

From Thematic Analysis to Grounded Theory

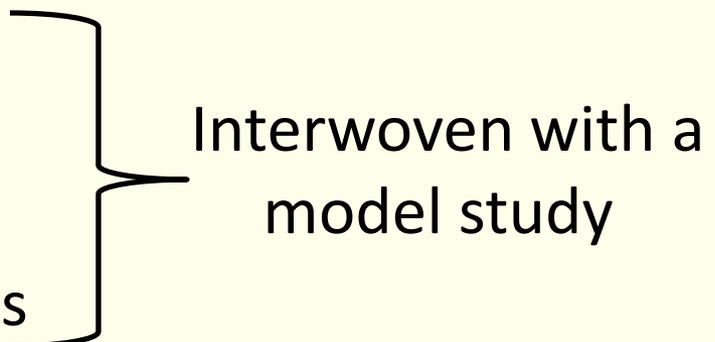
Brian Heist

9/12/2014

“‘Grounded theory’ is perhaps one of the most abused phrases in the qualitative health literature. Increasingly researchers are making claims to have used a grounded theory approach in what emerges as rather superficial thematic content analysis.”

Green and Thorogood Qualitative Methods for Healthcare Research Sage Press, 2009.

Organization of this presentation

- Definition of Grounded Theory
 - Niche in research
 - A brief history
 - When to use Grounded Theory
 - Methodologic Fundamentals
 - Difference from thematic analysis
 - Personal experiences
- Interwoven with a model study
- 

Grounded Theory is

“a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon” (Strauss and Corbin, 1998:24)

Where does Grounded Theory fit
amongst research methods?

A quick review:
What is qualitative research?

Quantitative vs. Qualitative research basics

	Quantitative research	Qualitative research
Questions addressed		
Design essence		
Data collection instrument		
Primary data format		
Underlying epistemology		
Examples		

Quantitative vs. Qualitative research basics

	Quantitative research	Qualitative research
Questions addressed	How much? How many?	How? Why?
Design essence		
Data collection instrument		
Primary data format		
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Examples		

Quantitative vs. Qualitative research basics

	Quantitative research	Qualitative research
Questions addressed	How much? How many?	How? Why?
Design essence	Deductive, Structured, predetermined	Inductive, Flexible, responsive
Data collection instrument		
Primary data format		
Underlying epistemology		
Examples		

Quantitative vs. Qualitative research basics

	Quantitative research	Qualitative research
Questions addressed	How much? How many?	How? Why?
Design essence	Deductive, Structured, predetermined	Inductive, Flexible, responsive
Data collection instrument	Scales, surveys, questionnaires	The researcher(s)
Primary data format		
Underlying epistemology		
Examples		

Quantitative vs. Qualitative research basics

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Data collection instrument	Scales, surveys, questionnaires	The researcher(s)
Primary data format	Numbers, Statistics	Words, Pictures
Underlying epistemology		
Examples		

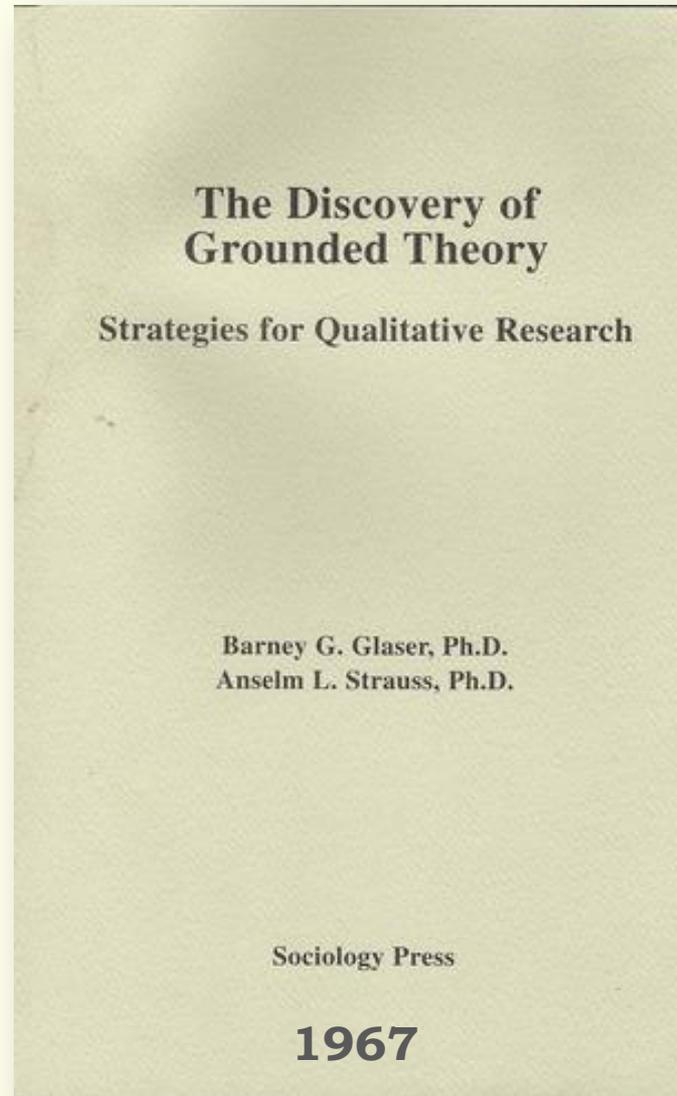
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Underlying epistemology	Positivism	Post-positivism, Constructionism
Examples		

