Exploring the Working Hypothesis

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Overview

1. Story
2. Definition of Working Hypothesis
3. Nature of Hypotheses
4. Hypotheses and Theory – research process
5. Discovery – Exploratory Research
6. Where it fits (philosophical positioning)
7. Practical considerations
8. Examples
9. Conclusion
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<th>Framework</th>
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<td>Explanation</td>
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<td>Practical Ideal Type</td>
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<td>Decision Making</td>
<td>Models of Operations Research</td>
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</table>

Four articles & book chapters

- Intermediate Theory: Missing Link in Successful Student Scholarship *JPAE*. 2006
- Public Administration Methodology: A Pragmatic Perspective *Foundations of PA* 2017
Mattia Casula. Began .....
Working hypotheses are:
1. provisional statements of expectations
2. framework for
3. exploratory
4. deductive
5. empirical inquiry
6. can use both qualitative and quantitative evidence
Explanation & Hypotheses
WHY?
Be-Cause...

Hypotheses – plausible & testable answers to a why question.
Hypothesis

• An idea or **explanation** for something that is based on known facts but has not yet been proven. Cambridge Dictionary

• an idea or **explanation** that you then test through study and experimentation. Vocabulary. Com

• a proposed **explanation** for a phenomenon. To be a scientific hypothesis, the scientific method requires that one can test it. Wikipedia

• tentative, testable answer to a scientific question. Science Buddies

• an idea that can be tested to see if it is true or not. Longman Dictionary

• A prediction or educated-guess based on current evidence that is yet to be tested. Urban Dictionary

• **Statement of expectations** that can be subject to test. Shields & Rangarajan, 2013
Theory:

summarizes a hypothesis or group of hypotheses that have been supported with repeated testing. A theory is valid as long as there is no evidence to dispute it. Hence, theories can be disproven. If evidence accumulated to support a hypothesis, then the hypothesis can be accepted as a good explanation of a phenomenon. One might say a theory is an accepted hypothesis.
Research Process Taking into account Positivist (post-positivist) notions of Theory

- Research Purpose
- Theory -- Conceptual Framework
- Methodology
  - Hypotheses
  - Data Collection Techniques
- Statistics
  - Analyzing and organizing data

Hypotheses as type of framework

Connections across research process
What Explains the level of Wages?

**Explanation**

What explains wages?

**Hypotheses**

- Education
- Intelligence
- Job tenure

H1: As education increases wages increase
H2: As intelligence increases wages increase
H3: As job tenure increases wages increase
Explanation

What explains wages

Hypotheses

Education
Intelligence
Tenure

Method

Operationalize variables
Survey

RESTATE HYPOTHESES

Dependent variable – Wages (Hourly rate of pay $)

Independent variables Education (years of school completed) H1
Intelligence (IQ score) H2
Tenure (months on the job) H3
Purpose

Explanation
(what explains wages)

Hypotheses

1: education
2: Intelligence
3: tenure

Method

Operationalize variables
survey

Statistics

Statistics used to test H1; H2; H3
(Regression; Correlation..)

Quantitative
Positivism
Measurement – correspondence
Deductive
Blinded to their Confusion

Mumble, mumble

Admit
-- I did not know the answer

Dr. Shields:
What is a Conceptual Framework?
Earl Babbie’s
*Practice of Social Research*

Three Research Purposes

Explanation - Hypotheses
Description
Exploration

One might say a **theory** is an accepted hypothesis.

Pragmatism’s focus on **purposeful inquiry** -- led me to look more carefully at the research purpose.
Public administration problems do not fit neatly into Explanatory Purpose

Program implementation problems

Best way to manage?
Best design?
What Questions -- baseline descriptive information
BEGAN
Earl Babbie’s
Practice of Social Research

Three Research Purposes

Explanation
Description
Exploration

Explanation - Hypotheses
Description – Categories??
Exploration ??????

Working Hypotheses
EXPLORATORY

- Used for problems in their preliminary, early stages.
- Provisional means of advancing investigation.
- Hypothesis generating or refining.
- Not necessarily looking to eventually establish cause or explanation.
- Can focus on the particular (new context)
Where does the Working Hypothesis fit

Larger methodology picture
Theory/Framework

Hypothesis

Deductive Reasoning

Data/evidence

Inductive Reasoning
Research Paradigms

- Positivism
  - Quantitative
- Interpretive
  - Qualitative
- Pragmatism
  - Mixed Methods
Case Study Research

Can use both inductive (interpretivist) Deductive strategy

Yin Linking “data to propositions, and the criteria for interpreting findings” least well developed procedure in case studies.

