

Employing Mixed-Methods in Evaluation

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Offered:

- Tuesday, June 12, 9:25 – 12:45 (20 minute break within)

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INTRODUCTIONS AND OVERVIEW

Objectives

1. To provide participants with specific concepts and tools for being thoughtful and planful in their own mixed methods work, so as to maximize the potentialities of this approach to social inquiry, specifically evaluation.
2. To engage participants in reflective conversation about a “mixed methods way of thinking,” including issues related to what can usefully and generatively be mixed in mixed methods social inquiry.

Agenda

9:25 – 9:45	Introductions and overview A note on purposes for mixing methods, with examples
9:45 – 10:45	Adopting a “mixed methods way of thinking” <i>Activity</i>
10:45 – 11:05	Light Break
11:05 – 12:15	Key concepts in mixed methods design and analysis <i>Activities</i>
12:15 – 12:35	Representing and writing up mixed methods evaluation studies: A snapshot
12:35 – 12:45	Sharing, reflection, critique

A NOTE ON PURPOSES IN MIXED METHODS INQUIRY

Primarily for “better understanding” (Cook, 1986; Greene et al., 1989):

1. understanding more comprehensively, developing more comprehensive, more complete, more full portraits of our social world → mixed methods purpose of complementarity (and development, expansion)
2. understanding more defensibly, with stronger validity or credibility and less known bias; developing stronger, more defensible knowledge claims → mixed methods purpose of triangulation
3. understanding more insightfully, with new ideas, fresh perspectives, creative concepts and meanings → mixed methods purpose of initiation
4. understanding with greater value consciousness and with greater diversity of values, perspectives, and positions.

ADOPTING A MIXED METHODS WAY OF THINKING

Activity

Evaluation Scenario

The Bill and Melinda Gates Foundation has recently committed some of their considerable resources to tragedy of children orphaned by HIV/AIDS in African countries. The Foundation funds are not being used to provide immediate care for children orphaned by AIDS, because the Foundation views such immediate care as a governmental responsibility. Rather, the Gates Foundation funds are funding innovative ideas about how to (1) provide medical treatment to orphans who are infected with the HIV virus, (2) ensure that AIDS orphans are able to attend school, and (3) provide opportunities for these children to have some voice and decision making power over their own lives. This third priority represents an empowerment agenda for the orphans, believed to be especially important as many have no one to advocate for them. Collectively, these three priorities are considered by the Gates Foundation as critical to the long-term well being of these children, including their future capacity for productive citizenship in their respective countries.

One innovative program funded for five years in South Africa (adapted from a successful program in India) seeks to organize local children and youth groups and provide them with skill, knowledge, *and* the legal authority to advocate on their own behalf in all domains of their lives. Children and youth groups are started by adults, but then take over most of the activities, with only ongoing monitoring and advice provided by the adults. The program’s theory argues that children are their best own advocates, plus this experience will equip children for healthy and productive adult lives.

The Gates Foundation is working with health officials in each country to find an appropriate evaluator for this initiative. The Foundation is interested in the “quality and effectiveness” of the program funded, including the quality of the program as experienced by participants and its effectiveness in reaching valued outcomes (intended and unintended alike).

You decide to submit a proposal for this project. What would you propose?

Tasks

- ◆ Take a few minutes, by yourself or with a partner, and think about how you would likely approach this inquiry context. For example, what inquiry *questions* would be important to address, what kind of inquiry *design* might you develop, what *methods* would you use, what particular inquiry *processes* would be important in this context, and so forth?

- ◆ Now, think about the following question: What mattered to you in making these initial inquiry decisions? What were you influenced by? Why did you make the decisions you did? List some key reasons.

Connecting to the literature on frames for mixed methods inquiry

Table 1
Mixing Methods and Mixing Paradigms/Mental Models?

<i>What is the character and value of traditional paradigms or mental models?</i>	<i>What <u>most importantly</u> guides practical inquiry decisions?</i>	<i>Mixed methods “paradigm stance”</i>
The assumptions of different traditional paradigms are fundamentally <i>incommensurable</i> . Each paradigm represents a coherent whole, which must be respected and preserved.	Paradigmatic assumptions	Because the assumptions of different paradigms are incompatible, it is not possible to mix paradigms in the same study. PURIST STANCE (Guba and Lincoln)
The assumptions of different traditional paradigms are not fundamentally incompatible, rather different in important ways. These differences are valuable and should be preserved to maintain methodological integrity.	Paradigmatic assumptions, as well as context and theory	Because the assumptions of different paradigms are importantly different, methods implemented within different paradigms should be kept separate from one another. COMPLEMENTARY STRENGTHS STANCE (Brewer and Hunter, Morse)
The assumptions of different traditional paradigms are different in important ways and remain valuable, but paradigms themselves are historical and social constructions and so are not inviolate or sacrosanct.	Paradigmatic assumptions, as well as context and theory	Engaging with paradigm differences can generative yield new insights and understandings. DIALECTIC STANCE (Greene and Caracelli, Maxwell)
Historical philosophical incommensurabilities among paradigms are reconcilable through new, emergent paradigms, such as pragmatism, scientific realism, or transformation-emanicipation.	The assumptions and stances of new paradigms that actively promote the mixing of methods, along with context and theory	ALTERNATIVE PARADIGM STANCE (Tashakkori and Teddlie, Johnson, Onwuegbuzie, Howe, others)
The assumptions of various paradigms are logically independent and therefore can be mixed and matched in varied combinations.	The practical characteristics and demands of the inquiry <i>context and problem</i> at hand	Paradigms help us think better but do not themselves guide practice. A-PARADIGMATIC STANCE (Patton, Cook and Reichardt)

