Theory Explanation and Research Methods

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Lecture at

London School of Commerce September 2013

Criteria	Qualitative Research	Quantitative Research
Purpose	To understand & interpret social interactions.	To test hypotheses, look at cause & effect, & make predictions.
Group Studied	Smaller & not randomly selected.	Larger & randomly selected.
Variables	Study of the whole, not variables.	Specific variables studied
Type of Data Collected	Words, images, or objects.	Numbers and statistics.
Form of Data Collected	Qualitative data such as open- ended responses, interviews, participant observations, field notes, & reflections.	Quantitative data based on precise measurements using structured & validated data-collection instruments.
Type of Data Analysis	Identify patterns, features, themes.	Identify statistical relationships.
Objectivity and Subjectivity	Subjectivity is expected.	Objectivity is critical.
Role of Researcher	Researcher & their biases may be known to participants in the study, & participant characteristics may be known to the researcher.	Researcher & their biases are not known to participants in the study, & participant characteristics are deliberately hidden from the researcher (double blind studies).
Results	Particular or specialized findings that is less generalizable.	Generalizable findings that can be applied to other populations.
Scientific Method	Exploratory or bottom-up: the researcher generates a new hypothesis and theory from the data collected.	Confirmatory or top-down: the researcher tests the hypothesis and theory with the data.
View of Human Behavior	Dynamic, situational, social, & personal.	Regular & predictable.
Most Common Research Objectives	Explore, discover, & construct.	Describe, explain, & predict.
Focus	Wide-angle lens; examines the breadth & depth of phenomena.	Narrow-angle lens; tests a specific hypotheses.
Nature of Observation	Study behavior in a natural environment.	Study behavior under controlled conditions; isolate causal effects.
Nature of Reality	Multiple realities; subjective.	Single reality; objective.
Final Report	Narrative report with contextual description & direct quotations from research participants.	Statistical report with correlations, comparisons of means, & statistical significance of findings.

Source: for 3 slides on quantitative versus qualitative

<u>www.xavier.edu/library/help/qualitative_quantitative.pdf</u>

who cite

JOHNSON, B., & CHRISTENSEN, L. (2008). EDUCATIONAL RESEARCH: QUANTITATIVE, QUALITATIVE, AND MIXED APPROACHES (P. 34). THOUSAND OAKS, CA: SAGE PUBLICATIONS. LICHTMAN, M. (2006). QUALITATIVE RESEARCH IN EDUCATION: A USER'S GUIDE (PP. 7-8). THOUSAND OAKS, CA: SAGE PUBLICATIONS.

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CAUSALITY



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Interference of the relation of X to Y



interdependence



interdependence







Chart 3: Global Financial Network: 2005







 $\mathbf{y} = \mathbf{c}\mathbf{x}^{-\mathbf{a}}$

Change on all scales is possible



Log size of change x













Probability density function



central limit theorem (CLT)

 central limit theorem (CLT) states that, given certain conditions, the mean of a sufficiently large number of <u>independent random</u> variables, each with a well-defined mean and well-defined variance, will be approximately <u>normally distributed</u>.^[1]









OF SETS