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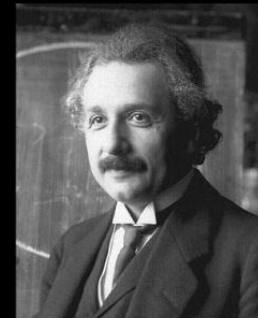www.dromlifvendahl.com

Research Methods: Key Elements

Opening Questions

- What is research?
- What are the steps of research?
- What is the "Scientific Method"?
- What is the purpose of a "Theory"?
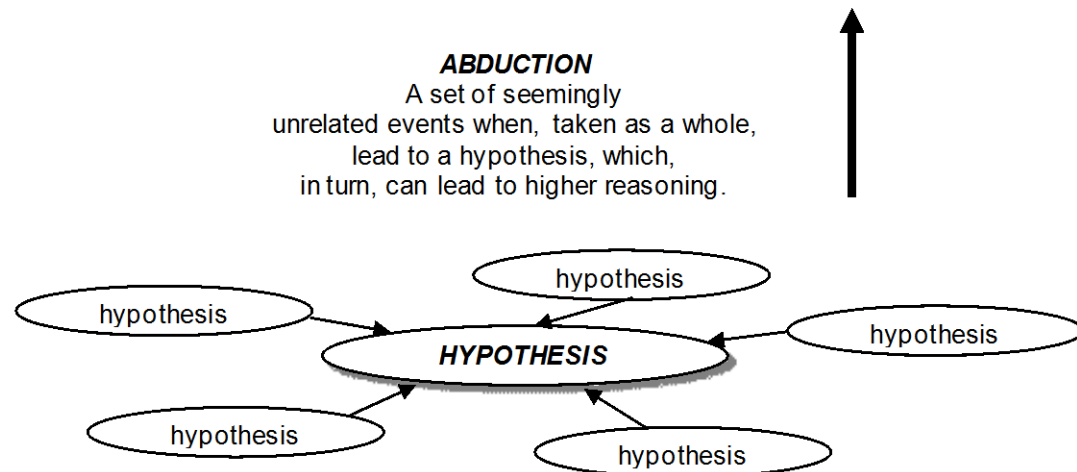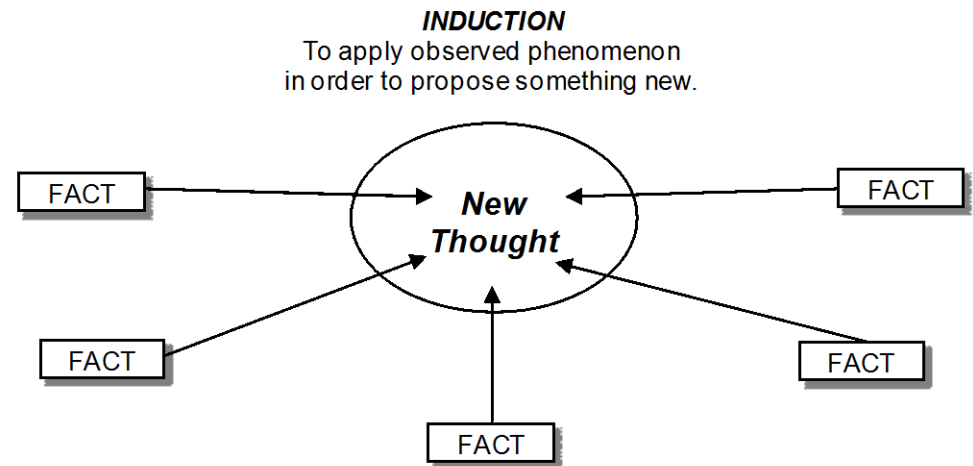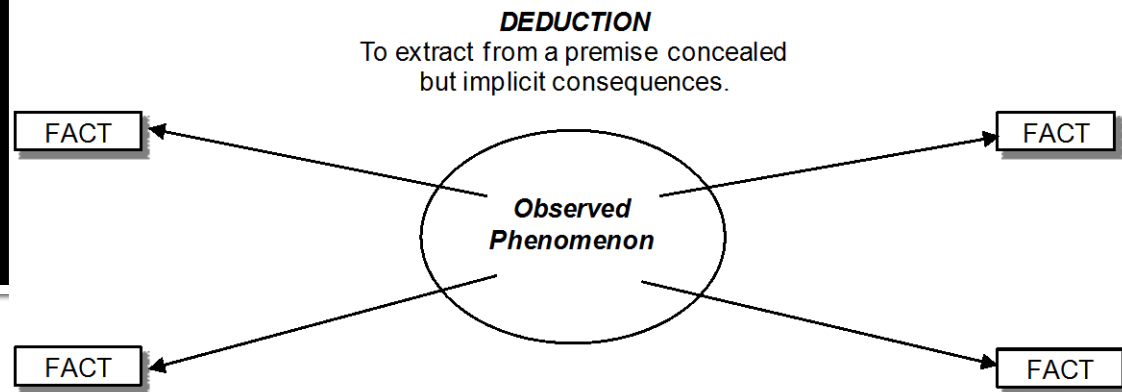