<i>What is the character and value of traditional paradigms or mental models?</i>	<i>What most importantly guides practical inquiry decisions?</i>	<i>Mixed methods “paradigm stance”</i>
The assumptions of various paradigms may well be embedded in or intertwined with substantive theories.	The <i>substantive issues and conceptual theories</i> relevant to the study being conducted	Paradigms help us think better but do not themselves guide practice. SUBSTANTIVE THEORY STANCE

SOURCES: Greene (in press), Greene and Caracelli (1997), and Teddlie and Tashakkori (2003).

KEY CONCEPTS IN MIXED METHODS DESIGN AND ANALYSIS

Major dimensions of mixed methods design

1. Mix at end or mix throughout (at selected stages before the drawing of inferences and conclusions)
 - *The degree to which the different methods are conceptualized, designed, and implemented independently or interactively.
 - *When the mixing happens – at the end of the study or during the study
 - *Component, coordinated designs = bringing into common action or harmonizing; methods are implemented and remain recognizable and distinct throughout the study
 - *Integrated designs = blending, uniting, dialectically combining into a coherent or higher whole; methods are implemented in some kind of back-and-forth process such that the conclusions at the end reflect a blend or integration of both methods
2. Parity/equality or one dominant/one less dominant methodology
 - *The priority given to one methodology or another versus equality of methodologies, overall and possibly in different phases of the inquiry
3. Sequential (iterative) or concurrent implementation of the different methods.

Major design frameworks use these key dimensions

Table 2
Mixed Methods Design Framework (adapted from Caracelli & Greene, 1997)

Design	Description
<i>Component designs</i>	
*Triangulation	Different methods used concurrently, preferably with equal priority, to assess same phenomena toward convergence and increased validity; paradigm assumptions not central, cross paradigm triangulation problematic
*Expansion	Different methods used for different phenomena; can be sequential or concurrent, equal or unequal priority, with paradigm assumptions important or not

<i>Integrated designs</i>	
*Iteration (development)	Dynamic, ongoing interplay of methods during multiple stages of the study; characteristically sequential; methods preferably of equal priority; paradigm assumptions important
*Holism (complementarity)	Different methods necessarily “interdependent” for understanding complex phenomena fully; concurrent implementation, highlighting “simultaneity” of integration, rather than taking turns; methods preferably equal; paradigm assumptions preferably important
*Transformation (initiation)	Primacy given to value-based and action-oriented dimensions of different methods, emphasis on mixing value commitments toward greater pluralism and engagement with difference; concurrent implementation; methods preferably equal; paradigm value assumptions central

Table 3
Mixed Methods Design Typology (Creswell et al., 2003, p. 224)

Creswell et al. (2003)	Stage of integration	Implementation	Priority / Status
<i>Sequential designs</i>			
*Sequential explanatory	Interpretation	QUAN → qual	Usually QUAN, can be QUAL or equal
*Sequential exploratory	Interpretation	QUAL → quan	Usually QUAL, can be QUAN or equal
*Sequential transformative	Interpretation	QUAL → QUAN QUAN → QUAL	Either dominant or both equal
<i>Concurrent designs</i>			
*Triangulation	Interpretation or analysis	QUAL + QUAN	Equal
*Nested	Analysis	qual within QUAN quan within QUAL	Either dominant
*Transformative	Usually analysis, can be interpretation	QUAL + QUAN	Either dominant or both equal

Key for Table 2:

* Capital letters signify that methodology is dominant, small letters signify that methodology is less dominant. If both are capitalized, both methodologies have equal weight in the study.

* An arrow (→) signifies sequential implementation. A plus (+) signifies concurrent implementation.