Quantitative vs. Qualitative research basics

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Underlying epistemology	Positivism	Post-positivism, Constructionism
Examples	RCT Cohort study Case-control study	Thematic analysis * Ethnography Phenomenology Grounded Theory

A brief history of Grounded Theory

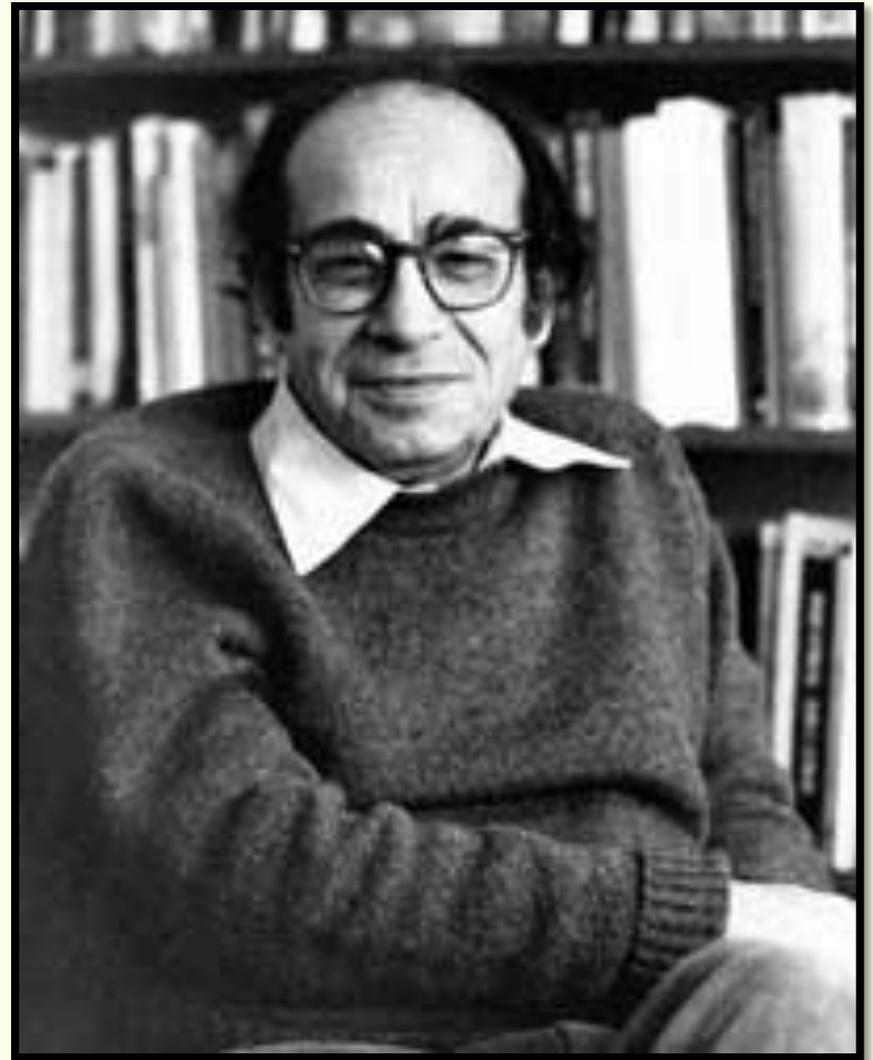


- Operationalized qualitative research
- Generated “valid” results

Grounded Theory is

“a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon” (Strauss and Corbin, 1998:24)

Subsequent divergent epistemology



When to use Grounded Theory:

You want to develop a substantive theory.

You want a deep explanation for a situation.

You're asking,

“What’s going on here?”

Why are people acting the way they do?

How are they doing what they do?

Examples of medical education studies
labeled as “grounded theory” studies

Original Communications

Capturing the teachable moment: A grounded theory study of verbal teaching interactions in the operating room

Nicole K. Roberts, PhD,^a Michael J. Brenner, MD, FACS,^b Reed G. Williams, PhD,^b
Michael J. Kim, MD,^b and Gary L. Dunnington, MD, FACS,^b *Springfield, IL*

Surgery
May 2012

Understanding the Effects of Short-Term International Service–Learning Trips on Medical Students

Nauzley C. Abedini, Larry D. Gruppen, PhD, Joseph C. Kolars, MD, and Arno K. Kumagai, MD