Albert says, "The case is never closed"

"Many experiments may prove me right, but it takes only one to prove me wrong"

- Albert Einstein

Discussion

- Reasoning:
  - See

DEDUCTION
To extract from a premise concealed but implicit consequences.

FACT → Observed Phenomenon → FACT
FACT ← Observed Phenomenon ← FACT

INDUCTION
To apply observed phenomenon in order to propose something new.

FACT → New Thought ← FACT
FACT → New Thought ← FACT
FACT → New Thought

ABDUCTION
A set of seemingly unrelated events when, taken as a whole, lead to a hypothesis, which, in turn, can lead to higher reasoning.

hypothesis → HYPOTHESIS ← hypothesis
hypothesis → HYPOTHESIS ← hypothesis
hypothesis → HYPOTHESIS ← hypothesis

Role of the Researcher

Steps of Research

- Define Appropriate Theory
- Form Hypothesis
- Design Method
  - Measures
  - Location
  - Subjects
- Gather Data
  - Administer Instruments
  - Analyze Findings
- Conclude and Publish

Research Methods

Focus Group

Survey

Pick a Method

Interview

Delphi Study

Click on Symbol to Return to this Page

Purpose

- Overview common research methods
  - Used in Social Science
  - Applicable to Counseling
- Define terms (Glossary)
- Describe "key questions" and concerns
- Provide criteria for judging quality in research employment

Focus Group - Definition

- A method of <u>qualitative</u> data gathering that yields transcript information from a small group of pre-selected individuals around a set of loosely structured questions on a specific topic

Anticipatory Questions

- What is the purpose of the focus group?
- How well defined is the "problem" investigated stated?
- What underlying issues influence the conversation?

Anticipate cont'd

- What is the time limit?
- How large a group will you use?
- To what extent will you want to encourage a free-flow of dialogue?

Important Success Factors

- Limit Size (8-12 People)
- Limit Time (1-2 Hours)
- Encourage a "free-flowing" environment conducive to revealing participant hidden beliefs
- Staff with a Facilitator, Observer, and Recorder

Factors cont'd

- Group Dynamics – Forming, Storming, Norming, Performing, and Adjourning will occur
- Facilitator defines the problem to be discussed and sets agenda
  - He/she clarifies participant statements and seeks consensus over discussed issues
  - No person should be allowed to dominate the discussion

Typical Questions

- Reveal personal experiences or behavior (What you do or have done…?)
- Elicit ones opinion or belief (What do you think about…?)
- Provide information about how one feels (How do you feel about…?)
- Define knowledge (What do you know, how you know it…?

Questions cont'd

- Sensory questions that describe perceptions (When you saw, heard something…?)
- Background/demographic questions that locate the participant to the locale being studied
- Questions that clearly frame time references (What did you feel about past events, present activities, and/or future desired outcomes…?)

Atmosphere

- Try to make questions as "open ended" as possible.
- In essence:
  - How do you feel?
  - What is your opinion?
  - What do you think?

