Multi-Level Evaluation Design

Challenges of A Mixed Methods Approach

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Presentation Overview

➢ Definition of Multi-Level Evaluation Design

➢ Design challenges: assessing impacts of programs that constitute a small fraction of effort to address a social goal

➢ Methodological challenges: methodological opportunities and limitations of different levels of analysis

➢ Case: application to a particular program

Existing Mixed Methods Research Designs

Triangulation design

Data obtained from several data sources complementing each other on the same topic.

Typically a mix of qualitative and quantitative measures.

Embedded design

One data source plays a supportive and secondary role in a study based primarily on another data source.

Explanatory design

Two-phase design. First, quantitative results inform on the topic.
Then, qualitative evidence is used to explain quantitative results

Exploratory design

Two-phase design. First, a qualitative method explores the topic to inform the second method.
Then, a quantitative method generates systematic findings.

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A Fifth Model of Mixed Methods Research

Multi-Level
Evaluation
Design

Definition of Multi-Level Evaluation Design

➢ Addresses issues of performance at more than one systemic level of outcomes

Case (micro) level

- Used to document fine results and the detailed dynamic of the program
- Common proxy in many evaluations for societal impacts
- Example: case studies of impacts of a research funding program on one university
- Example: case study of impacts of stay-in-school support measures on one student

System (meso) level

- Does the program produce results that are discernable for large groups participating in a program?
- Example: do universities show better research outcomes after the introduction of a program?
- Example: do participants in stay-in-school program display collectively better graduation rates?

Societal (macro) level

- Addresses ultimate impacts of greatest interest to policy makers
- Example: did a research support program generate discoveries and improved well-being?
- Example: did a stay-in-school program reduce the drop-out rate?

Case: Indirect Cost Program

➢ Indirect Cost Program (ICP) supports to universities and colleges to defray part of the indirect costs associated with direct funding of research (e.g., maintenance, management, intellectual property, ethics)

➢ Managed by SSHRC on behalf of CIHR, NSERC and SSHRC

➢ Since 2003

➢ $325 million in 2009-2010 or about 25% of grant $

➢ University research "business" is about $10 billion annually

Case (micro) level

ICP

- 8 case studies of universities in receipt of program funding
- Review of program documentation including annual self-reporting
- Survey of representatives
- Site visits

Advantages

- Provides tangible illustrations of program impact
- Easy to communicate
- Good understanding of local dynamics
- May suggest what works and what does not

Challenges

- Policy makers likely to think "So what?"
- Lacks credibility as part of summative evaluation
- Risk that findings are biased (or seen as such) because recipient-generated
- Getting official/written supportive evidence sometimes difficult
- No quantification of overall impacts

System (meso) level

ICP

- Multiple regression modelling
- Key independent variable: proportion that ICP funding represented of university revenues
- Dependent variables: from perceptions of the research environment to expenditures on library acquisitions, number of funded research applications and number of researchers

Advantages

- In the absence of a comparison group or baseline data, produces a "dosage" analysis
- Merges primary and secondary data in one analysis
- Can model change over time where time series data exist
- Was able to depict some system-wide effects

Challenges

- Indicator availability was a key challenge: had to accept compromise
- Multicollinearity and heteroscedasticity − statistical issues
- Does not open the "black box" as wide as case studies to understand how the program worked

Societal (macro) level

ICP

- Interrupted time series analysis

- Annual data, 1980 onwards; about 3 data points after program inception

- Data from OECD, Statistics Canada, administrative sources

- Indicators such as # of patents, # of granting agency applications, R&D $ in higher education

Advantages

- Adopt a "big picture" perspective

- Compare to other countries

- Evaluate the effect size in light of the gap that the program intends to close

Challenges

- Attribution when program expenditures represent a small portion of total spending toward a goal

- Limited data points in a time series analysis, especially after

- Controlling for competing influences, part. when logically tied to program

Learnings from the Evaluation

➢ Multi-level evaluation based on the premise that impacts can be observed at different scales in a system

➢ Each level provides its own type of evidence and demonstration

➢ Each level raises its own types of challenges, in particular:

    ➢ generalisability from the micro level

    ➢ understandability (meaning) from the meso level

    ➢ attribution from the macro level

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