Academic Medicine, Vol. 87, No. 6 / June 2012

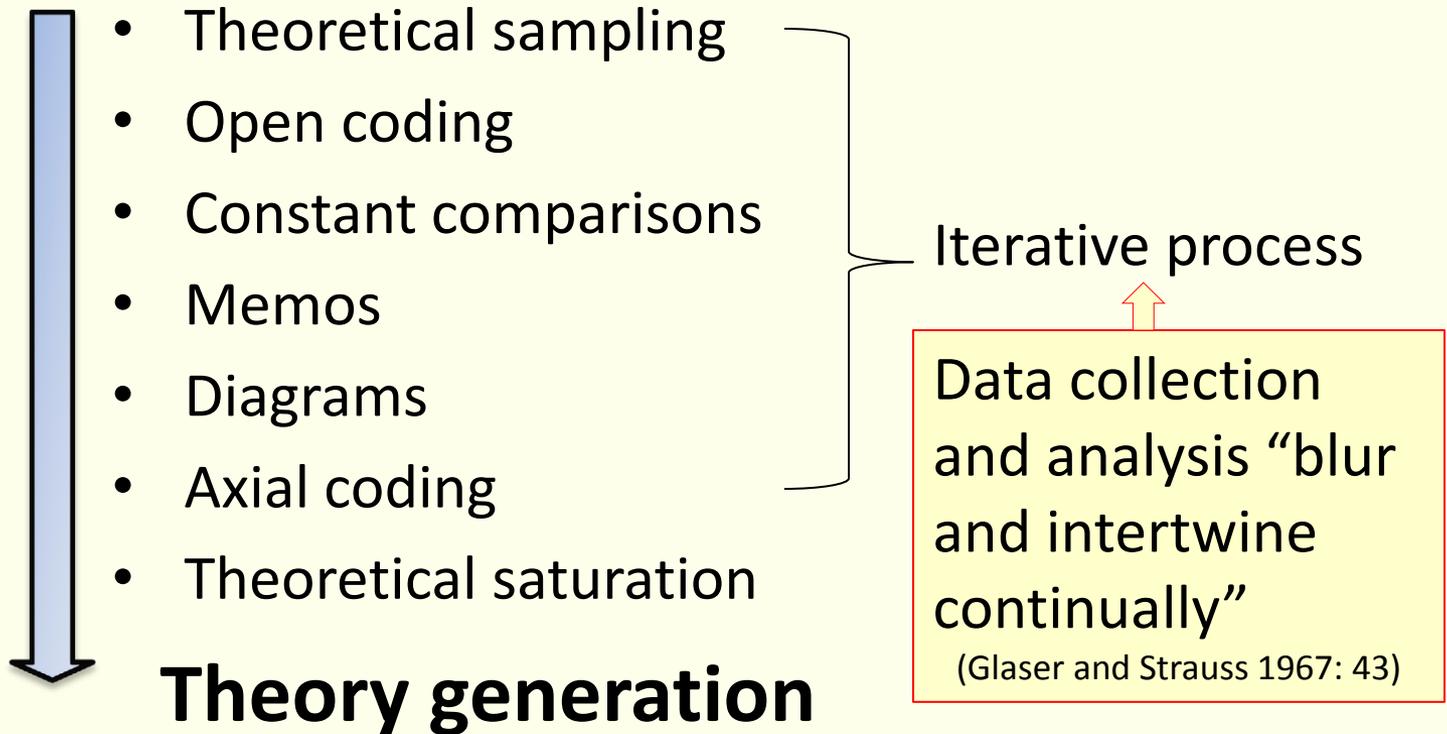
Virtual patient design: exploring what works and why. A grounded theory study

