

Ways to gain knowledge/Acquire knowledge: How Do you know?

- I) Common Sense Observation
 - Ex) Life experience---according to your observation meat looks like it is turning in to maggots and muscle turning in to fat. WRONG!!!
 - a) Weakness: observations are not systematic and there is lack of control of when observations are carried out.
 - b) Weakness: Contradictory evidence is often ignored.
 - c) Weakness: Theories are not tested.

example Gender expression and “feeling” of emotion of anger (hate, pissed off)---
discrepancy in verbal and physiological measurements

- 2) Reasoning (Rationalism) Not trusting senses and feelings
 - a) Weakness :No empirical testing when reason alone is used to established the truth.
 - Ex) Concept of diffusion of responsibility. According to logical reasoning, more people are around, more people are likely to help you in an emergency situations.
---NOT TRUE when empirically tested.

- 3) Authority: Instruction from Teachers or doctors.
 - 1) Authorities can be very wrong: ex)weapon of mass destruction in certain location.
 - 2) Contradictory evidence may be suppressed: ex) world is round.

- 4) Intuition/Gut feeling
 - 1) Weakness: “First impression” can be very very wrong since we all have a preconceived schema of how people are or should be.

Scientific Research must be:

- **Reliable:** somewhat synonymous with “consistent.” ex) if EPT/ pregnancy test that is wrong every other time...it was not very well researched.
- **Valid:** Measures what it suppose to measure.
 - o Internal Validity: how static free is it?
 - o External Validity: how far can we generalize our findings?
- **Repeatable** ((by other expert researchers): ex) I found cure for cancer but I could only do it once----would not be real research.
- **Sensitive**—account for variables such as gender. race, class....in social science research

- **Ethical:**
 - o don't hurt living things or people
 - o Don't lie

Scientific Method: (way to organize information)

Controlled systematic, critical investigation of hypothetical proposition about presumed relations among natural phenomenon.

1. Identify the problem (Problem statement, research question)
 - Population
 - Sample
 - Ex) Gender Study: Difference in expression and feeling of anger between men and women from 18-22.
2. Define terms/factors or (Variables)
 - Theoretical definition
 - Operational Definition
 - What are you controlling?
 - Independent Variable and Dependent Variable (and its relationship)
 - Subject Variable: stuff we cannot ethically or technically manipulate—ex) race, gender, individual differences.
3. Plan and conduct a study: survey, archival literature search, observational. experimental.
4. Analyze the data
5. Formulate interpretations/conclusions.

What could go wrong in Scientific Research

Observer bias: gene's neurophysiology SSRI experiment.

Hawthorn Effect: Hawthorn IL light bulb experiment in manufacturing engineering

Confounding Variable: static that may distort the relationship between independent and dependent variable (s).

Basic logical/research fallacies in writing

Burden of Proof

Since you cannot prove there is cure for cancer and there isn't one and there isn't going to be one.

Ad Hominem:

Appeal to Common Practice

Appeal to Novelty

Appeal to Tradition

Post Hoc

Ex. Superstitious behavior.

Lucky socks.

Skinner box—superstitious behavior

Composition

Apples are red.

You are wearing red, therefore, you are an apple.

Slippery Slope

Since you didn't get into Yale, you'll definitely not get in to Harvard.

Spotlight

Qualitative Research Method: Teresa Mares

Ethnography

Interview (Building rapport)

Participant

Mapping

******* Assignment next week:**

1) Research question/problem statement

2) Define your terms