Atmosphere cont'd

- Facilitators should seek clarity to what they ask
  - Ask one question at a time
  - Do not embed two or three different concepts into one question
- Use closed and probing questions to elaborate on participant comments

Atmosphere cont'd

- Avoid any references to facilitator opinions because they taint data and skew answers
- This is why the focus group team should have three members (facilitator, observer, and recorder)
- Each acts a check on the others behavior

Preparation

- The <u>purpose</u> of a focus group is to record data for subsequent analysis into useful information for program evaluation and improvement

Preparation cont'd

- It is recommended that audio and/or video recording of the focus group be done
  - This allows researchers to review a full transcript (audio or print) for analysis
  - This information is analyzed by at least two people who work to tie transcription information to notes taken by the group team
  - Normally, that team has reviewed its notes and adds supporting comments right after focus group completion

Preparation cont'd

- Initial focus; define and contact desired participants
- Notify that participant observations will be recorded (audio or video)
- Ask permission (in written form or audio acknowledgement)

Preparation cont'd

- The physical setting of the focus group should be as comfortable as possible and generally casual in nature
- Facilitators are wise if they keep the hardware/camera mix as unobtrusive as possible (small mikes and recorders)
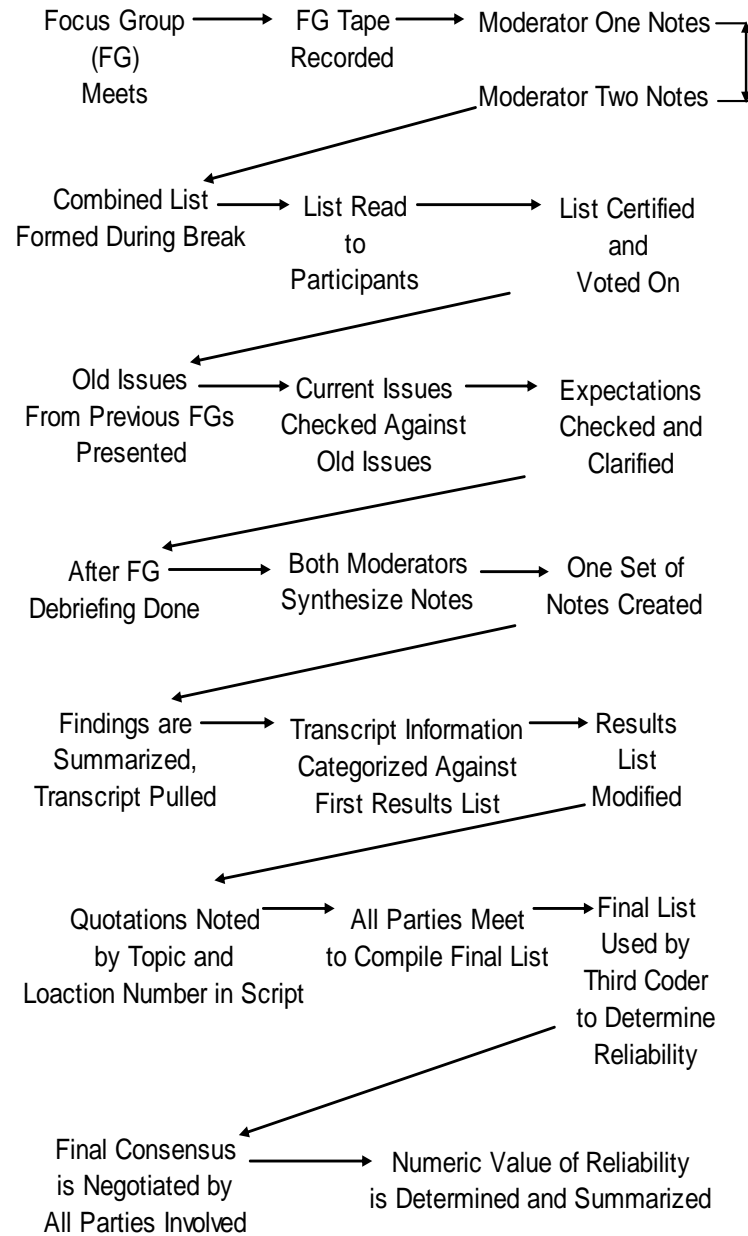- Large media sometimes inhibits participant responses

Data Analysis

- Researchers must focus on analysis of both verbal and non verbal participant behavior
- In order to enrich data meaning, the focus group observer is primarily responsible for recording participant:
  - Body movement
  - Speech patterns
  - Voice inflection