James Bateman,^{1,2} Maggie Allen,² Dipti Samani,² Jane Kidd¹ & David Davies¹

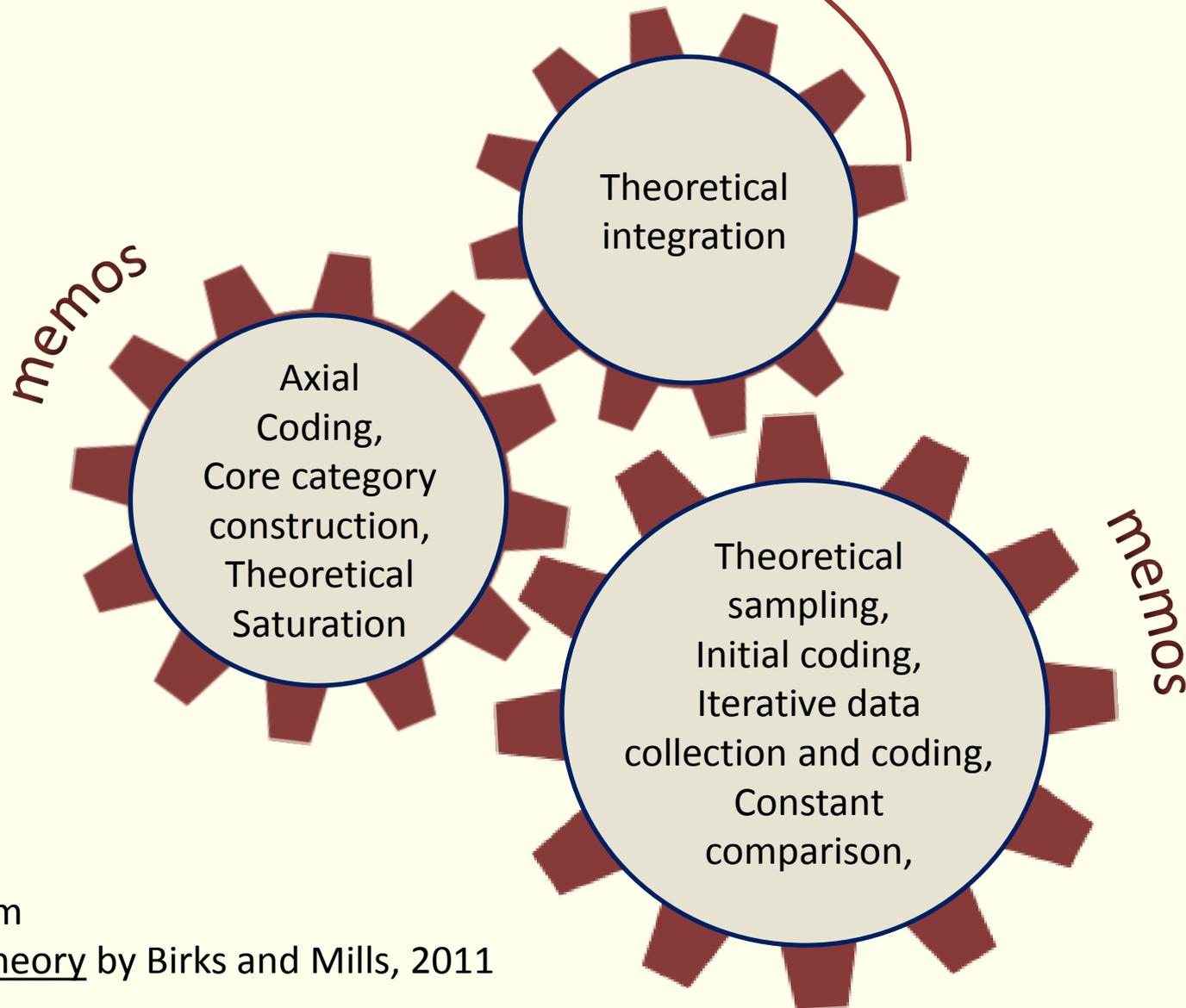
Medical Education 2013; 47: 595–606

Doing Grounded Theory

Methodologic Fundamentals of Grounded Theory

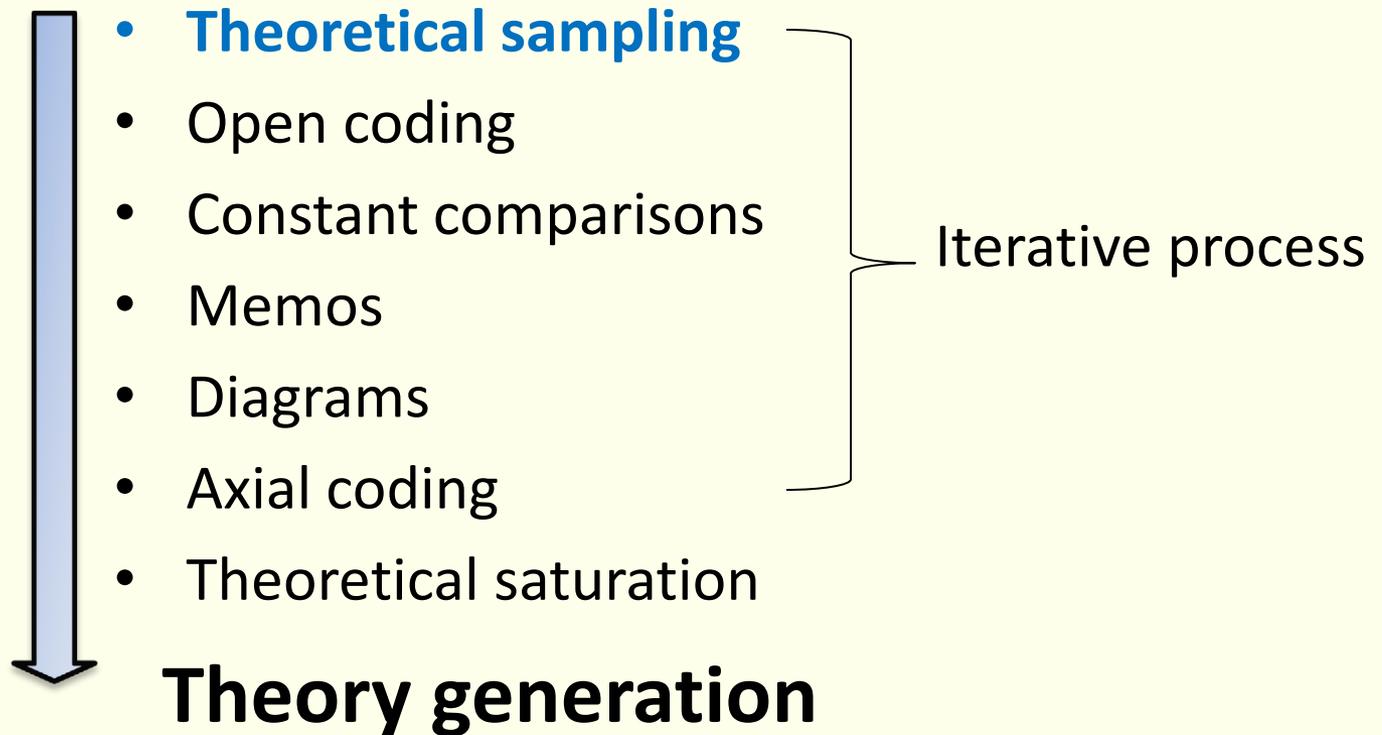


Theory generation



Adapted from
Grounded Theory by Birks and Mills, 2011

Methodologic Fundamentals of Grounded Theory



Theoretical sampling of data

Responsive to emerging categories
and concepts:

*“the analyst jointly collects, codes
and analyses his data and then
decides what data to collect next
and where to find them”*

(Glaser and Strauss, 1967: 45)