Examples of mixed methods designs

1. Reading First evaluation, state of Illinois

Based on key principles of early reading, demonstrated in the research:

Fluency, decoding, background knowledge and vocabulary, comprehension, motivation

Evaluation:

- ◆ Assess reading proficiency program outcomes with state tests, administered annually
- ◆ Assess program implementation with three measures. Analyze correspondence of results across measures.
 - Structured observations of the extent of the ‘presence’ of the key elements of early reading in literacy classes by the evaluators, plus unstructured observations of routines and rhythms of literacy classes (two-part measure). Observations conducted twice each year.
 - Annual end-of-year teacher questionnaire, in which teachers report on the extent to which they have implemented each of the key elements of early reading
 - Annual end-of-year review of portfolios assembled by each school, presenting various kinds of evidence of the presence of the key elements in K-3 literacy classes

Questions:

1. How would you characterize this evaluation design *for program implementation* in terms of:
 - a. The three main dimensions of mixed methods design?
 - b. The Greene et al. and the Creswell frameworks for mixed methods design?
 - c. And so, what mixed methods purpose or purposes are being accomplished by this design?
2. What mixed methods “paradigm stance” do you think the evaluators were using in this context?

2. An evaluation of ‘public’ knowledge about the new HPV vaccine

Evaluators propose the following design:

- ◆ First, conduct 10-12 group interviews with various constituencies in this arena – medical staff at clinics and community health centers, health educators in schools and other venues, health care activists, parents of adolescent girls, adolescent girls themselves
- ◆ Use the results of these group interviews to design various surveys for these various constituencies. Administer the surveys to appropriate samples.
- ◆ Conduct descriptive analyses of the survey responses. Return to the qualitative group interview data for joint, integrated analyses of both data sets together, with the hopes of generating insights and understandings not otherwise

Questions:

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Analysis challenges in mixed methods social inquiry

Key challenges:

- Connecting or “mixing” inquiry results at the end of a study in component designs.
- Conducting integrative mixed analyses.

Table 4
Mixed Methods Analysis Strategies

<i>Analysis phase</i>	<i>Mixed methods analysis strategy</i>
Data cleaning	---
Data reduction and description	---
Data transformation	Data transformation, one form to another Data consolidation or merging, multiple data sets into one
Data comparison, looking for patterns	Data importation, using interim results of analyses of one data set to inform the analysis of another data set (see excellent example by Li, Zercher, and Marquart, 2000) Extreme case analysis
Major analyses for inferences and conclusions	Warranted assertion analysis (Smith, 1997) Pattern matching Results synthesis

Activity – Using a mixed methods way of thinking in data analysis

Perspectives (Sandelowski, 2003)

What matters is not whether data are in qualitative or quantitative form, “but rather the overall attitude toward and interpretive treatment of the data” (p. 324), or what happens on the “shop floor” of research or evaluation.

Study [adapted from Adalbjarnardottir (2002)]

Abstract:

This study examined the relationship between Icelandic adolescents’ psychological maturity and their alcohol use. A sample of 1198 tenth-grade students was surveyed and followed up two years later. Both concurrent and longitudinal findings indicated that the more psychosocially mature adolescents were less likely to drink heavily than those who showed less maturity. Of the three psychosocial constructs examined, the construct of personal meaning was more strongly related to adolescent alcohol use than were the constructs of interpersonal understanding and interpersonal skills. To further understand this construct, two adolescents were interviewed individually at the end of both school years. *Thematic and developmental analyses* of the interviews revealed individual variations in how the adolescents made meaning of their drinking.

Conceptual perspectives:

- ◆ Psychosocial developmental – emphasis on understanding the relationships between one’s own thoughts, feelings, and wishes and those of others, including those of “society” at large. Emphasis on “perspective taking” and “perspective coordination.”
- ◆ Three key constructs (each with progressive developmental levels) as applied to adolescent drinking:

- Interpersonal understanding – How do adolescents understand the facts they are provided with about the risky business of substance use, such as drinking alcohol?
- Personal meaning – How do they reflect on their own drinking?
- Interpersonal skills – How do they apply that understanding in their relationships with family and friends? For example, how do they manage risks?

Methods and measures:

- ◆ Survey component – Relationship Questionnaire (validated in prior psychosocial research); substance use questionnaire; questionnaire regarding environmental and sociodemographic variables (e.g., prevalence of parental drinking)
- ◆ Interview component – Two “frequent drinkers” relative to the sample (one female, one male) were interviewed at both time points. Edda and Bjorn both scored relatively high in the psychosocial maturity scale (upper 20% of the sample). A semi-structured interview guide was used. One interview emphasis was on “*personal meaning*” or *personal reflections on drinking*, for example, “What are the reasons for your drinking?” and “If you decided to stop drinking, do you think you could stick to that decision? How do you know?” Analysis was both thematic and developmental.