Problem Identified in Literature for qualitative studies (experience as editor) Weak alignment across steps in research process.
Exploration generally occurs within the context of a case and the goal is to collect evidence, which would support (or fail to support – be falsified) certain expectations about the case. These preliminary or not-quite-formal expectations are called Working Hypotheses.  

(Shields & Rangarajan, 2013, p. 110)
Research Purpose

Exploration

Theory -- Conceptual Framework

Working Hypotheses

Methodology

Qualitative evidence

Statistics

Analyzing/organizing data (qualitative evidence)

Qualitative (and quant)
Pragmatism (purposeful inquiry)
Evidence – test hypothesis
Deductive
Working hypotheses are:
1. provisional statements of expectations
2. framework for
3. exploratory
4. deductive
5. empirical inquiry
6. can use both qualitative and quantitative evidence
<table>
<thead>
<tr>
<th>Type of Purpose</th>
<th>Micro-Conceptual Framework</th>
<th>Methodology</th>
<th>Data Analysis</th>
<th>Primary philosophical underpinning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanatory</td>
<td>Formal Hypotheses</td>
<td>Quantitative, experimental design, survey, time series, existing data</td>
<td>Inferential statistics</td>
<td>Positivism</td>
</tr>
<tr>
<td>Descriptive</td>
<td>Categories</td>
<td>Quantitative, survey, content analysis</td>
<td>Simple descriptive statistics</td>
<td>Positivism</td>
</tr>
<tr>
<td>Exploratory (1)</td>
<td>Working Hypotheses</td>
<td>qualitative, mixed methods, case study</td>
<td>Evidence of all types may or may not use statistics</td>
<td>Pragmatism</td>
</tr>
<tr>
<td>Exploratory (2)</td>
<td>Pillar Questions</td>
<td>qualitative, mixed methods, case studies</td>
<td>Evidence of all types may or may not use statistics</td>
<td>Pragmatism</td>
</tr>
<tr>
<td>Gauging</td>
<td>Practical Ideal Type</td>
<td>qualitative, mixed methods, case studies</td>
<td>Evidence of all types may or may not use statistics</td>
<td>Pragmatism</td>
</tr>
<tr>
<td>Decision Making</td>
<td>Models of Operations Research</td>
<td>Cost Benefit analysis, Cost Effectiveness Analysis, linear programing etc.</td>
<td>Quantitative techniques of operations research</td>
<td>Positivism</td>
</tr>
</tbody>
</table>

### Inductive Logic

<table>
<thead>
<tr>
<th>Experiential Understanding</th>
<th>Qualitative</th>
<th>Thick description</th>
<th>Interpretivist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grounded theory</td>
<td>Qualitative</td>
<td>Constant Comparative</td>
<td>Interpretivist</td>
</tr>
<tr>
<td>Description</td>
<td>Qualitative</td>
<td>Generating categories</td>
<td>Interpretivist</td>
</tr>
</tbody>
</table>
EXAMPLES

Assessing sexual harassment training using knowledge framework

Assessing service learning program at a charter school

Assessing policy responses to sexual violence during conflicts

Assessing strategies to sustain organizational success at a non-profit organization

Assessing a framework to evaluate casino gaming legislation
Generic Organization: Working Hypotheses

- WH1
  - WH1a
  - WH1b
- WH2
  - WH2a
  - WH2b
  - WH2c
- WH3
  - WH3a
  - WH3b
  - WH3c
Working hypotheses were used to explore sexual harassment training in an agency using Lundvall’s Knowledge Taxonomy – Know What, Know-How, Know-Who, Know-Why

Working Hypotheses as a framework for assessing sexual harassment training.

WH1: Capital Metro provides adequate know-what knowledge in its sexual Harassment training
   WH1a: The sexual harassment training includes information on anti-discrimination laws (Title VII).
   WH1b: The sexual harassment training includes information on key definitions.
   WH1c: The sexual harassment training includes information on Equal Employment Opportunity and Harassment policy.
   WH1d: Capital Metro provides training on sexual harassment policy history.