Theoretical sampling of data

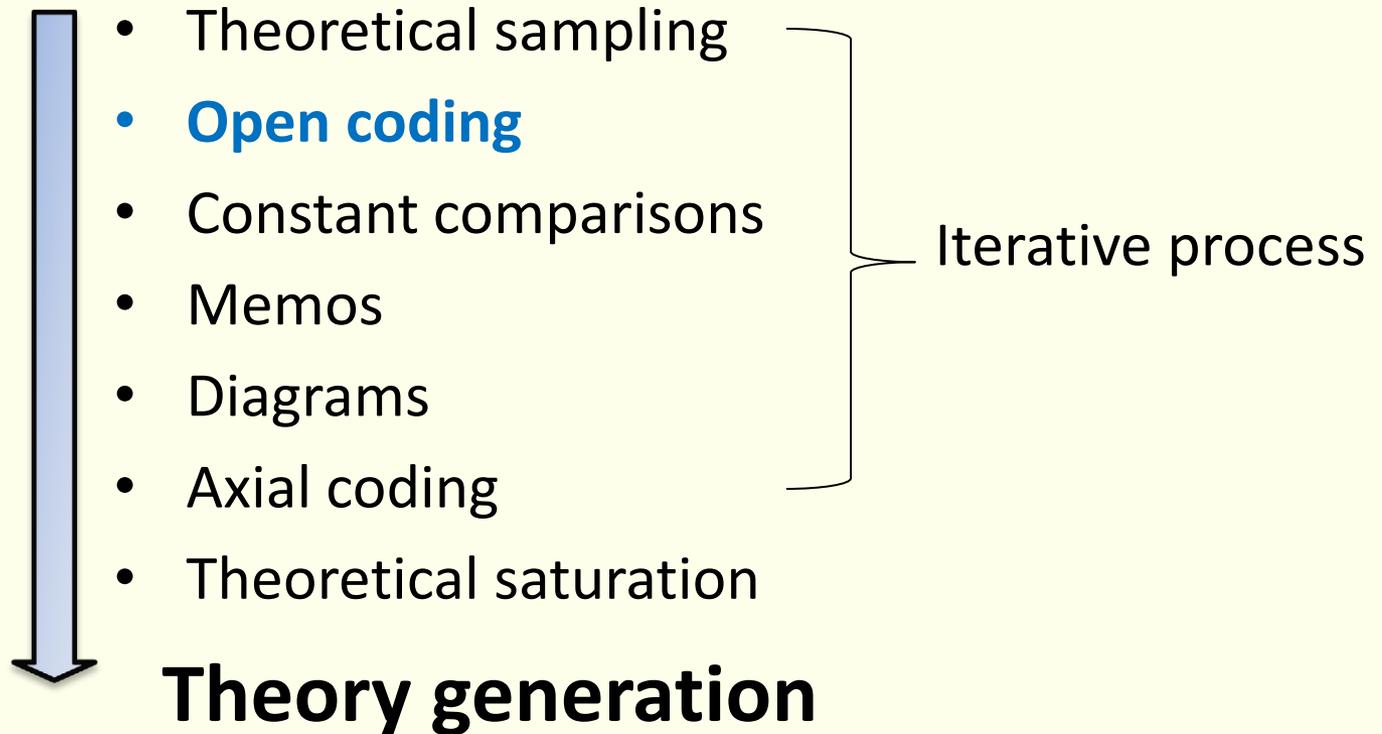
“from people, places, and events that will maximize opportunities to develop concepts in terms of their properties and dimensions, uncover variations, and identify relationships between concepts”

(Strauss & Corbin 2008:143)

Data collected through

- **interviews (including focus groups)**
- **documents**
- **observations**

Methodologic Fundamentals of Grounded Theory



Coding:

What is it?

Example: process coding

Taken from *Saldaña 2009*

Narrative on Spreading Rumors:

The group is small, so

if you say one thing
to one person, and

Saying one thing

then they decide to
tell two people,

Telling others

then those two
people tell two
people, soon

Telling others

everybody knows.

Everybody knowing

A sample for you

Q: What do you think are the benefits of bedside rounds?

P1: Well, I think benefits to people in the rounds and benefits to the patients.

Benefits to people doing the rounds is you get to know the patients better, you can demonstrate historical points like penicillin allergy and physical findings and points and how you discuss things with people, that you don't use med speak to talk to the patients. There are some house officers who are actually very good at communicating with patients and I point out afterwards that the rest of us need to emulate these people and imitate them. The other thing is benefit for patients, that the crew is there, we're interested in them, we are all working together, we all want to help them, and establishing rapport between the group number one and the specific people who are really involved more intimately with the care of the patient.

P 1: 1

different way but I'm curious as to what are your thoughts as what are the positive aspects of bedside rounds or what do you think are the benefits of bedside rounds?

202 P1: Well I, I think ah benefits ah **benefits to people in the rounds and benefits to the patients**. Benefits to people doing the rounds is you get to know the patients better you can ah demonstrate historical points like penicillin allergy and ah, ah physical ah findings and points and how, how you discuss things with people that you don't use med speak to talk to the patients. There, there are some, some house officers who are actually very good at communicating with patients and ah I point out afterwards that ah the rest, the rest of us need to emulate these people and imitate them ah the other thing is benefit for patient ah that the crew is there we're interested in them, we are all working together, we all want to help them ah, (clears throat) and ah establishing rapport that I talked about before ah between the group number one and the specific people who are really involved more intimately with the care of the patient.

203 Q: Do you think quality of care is better from bedside rounds?

204 P1: Oh (laugh) how can I say no, sure, sure.

205 Q: Can you hypothesize a reason why the quality is better I mean I'm hearing all of your reasons-,

P1: well quality is better because ah ah you get more

- Benefits: learners and patients
- Benefits: demonstrate hx points
- Benefits: learners know pts better
- Benefits: demonstrate PE findings
- Benefits: how to communicate without "med speak"
- Debriefing: some residents are great communicators, tell group following encounter
- Benefits: tells pt team is interested in them
- Benefits: rapport building

Open coding (a.k.a. initial coding)

“Fracture” the data

- Apply codes line by line

Develop “theoretical sensitivity”

Developing theoretical Sensitivity

A couple techniques:

- Review meanings of significant words
- Ask, “What if . . .”