Selected descriptive and relational results for the survey component:

- ◆ Alcohol use in this sample averaged 3.4 and 4.8 glasses of alcohol consumed at each sitting for the 15 year old and the 17 year old females, respectively; averages for males were 3.7 and 4.9.
- ◆ Psychosocial maturity averages were close to the mid point of the developmental scale for both girls and boys at both ages, signaling an overall “reciprocal” and “cooperative” perspective in relationships.
- ◆ At both ages, psychosocial maturity was significantly and negatively correlated with alcohol use (age 15, $r = -.31$; age 17, $r = -.28$).
- ◆ The psychosocial construct of personal meaning had the strongest correlations with alcohol use of the three constructs; at age 15, $r = -.36$ and at age 17, $r = -.33$.

Selected descriptive and interpreted results for the interview component:

[Bjorn came from a family of moderate income. His parents worked clerical or trade jobs. He was the oldest of three boys in the family. Bjorn had good school attendance but only modest achievement. His teachers perceived him as “under-achieving,” mainly because he preferred socializing to concentrating on his work.]

[Bjorn had started drinking on his 13th birthday, and at age 15 he has continued drinking] just because it is so much fun. I always have such a good time. I enjoy myself in quite a different way. Everything becomes so much fun when you’re drinking. You’re not as shy and closed, and that is especially important.

For instance, if you were really stuck on some girl ... you’re maybe talking to her normally, like, but then when you’re drunk and see her, you can come up with “Oh, I’ve always been in love with you” and so on. And if it sounds like only drunk blabbering, just the same, you know she’ll remember it but ... she won’t feel stupid. You’re not stupid even if you say something like that because you were drunk. But, it has an effect all the same, you know.

[But] more than anything, I don’t want to make a fool of myself again like the time I got sick at a family party and was carried out. I felt terribly embarrassed and ashamed of myself. I don’t want to do things I can’t remember doing or do things I would really regret. You know

I don't want to wake up in some alley with my pants down around my ankles and a used condom beside me.

[At age 17 Bjorn said] drinking has become a natural part of my social life; it is a social act. I find it more fun to be among people when under the influence. I find everything more humorous. I become more open and more daring and more talkative. I even like to make a flashy entrance at parties, but wouldn't dare do this if I wasn't a bit high. Everyone has the need to feel special and to be known for something. I like to be daring. And usually I have good psychological control over my behavior, even when I am drinking. I have a good nature, I am a man of peace, and a good negotiator.

But I still get inconsiderate in dealing with someone when I am drunk and regret it later when I get sober. It has happened that I have spent the evening with a girl and afterwards I have found myself hurting her feelings because I haven't wanted to continue dating her. These girls have called and some problems have arisen.

Example of integrative analysis: Data importation

Step 1: Portray average male profile from survey data, and locate Bjorn within it

<i>Data point</i>	<i>15 years old</i>	<i>17 years old</i>
Number of drinks at one sitting	3.7 (ave) 4 (Bjorn)	4.9 (ave) 6 (Bjorn)
Correlation of psychosocial maturity with alcohol use	-.31	-.28
Correlation of psychosocial dimension of <i>personal meaning</i> with alcohol use	-.36	-.33

Pattern: Increased alcohol consumption and modest steady relationships to psychosocial maturity, in particular, dimensions of personal meaning of drinking.

Step 2: Use profile to organize qualitative data – focus on development and “personal meaning”

Key themes for Bjorn (who scored relatively high in psychosocial maturity), organized developmentally and reflectively:

<i>Age 15</i>	<i>Age 17</i>	<i>Speculations?</i>
Drinking is fun	Drinking is fun <i>Drinking has become a natural part of my social life</i>	Psychosocial construct of “personal meaning” inadequate to capture ‘naturalization’ process of drinking, despite relatively “high” maturity
Drinking allows me to be uninhibited	Drinking allows me to be daring, flashy <i>Drinking helps me feel special, to be known for being daring</i>	Developmental trend toward increasing centrality of drinking in psychological ‘health’

Drinking carries a risk of foolish, embarrassing, shameful behavior	<i>I still get inconsiderate when drunk, like spending the night with a girl and then not wanting to continue dating her, hurting her feelings</i>	Relational risks of drinking 'mature' from individual embarrassment to interpersonal harm
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Step 3: Return to the quantitative data to pursue these speculations ... and so forth

Discussion questions

1. What are your “shop floor” interpretive attitudes toward these data and their meanings?
2. In what other ways do you think this integrative analysis could generate “better understanding”? What could be learned from such an analysis that would not be learned by analyzing each data set separately?
3. What is troubling or problematic about an integrative analysis in this context?

REPRESENTATION AND WRITING UP MIXED METHODS RESULTS: A SNAPSHOT

SHARING, REFLECTION, AND CRITIQUE

Appreciatively, what have you learned?

What questions or concerns remain?

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