

Varieties of Research Design

after S. Isaac & W.B. Michael: Handbook of Research and Evaluation

DESIGN	PURPOSE	EXAMPLES
Historical	To reconstruct the past objectively and accurately, often in relation to the tenability of a hypothesis	A study reconstructing practices in the teaching of spelling in the United States during the past 50 years; tracing the history of civil rights in the U.S. education system since the civil war; testing the hypothesis that Francis Bacon is the real author of the "works of William Shakespeare."
Descriptive	To describe systematically a situation or area of interest factually and accurately.	Population census studies, public opinion surveys, fact-finding surveys, status studies, task analysis studies, questionnaire and interview studies, observation studies, job descriptions, surveys of the literature, documentary analysis, anecdotal records, critical incident reports, test score analyses, and normative data.
Developmental	To investigate patterns and sequences of growth and/or change as a function of time.	A longitudinal growth study following an initial sample of 200 children from six months of age to adulthood; a cross-sectional growth study investigating changing patterns of intelligence by sampling groups of children at ten different age levels; a trend study projecting the future growth and educational needs of a community from past trends and recent building estimates.
Case and Field	To study intensively the background, current status, and environmental interactions of a given social unit: an individual, group, institution, or community	The case history of a child with an above-average IQ but with severe learning disabilities; an intensive study of a group of teenage youngsters on probation for drug abuse; an intensive study of a typical suburban community in the Midwest in terms of its socio-economic characteristics.
Correlational	To investigate the extent to which variations in one factor correspond with variations in one or more other factors based on correlation coefficients.	To investigate relationships between reading achievement scores and one or more other variables of interest; a factor-analytic study of several intelligence tests; a study to predict success in college, based on intercorrelation patterns between college grades and selected high school variables.
Causal-Comparative "Ex Post Facto"	To investigate possible cause-and-effect relationships by observing some existing consequence and searching back through the data for plausible causal factors.	To identify factors related to the "drop-out" problem in a particular high school using data from records over the past ten years; to investigate similarities and differences between such groups as smokers and nonsmokers, readers and nonreaders, or delinquents and nondelinquents, using data on file
True Experimental	To investigate possible cause-and-effect relationships by exposing one or more experimental groups to one or more treatment conditions and comparing the results to one or more control groups not receiving the treatment (random assignment being essential).	To investigate the effectiveness of three methods of teaching reading to first grade children using random assignments of children and teachers to groups and methods; to investigate the effects of a specific tranquilizing drug on the learning behavior of boys identified as "hyperactive" using random assignment to groups receiving three different levels of the drug and two control groups with and without a placebo, respectively.
Quasi-Experimental	To approximate the conditions of the true experiment in a setting which does not allow the control and/or manipulation of all relevant variables. The researcher must clearly understand what compromises exist in the internal and external validity of his/her design and proceed within these limitations.	Most so-called field experiments, operational research, and even the more sophisticated forms of action research which attempt to get at causal factors in real life settings where only partial control is possible; e.g. an investigation of the effectiveness of any method or treatment condition where random assignment of subjects to methods or conditions is not possible.
Action	To develop new skills or new approaches and to solve problems with direct application to the classroom or other applied setting.	An inservice training program to help teachers develop new skills in facilitating class discussions; to experiment with new approaches to teaching reading to bilingual children; to develop more effective counseling techniques for underachievers.