. . . you get to know the patients better, you can demonstrate historical points like penicillin allergy and physical findings and points and how you discuss things with people, that you don't use **med speak** to talk to the patients. There are some **house officers** who are actually very good at **communicating with patients** and I point out afterwards that the rest of us need to emulate these people and imitate them. The other thing is benefit for patients, that **the crew** is there, we're interested in them, we are all working together, we all want to help them, and establishing rapport between the group number one and the specific people who are really involved more intimately with the care of the patient.

Open coding continued

Systematic way for researcher to interact with the data to:

- become very familiar with it
- make sense of it

Contrast = *in vivo* coding

documentation of themes as stated by participant



Comments?

Questions?

Our model Grounded Theory study:

Learning from clinical work: the roles of learning cues and credibility judgements

Christopher Watling,¹ Erik Driessen,² Cees P M van der Vleuten² & Lorelei Lingard³

Medical Education 2012; 46: 192–200

doi:10.1111/j.1365-2923.2011.04126.x

Hereafter termed:

“Influential Experiences Study”

“Influential Experiences Study”

Goals:

“. . . we focus on experiences perceived by doctors as having been influential in their learning, and explore the constituents and characteristics of these experiences in order to develop a better understanding of the conditions required for meaningful learning to occur. . .

We ask not only what experiences are considered influential, but also what allows these experiences to resonate with learners.”

“Influential Experiences Study”

Study population:

- Faculty within 5 years of first academic appointment.
(single institution: Schulich School of Medicine and
Dentistry, University of Western Ontario)

Data collection method:

- Individual interviews

Early Coding Scheme : “Influential Experiences Study”

Feedback credibility •The process of deciding what feedback/information can be trusted •Deciding how much weight to place on feedback •Influence of the source/sender of the feedback on its credibility •Which sources of feedback are respected? What earns them respect? •Alignment of feedback with

Influence of feedback influential/neutral
•Comments related to the influence of feedback
barriers to the influence of feedback
•Influence of feedback on the learner
influential •

Learning by observation emulation as observed? (physician comfort ...)
(learning how to do things)

Learner attitudes its influence on learning
feedback, learning
•Motivation for learning
wanting to learn

Learning from the work memorable clinical or work experiences
•Emotional impact of memorable clinical experiences
•Value of supervised teaching vs. simply accumulating clinical experience
•Role of supervisors in debriefing work incidents and the effect of this input
•Clinical outcomes/results as a form of feedback on performance
•Limitations of learning from the work – i.e. When is the ‘feedback’ offered by the clinical work itself less than trustworthy?
•“Growth moments” that signal readiness to move to the next level

Self-assessment •Perceived role and importance of self-assessment during training
•Perceived accuracy of self-assessment
•Influences on self-assessment – how it is informed or constructed

Measuring up •Wanting to measure up to peers •Wanting to please supervisors, meet their expectations, earn their respect
•Not wanting to disappoint/fail
•The effects of the threat of being humbled in front of peers or colleagues on learning

Learning by observation

- Observation and attempted emulation as an approach to learning
- What is being observed? (physician behavior, patient response, one's own comfort ...)
- Comments about “negative” role modeling (learning how *not* to do things)

ent of confidence
to the development
st judgment and
raction between

ces of
uring training
of positive feedback
ng not to come in to
llowed to do a
hical cases and its

The value of
•Rites of passage
of passage)

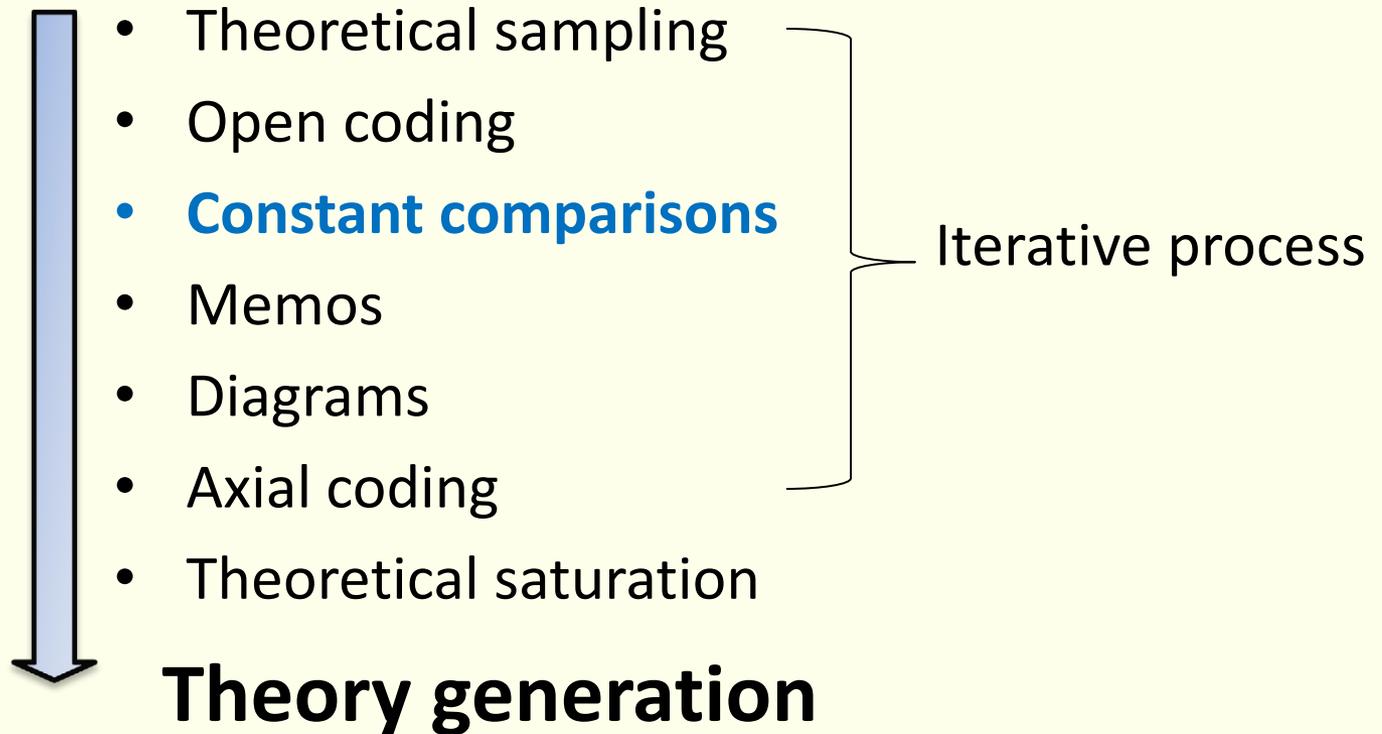
strategies (including
development during