Focus Group Research Model Flow Chart

Focus Group (FG) Meets → FG Tape Recorded → Moderator One Notes

Moderator Two Notes

Combined List Formed During Break → List Read to Participants → List Certified and Voted On

Old Issues From Previous FGs Presented → Current Issues Checked Against Old Issues → Expectations Checked and Clarified

After FG Debriefing Done → Both Moderators Synthesize Notes → One Set of Notes Created

Findings are Summarized, Transcript Pulled → Transcript Information Categorized Against First Results List → Results List Modified

Quotations Noted by Topic and Loaction Number in Script → All Parties Meet to Compile Final List → Final List Used by Third Coder to Determine Reliability

Final Consensus is Negotiated by All Parties Involved → Numeric Value of Reliability is Determined and Summarized

Lifvendahl, 1994

Normal Flow

- ## Pre-Discussion
  - Meet participants at the door
  - Note that the group will be "recorded"
  - Have participants sign consent form

Flow cont'd

- Discussion
  - Introduce Self
    - Thank the participants
    - "We value their thoughts!"
- State the Purpose of the Focus Group
  - Introduce Participants to Each Other
  - State Time Limit

Flow cont'd

- Begin Questioning (Note that participants should)
  - Answer the specific question
  - Say exactly what you think!
  - No right or wrong answers
  - You may agree or disagree
  - No comment considered trivial

Flow cont'd

- General Rules of Facilitation include:
  - Controlled discussion
  - No "round-robin" cycles allowed
  - Participants are invited to speak by the facilitator
  - Time is allowed for frequent summarization

Interview – Definition

- A method of <u>qualitative</u> data gathering that yields transcript information about activities that cannot be directly observed

Usefulness

- Interviews enhance flexibility
- They allow for means to follow-up on unanticipated lines of questioning
- Careful consideration must be made for diminishing interviewer biases
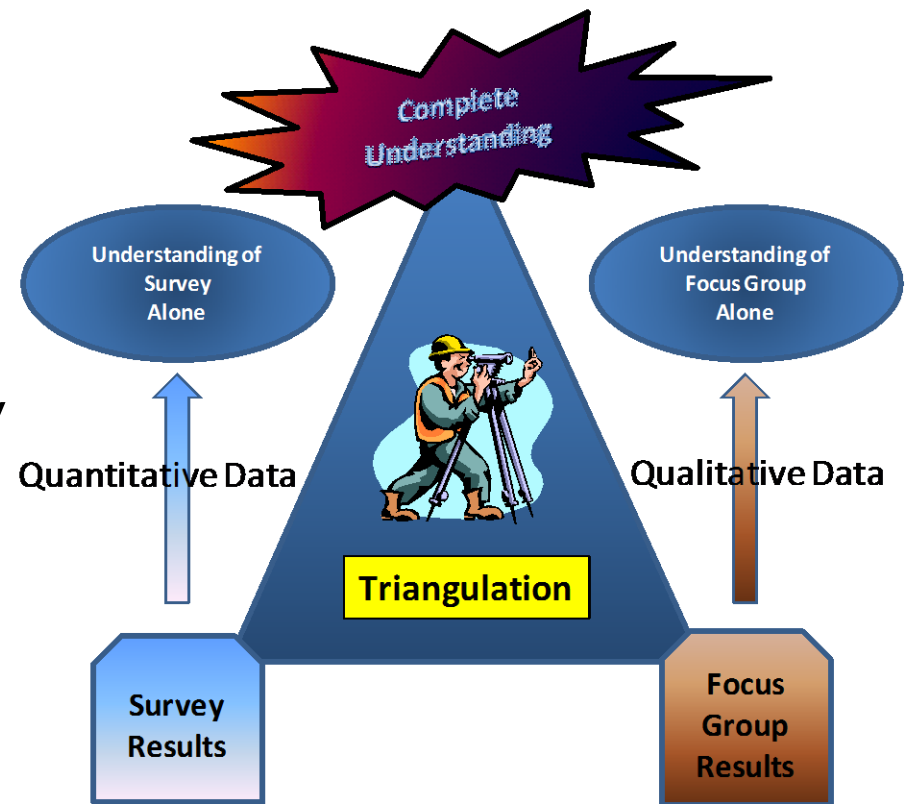
Key Questions

- What protocols will drive data gathering and analysis?
- What methods will be used to reduce data volume?

