](#)

[Types of Designs](#)

[Experimental Design](#)

[Quasi-Experimental Design](#)

[Relationships Among Pre-Post Designs](#)

[Designing Designs for Research](#)

[Advances in Quasi-Experimentation](#)

### Research Methods Knowledge Base: Types/Traditions of Qualitative Research

<http://www.socialresearchmethods.net/tutorial/Mensah/default.htm>

A short, but comprehensive, on-line overview of qualitative designs covering the following areas:

[Biography](#)

[Phenomenology](#)

[Grounded Theory](#)

[Ethnography](#)

[Case Study](#)

### Protection of Human Subjects

<http://ohsr.od.nih.gov/cbt/cbt.html>

Short computer-based training, from the National Institutes of Health, on protecting human subjects, one for people who are doing research and/or evaluation and one for people who are members of institutional review boards.

## Some Web-based Sources of Resources

### **User Friendly Guide to Program Evaluation**

<http://www.nsf.gov/pubs/2002/nsf02057/start.htm>

[Introduction](#)

[Section I - Evaluation and Types of Evaluation](#)

[Section II - The Steps in Doing an Evaluation](#)

[Section III - An Overview of Quantitative and Qualitative Data Collection Methods](#)

[Section IV - Strategies That Address Culturally Responsive Evaluations](#)

[Other Recommending Reading, Glossary, and Appendix A: Finding An Evaluator](#)

### **OERL, the Online Evaluation Resource Library.**

<http://oerl.sri.com/home.html>

Includes NSF project evaluation plans, instruments, reports and professional development modules on

[Designing an Evaluation](#)

[Developing Written Questionnaires](#)

[Developing Interviews](#)

[Developing Observation Instruments](#)

[Data Collection](#)

[Instrument Triangulation and Adaptation.](#)

Sample Under-represented Student Instruments From OERL include:

[Attitude Surveys](#)

[Content Assessments](#)

[Course Evaluations](#)

[Focus Groups](#)

[Interviews](#)

[Journal/Log Entries](#)

[Project Evaluations](#)

[Surveys](#)

[Workshop Evaluations](#)

### **AGEP Collecting, Analyzing and Displaying Data**

<http://www.nsfagep.org/CollectingAnalyzingDisplayingData.pdf>

[I. Make Your Message Clear](#)

[II. Use Pictures, Where Appropriate](#)

[III. Use Statistics and Stories](#)

[IV. Be Responsive to Your Audience.](#)

[V. Make Comparisons](#)

[VI. Find Ways To Deal With Volatile Data](#)

[VII. Use the Results](#)

**ETS Test Link** (a library of more than 25,000 measures).

<http://www.ets.org/portal/site/ets/menuitem.1488512ecfd5b8849a77b13bc3921509/?vgnextoid=ed462d3631df4010VgnVCM10000022f95190RCRD&vgnnextchannel=85af197a484f4010VgnVCM10000022f95190RCRD>