training •Influence (positive or negative) of looming certifying exams on learning

Role models •Comments related to individuals viewed as role models
•What enables someone to become a role model?
•Ideas about the influence of role models

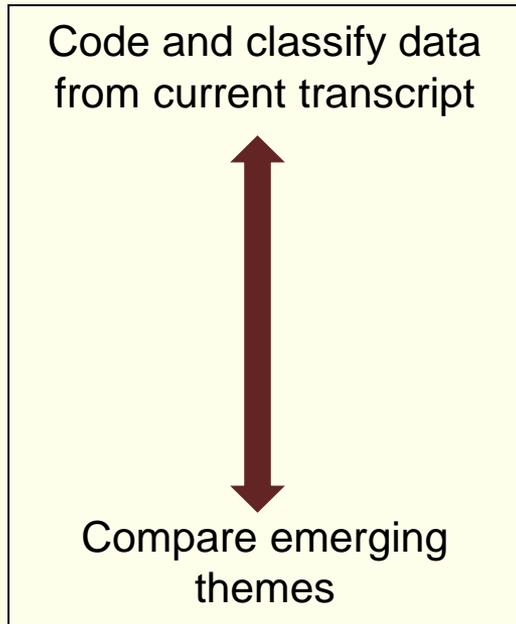
Mentoring •Comments related to mentoring (either explicitly labeled as such or not)
•Comments related to individuals offering advice, guiding career decisions, offering opportunities that were important

Methodologic Fundamentals of Grounded Theory

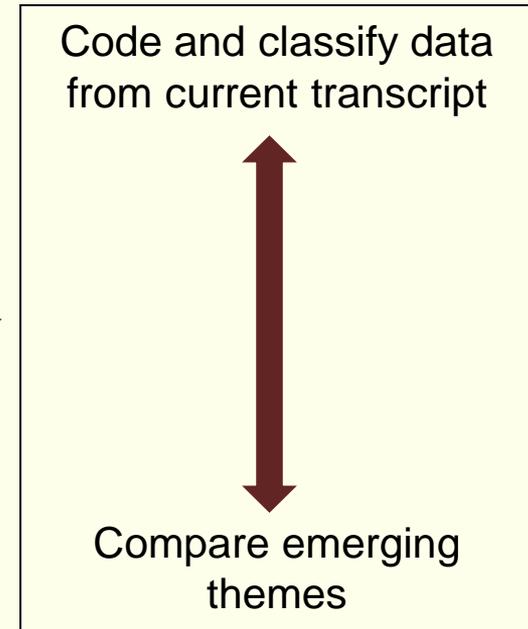


Constant comparison

Within-narrative comparison



Within-narrative comparison



Between-narrative comparison

A horizontal double-headed arrow connects the two boxes, representing the comparison between different narratives.

Another systematic way to increase knowledge of the data

Final coding scheme for “Influential Experiences Study”

Learning by doing/ learning from clinical work

Learning conditions

- a. Autonomy
- b. Collegiality
- c. Influential teachers
- d. Learner attitude
- e. Presence of mentors

Learning cues

- a. Being allowed to do things vs. requiring supervision
- b. Feeling comfortable with tasks
- c. Formal assessments of knowledge and skill
- d. Measuring up (to peers, to standards, to expectations)
- e. Responses of patients and families
- f. Patient or clinical outcomes
- g. Role models

Determining credibility (i.e. of learning cues and experiences)