WH2: Capital Metro provides adequate know-how knowledge in its sexual Harassment training.
   WH2a: Training is provided on how to file and report a claim of harassment
   WH2b: Training is provided on how to document sexual harassment situations.
   WH2c: Training is provided on how to investigate sexual harassment complaints.
   WH2d: Training is provided on how to follow additional harassment policy procedures protocol

Swift (2010) used two additional working hypotheses dealing with know-why and know-who knowledge not shown here.
Kinds of knowledge included in Sexual Harassment Training

Know-what
- anti-discrimination laws
- key definitions.
- Harassment policy
- Policy history

Know-how
- file and report a claim
- document sexual harassment
- Investigate complaints
- follow additional protocols

Know-who
- Contact EE department
- Contact HR dept.
- Contact TX workforce commission
- Contact EEOC

Know-why
- Why should follow law
- Why follow harassment policy
- Why follow complaint procedure
- Why receive training

Key connection to literature
# Operationalization table for sexual harassment training study

James Swift (2010)

<table>
<thead>
<tr>
<th>Working Hypothesis</th>
<th>Method of data collection</th>
<th>Evidence/criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WH1:</strong> Capital Metro provides adequate “know-what” knowledge in its sexual harassment training</td>
<td>Interview supervisors and managers</td>
<td>How does the sexual harassment training address anti-discrimination laws? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Interview participants</td>
<td>What did you learn about anti-discrimination law? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Document Analysis 1) Capital Metro EEO Basic training manual 2) Capital Metro EEO Policy</td>
<td>How do these documents address history of discrimination laws?</td>
</tr>
<tr>
<td><strong>WH1a:</strong> Capital Metro provides training on anti-discrimination laws (Title VII).</td>
<td>Interview supervisors and managers</td>
<td>How does the sexual harassment training address key definitions? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Interview participants</td>
<td>What definitions about sexual harassment did you learn? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Document Analysis 1) Capital Metro EEO Basic training manual 2) Capital Metro EEO Policy</td>
<td>Which definitions can be found in these documents?</td>
</tr>
<tr>
<td><strong>WH1c &amp; WH1d:</strong> Data collection methods</td>
<td>Further specification of evidence used</td>
<td></td>
</tr>
<tr>
<td><strong>WH2:</strong> Capital Metro sexual harassment training provides adequate “know how” training</td>
<td>Interview supervisors and managers</td>
<td>How well does the sexual harassment training prepare participants to report a claim? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Interview with participants</td>
<td>How well did the sexual harassment training prepare you to report a claim? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Document Analysis 1) Capital Metro EEO Basic training manual 2) Capital Metro EEO Policy</td>
<td>How well do the documents cover how to file a report of sexual harassment?</td>
</tr>
<tr>
<td><strong>WH2a:</strong> Capital Metro provides training on how-to file and report a claim of harassment</td>
<td>Interview of supervisors and managers</td>
<td>How does the sexual harassment training address how to file and report a complaint? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Interview participants</td>
<td>How well did the training cover how to file a complaint? Additional questions as appropriate.</td>
</tr>
<tr>
<td></td>
<td>Document Analysis 1) Capital Metro EEO Basic training manual 2) Capital Metro EEO Policy</td>
<td>Do these documents address how to file and report a complaint?</td>
</tr>
<tr>
<td><strong>WH2b:</strong> Capital Metro provides training on how to follow Capital Metro harassment policy procedures protocol.</td>
<td>Data collection methods. Etc.</td>
<td>Specify further evidence used.</td>
</tr>
<tr>
<td>WH2a: Capital Metro provides training on how to follow Capital Metro harassment policy procedures protocol.</td>
<td>Interviews</td>
<td>Documents Analyzed</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Strong Support</td>
<td>Strong Support</td>
<td>Strong</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WH2b: Capital Metro provides training on how to file and report a complaint of harassment.</th>
<th>Interviews</th>
<th>Documents Analyzed</th>
<th>Overall Support</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Support</td>
<td>Limited Support</td>
<td>Limited</td>
<td>Emphasize the importance of how to report and file a complaint of harassment. Make pamphlets for employees to take with them after training.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WH2c: Capital Metro provides training on how to document sexual harassment situations.</th>
<th>Interviews</th>
<th>Documents Analyzed</th>
<th>Overall Support</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Support</td>
<td>Limited Support</td>
<td>Limited</td>
<td>Emphasize the importance of documentation and make a write-up in the training manual and a pamphlet to take with them when training is over.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WH2d: Capital Metro provides training on how Capital Metro investigates sexual harassment cases.</th>
<th>Interviews</th>
<th>Documents Analyzed</th>
<th>Overall Support</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Support</td>
<td>Limited Support</td>
<td>Limited</td>
<td>Document more on the steps that the EEO officer takes to investigate a complaint.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WH2: Overall Support</th>
<th>Interviews</th>
<th>Documents Analyzed</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>Limited</td>
<td>Increase efforts to document more processes regarding investigations and reporting.</td>
<td></td>
</tr>
</tbody>
</table>
Exploring Capital Metro’s Sexual Harassment Training Using Dr. Bengt-Ake Lundvall’s Taxonomy of Knowledge Principles