Questions cont'd

- ## How will collected data be interpreted?
  - What coding procedures will drive data analysis?
  - What technique will be used to determine validity of analysis?
    - Triangulation
    - Multiple readers
    - External review

Questions cont'd

- How will the descriptive narrative of interview information be converted into an outcome based report? (Making sense of what people said)
- What ethical concerns must be considered in interviewing participants?
  - Level of anonymity
  - Permission to use "quotes" in report
  - Other
- Data Analysis similar to Focus Group

Success Enhancement

- Utilize a team approach with multiple observation of processes increases validity
- Apply a controlled set of interview questions to drive discussion
- Enforce rigorous coding of recorded transcript

Advantage & Disadvantage

- **Structured Interviews**
  - Allow for standardized scripts and data analysis
  - Tend to diminish interviewer biases and add predicative power (incremental validity)
  - Question formulation is similar to focus group scripting
  - Open ended questions lead discussion
  - Closed questions test responses

Advantage cont'd

- Observation
  - Structured interviews permit free wheeling responses
  - The problem is by doing so you limit data to pre-conceived notions of what should be investigated
- Question formation and choice of formatting dramatically affect data analysis methods

Advantages cont'd

- Unstructured Interviews
  - Advantages
    - Allow for more divergent comments
    - Require greater need for multiple readers of transcripts
  - Disadvantages
    - Take more time to analyze
    - Introduce more interpretive error

Survey – Definition

- A method of <u>quantitative</u> data gathering that yields numeric descriptive information from a sampled population

Key Questions

- What is the purpose of the survey?
- Why has this method chosen?
- What is the population to be surveyed?
- Will the survey be randomized? (increases reliability)

Key Questions cont'd

- What is the content to be covered? (theme, standardized, specific questions)
- How will the survey be piloted? (tested)
- What is the time line?
- What are the variables?
- How will data be analyzed?

Advantages & Disadvantages

- Advantages
  - Surveys are one of the most commonly used research tools in the world
  - Consumers are familiar with them because for businesses they are deemed to be "easier, quicker, less expensive, or more accurate" then most evaluative tools

Advantages cont'd

- Organizations frequently use surveys because:
  - They are seen as cost effective
  - Can be done relatively quickly
  - If well designed, provide quality information using a limited number of respondents

- Problem: Surveys become a default method of sampling opinion without thinking through what are the "real" information needs. Thus, is this the best use of limited research dollars?

Advantages cont'd

- Disadvantages
  - Surveys can scare people
  - Surveys are sometimes viewed in a jaded fashion by those who take them
  - Surveys are limited in that they reveal opinions but do not isolate cause and effect relationships
  - Surveys do not isolate _why_ something does not work?

Common Components

- Respondent *attitudes* about a subject of study (belief, value, like, dislike)
- Respondent *knowledge* (know or not know)
- Respondent *feelings* (positive, negative, intensity, position)
- Respondent desire to take *action*

Components cont'd

- Respondent *self image*
- Respondent *image profile* (class, race, gender, etc.)
- Respondent *decision making processes*
- Respondent *valued information sources*
- Respondent *needs and desires*

Components cont'd

- Respondent *behaviors*
- Respondent *lifestyles*
- Respondent *affiliations*
- Respondent *opinions*
- Respondent *demographic information*

Steps of Survey Design

- Define <u>information needs</u>
- Isolate the <u>sample population</u> to be surveyed
- Clarify <u>instruments</u> to be used
- Design <u>methods</u> for data collection
- Specify <u>protocols for data analysis</u>
- Formulate the plan for <u>report generation</u>

Key Design Questions

- How will questions be organized?
- What sequence of questioning is most beneficial?
- What level of language and grammatical composition will be used?
- What types of measurement scales will be used? (recommend force Likert…an even number, Example 1-6, 1-10)

Design Questions cont'd

- What are sensitive or threatening questions? (respondents resist answering)
- What is the optimum size of the questionnaire?
- Who will administer the survey? (person, time, place, location)

Design Questions cont'd

- What will be the format of the Final Report?
- I recommend the following sections:
  - Executive Summary
  - Respondent Summary
  - Review of Finding Relevancy
  - Supporting Graphics
  - Narrative explaining findings
  - Appendix

