

## Research Study Key

Adapted from McMillan & Wergin. 2010. Understanding and Evaluating Educational Research.

### Research Designs

#### Quantitative/Qualitative/Mixed Method

**Quantitative Research** - involves the use of numerical calculations or summarize, describe and explore relationships among traits; reliance on control of variables, statistics, measurement, and experiments.

**Qualitative Research** - emphasis is on conducting studies in natural settings using mostly verbal descriptions, resulting in stories and case studies rather than statistical reports.

**Mixed Methods** - employs both quantitative and qualitative designs.

### Some Types of Social Science Research

<b>Characteristics of Research</b>	
<b>Type</b>	<b>Description</b>
<b>Case Study</b>	Studies an individual or small group of individuals with an unusual condition or situation. Case studies are typically clinical in scope.
<b>Survey</b>	Involves interviewing or administering <b>questionnaires</b> , or written surveys, to large numbers of people. Investigator analyzes the data obtained from surveys to learn about similarities, differences, and trends. Predictions are made about the population being studied.
<b>Observational</b>	Directly observing subjects' reactions, either in a laboratory (called <b>laboratory observation</b> ) or in a natural setting (called <b>naturalistic observation</b> ). Observational research reduces distortions sometimes found in survey research
<b>Correlational</b>	Correlational research attempts to determine if a relationship exists between the two variables, and the degree of that relationship.
<b>Descriptive</b>	Describing a group, situation or individual to gain knowledge that may be applied to other situations.
<b>Experimental</b>	Experimental research tests the way in which an <b>independent variable</b> (the factor that the scientist manipulates) affects a <b>dependent variable</b> (the factor that the scientist observes).
<b>Cross-Cultural</b>	Designed to reveal variations across different groups of people. Most cross-cultural research involves survey, direct observation, and <b>participant observation</b> methods of research.

## Types of Scholarly Articles

Characteristics of Articles	
Type	Description
<b>Research/Empirical</b>	Article reporting on the results of one or more studies or experiments, written by the person(s) who conducted the research. This is considered one type of primary source. Look in the title or abstract for words like <i>study</i> , <i>research</i> , <i>measure</i> , <i>subjects</i> , <i>data</i> , <i>effects</i> , <i>survey</i> , or <i>statistical</i> which might indicate empirical research.
<b>Case Study</b>	Detailed account of clinically important cases of common and rare conditions.
<b>Review</b>	Summarizes the findings of others studies or experiments; attempts to identify trends or draw broader conclusions. Scholarly in nature but not a primary source or research article, however its references to other articles will include primary sources or research articles.
<b>Meta-Analysis</b>	A meta-analysis is a mathematical synthesis of the results of two or more primary studies that addressed the same hypothesis in the same way.
<b>Letters or Communications</b>	Short descriptions of important latest study or research findings which are usually considered urgent for immediate publication. Examples: breakthroughs regarding cures or treatments for previously incurable conditions, or cure for a particular outbreak of disease, like for example swine flu.
<b>Theoretical</b>	Containing or referring to a set of abstract principles related to a specific field of knowledge; characteristically it <b>does not</b> contain original <b>empirical research</b> or present experimental data, although it is scholarly.
<b>Applied</b>	Describes technique, work flow, management or human resources issue.
<b>Professional communications, Book reviews, Letters to the Editor</b>	Most scholarly journals publish articles that pertain to the workings of the profession but are not 'scholarly' in nature.

**Empirical Research-** Research that provides a hypothesis that can be proven with numerical, or hard, evidence.

## Critical Reading Questions

### Questions to ask when reading and interpreting scholarly articles:

1. What is the source (journal) of the article?
2. Was the article peer reviewed?
3. Who are the authors and what are their affiliations?
4. What is the main subject of the study?
5. What was the problem(s) investigated?
6. What is purpose of rationale for the study?
7. Who or what constituted the sample of population?
8. What was the design of the study?
9. What are the statistical analyses used?
10. What are the results?
11. Are the results clear?
12. Did the results answer the identified questions?
13. Do the results seem valid?
14. Are the interpretations of the results consistent with design and analysis?
15. Are the results consistent with findings from similar studies?
16. What do the results mean to medicine and health care, to health care workers and patients?
17. Can the results be applied to your practice or research?

### Questions on the Comprehensive Exam

First, **provide the title of the article** being discussed. Then, address the following questions in detail:

1. The purpose of the study and how it might apply in your classroom
2. What research design was used in the study?
3. Who the participants in the study were (and if there are any problems with who served as participants).
4. What measurement instrument was used (and any problems with it)?
5. What statistical analyses were conducted and their appropriateness?
6. What the overall finding of the study was and any notable deficiencies with the study (Including how these deficiencies might affect the validity of the findings).