James Swift

https://digital.library.txstate.edu/handle/10877/3671
Working Hypothesis 1: The service learning model offered by the American Institute for Learning (AIL) reflects various principles of pragmatic education.

- WH1a: AIL practices collaborative learning activities
- WH1b: AIL teachers participate in collaborative teaching activities
- WH1c: AIL promotes community education
- WH1d: AIL offers practical education

Shivaun Perez, 2000
### WH1a: AIL practices collaborative learning activities

<table>
<thead>
<tr>
<th>Features of Collaboration</th>
<th>Method</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Classes are small enough to give individual attention to students</td>
<td>Teacher Survey</td>
<td>Class size at AIL is adequate for providing students with individual attention SA - SD</td>
</tr>
<tr>
<td></td>
<td>Student Survey</td>
<td>Are classes at AIL too big, too small, just the right size</td>
</tr>
<tr>
<td></td>
<td>Classroom observation</td>
<td>How many students were present in the classroom?</td>
</tr>
<tr>
<td>2. Students are free to move around the room and seek help from others</td>
<td>Teacher Survey</td>
<td>At AIL, students are free to move around in the classroom and seek help from others SA - SD</td>
</tr>
<tr>
<td></td>
<td>Student Survey</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom observation</td>
<td>Are students free to move about the classroom? Describe</td>
</tr>
<tr>
<td>3 Teachers are viewed as a “Fellow worker” as appose to an “all – powerful ruler”</td>
<td>Student Survey</td>
<td>Which of the following terms best describe teachers at AIL Fellow-workers, all–powerful leader or neither</td>
</tr>
<tr>
<td></td>
<td>Counselor Survey</td>
<td>Students perceive teachers as All Powerful leaders, fellow-workers, neither?</td>
</tr>
<tr>
<td></td>
<td>Classroom observation</td>
<td>How many times do the teachers refer to the students by name? How many times does a teacher recognize a child’s idea? Describe interaction between students and teachers.</td>
</tr>
</tbody>
</table>
**Example** Illustrating a Set of Working Hypotheses as a framework for comparative case studies.

### Stages of Potential International Response to Sexual Violence*

<table>
<thead>
<tr>
<th>WH1: Nonrecognition or on action to prevent sexual violence during conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WH1a</strong>: Sexual violence is not recognized as part of a specific conflict or the conflict itself is not recognized.</td>
</tr>
<tr>
<td><strong>WH1b</strong>: Wartime sexual violence as a general issue is not recognized</td>
</tr>
<tr>
<td><strong>WH1c</strong>: No action is taken, and no formal discussion occurs within or among International Organization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WH2: Sexual Violence is documented during a conflict and learning occurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WH2a</strong>: Sexual violence as an aspect of a conflict is the subject of a report, publication, study or conference attended by a state or IO.</td>
</tr>
<tr>
<td><strong>WH2b</strong>: Information gathering about sexual violence during a conflict occurs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>H3: There is a rhetorical response and condemnation of sexual violence during a conflict.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WH3a</strong>: Sexual violence as part of a specific conflict is subject of a speech, unprompted remarks or press release of a high-ranking state official or leader of an IO.</td>
</tr>
<tr>
<td><strong>WH3b</strong>: Rhetorical remarks occur but resources to reduce or study sexual violence are not committed.</td>
</tr>
</tbody>
</table>

Three additional stages of international response were provided by Crawford (2017)

* This table was constructed adapting Table 1.1 of Crawford’s (2017) book Wartime Sexual Violence.
Hope you learned something exploring Working Hypotheses

Qualitative (and quant)
Pragmatism (purposeful inquiry)
Evidence – test hypothesis
Deductive
Case studies
References


James, P. D. (1999) *A Certain Justice*


Peirce, C. S. …1958a Fixation of belief” Get the original date and pages


https://digital.library.txstate.edu/handle/10877/3671