Writing Questions

- Each question should be brief, clear and to the point
- Questions should:
  - Apply to as many organizational situations as possible (standardize)
  - Limit overgeneralizations
  - No "double barreled" (two questions in one) or leading (do you see, advocate, feel) questions should be used

Writing cont'd

- Seek to Eliminate Biases in Question Formation
- Biases tend to form around questions that:
  - Require responses based on what is socially acceptable (group conformity)
  - Need the opinion of someone else (spouse)
  - Yes or No (inherent need to seek balance)

Writing cont'd

- Bias Formation cont'd
  - Enhance self image as compared to other people
  - Create fear, anxiety, anger or resentment
  - Order questions in ways that guide response
  - Encourage extreme ways of thinking (all or none)

Process Implementation

- Validity is enhanced by:
  - Providing a set of guidelines outlining instrument use
  - Minimizing misinterpretation of Likert scales or survey instructions
  - Checking for respondent error in recording opinions
- Note: Interviewer behavior can influence survey findings; it must be carefully self-monitored

Keys to Success

- Insure a hospitable, comfortable location for survey administration
- Greet the person and introduce oneself to the survey respondents
- Instruct the respondents on how to use the survey instrument

Success cont'd

- Prepare to answer questions and give guidance without influencing respondent decision making
- Record observations on respondent non-verbal behavior throughout the administration of the survey

Data Analysis

- Each data set generated requires entry and coding
- A standardized format for laying out a spreadsheet needs to be addressed so that ease of aggregating information can be effectively achieved

Analysis cont'd

- Data sets should be made as simple as possible to interpret and use
- Generally total respondent number (n), percentiles, and frequency of response dominate information interpretation

Analysis cont'd

- Researchers are usually interested in:
  - Maximum and minimum responses
  - Range of distribution (max minus min)
  - Standard deviation (how much a given data set moves away from the normal bell shaped curve)
- The more sophisticated the need for analysis, the more resources need to be devoted to this process

Delphi Study

- Definition – A group technique for gathering subjective <u>qualitative</u> data in which the group need not meet
- It is designed to question experts possessing specialized knowledge in order to analyze a specific problem

Delphi cont'd

- The study can be conducted at a distance
- Participants are tasked with answering questions <u>without</u> interacting with each other
- One facilitator acts as a "clearinghouse" whose mission is to seek consensus

Delphi cont'd

- Process consists of:

  - Facilitator sends questions or survey to participants

  - Participants reply with stated opinions or answers

  - Facilitator compiles responses, develops a proposal, set of guidelines, or wording for agreement

Delphi Process cont'd

- Facilitator sends document out for confirmation and/or agreement

- Cyclical process continues until agreement between all parties has been achieved

Delphi Process cont'd

- **Strengths**
  - Allows for sharing complex ideas amongst numerous stakeholders
  - Produces a consensus in a democratic and transparent way
  - Tackles technical problems at the convenience of the participants

Delphi Process cont'd

- **Weaknesses**
  - Can be expensive to run
  - Can require large amounts of data to be assessed before distribution
  - Takes time to organize and run
  - Dependent on participant commitment to reply in a timely fashion

Delphi Process cont'd

- **Resources**
  - Staff, communication infrastructure and alliances
- **Audience**
  - 30 to 10 (Can be smaller)
- **Time**
  - 6 Weeks to 6 Months

Delphi Process – Implementation

- Identify Panelists and insure their willingness to cooperate
- Invite Panelists
- Distribute research instrument
- Receive, compile and analyze first responses
- Redefine responses within an appropriate theoretical framework

Implementation cont'd

- Prepare and distribute second enquiry
- Typically participants rank order data and include new ideas
- Rewording and revision of ideas can occur in this iteration
- A third or fourth iteration may be needed

Implementation cont'd

- Once consensus has been achieved the facilitator should:

  - Prepare and distribute a final report to all stakeholders

  - Remember, participants are interested in new firsthand knowledge of their specialty

  - Enactment of the finding dependent on the initial terms of reference in the Delphi design

Questions & Concerns

- Research is hard
- It is extremely rewarding
- It supports organizational effectiveness
- And <u>it can be FUN</u>!!!

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