Receiving feedback

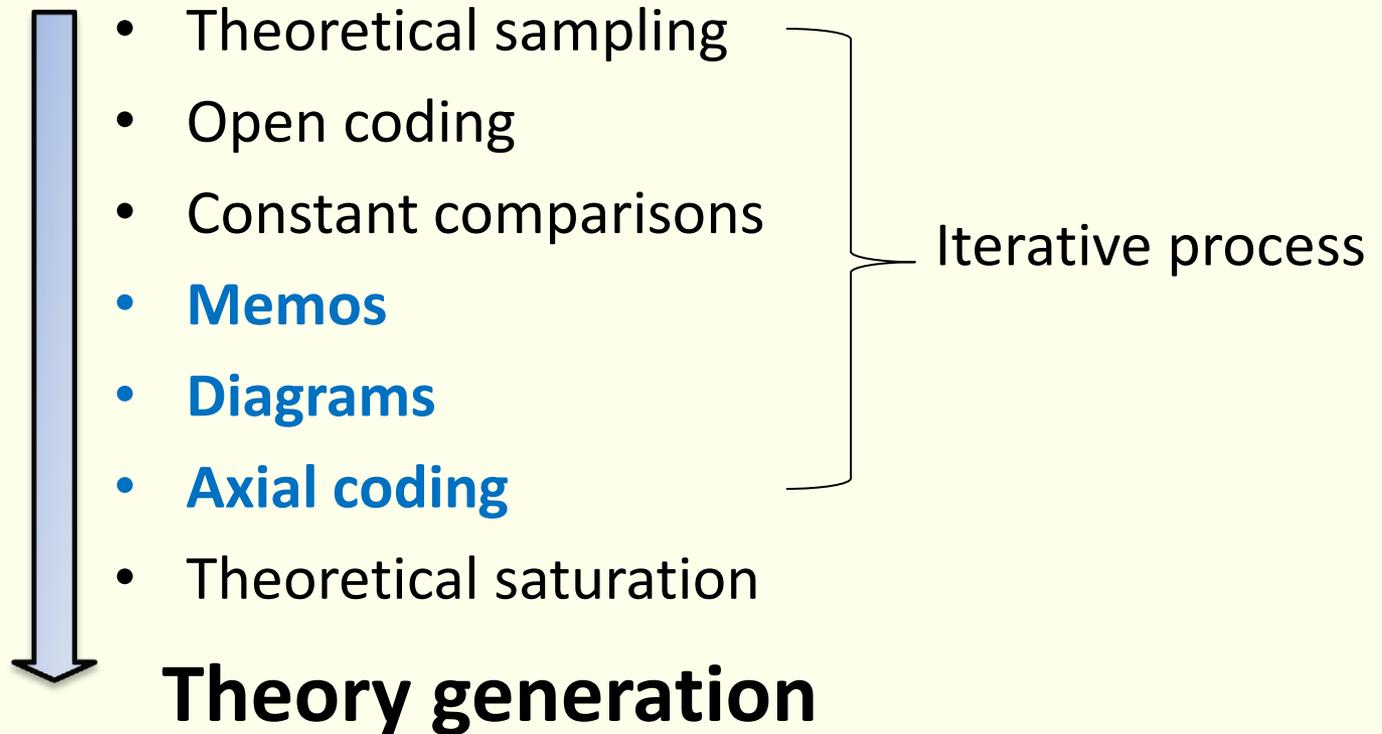
- a. Influence of feedback in general
- b. Debriefing difficult experiences
- c. Preceptors’ responses to learner errors

Learning outcomes

- a. Confidence
- b. Practice change
- c. Fragility of learning from clinical experience

Reflection

Methodologic Fundamentals of Grounded Theory



From codes to concepts

Keeping asking deep questions.

- What is happening here?
- Why are participants acting this way?
- What did the participants mean when they said --?

Use

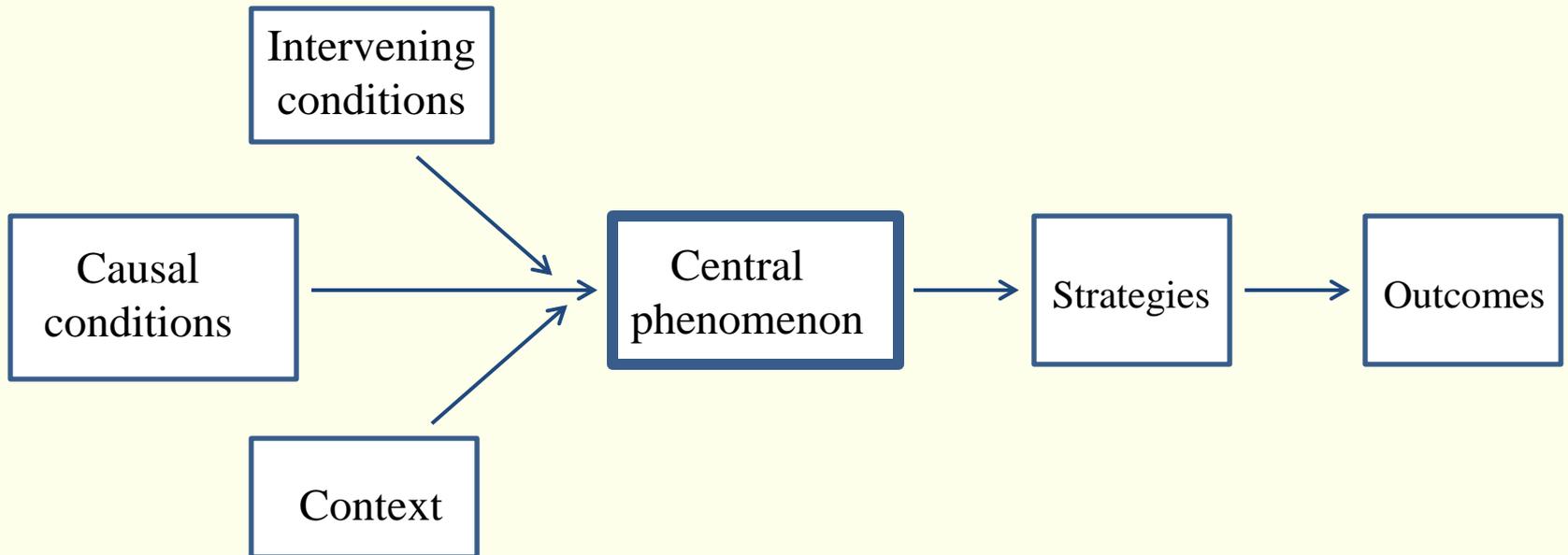
- memos
- diagrams
- Flexibility and creativity (Watling and Lingard 2012)

“Influential Experiences Study”: memos

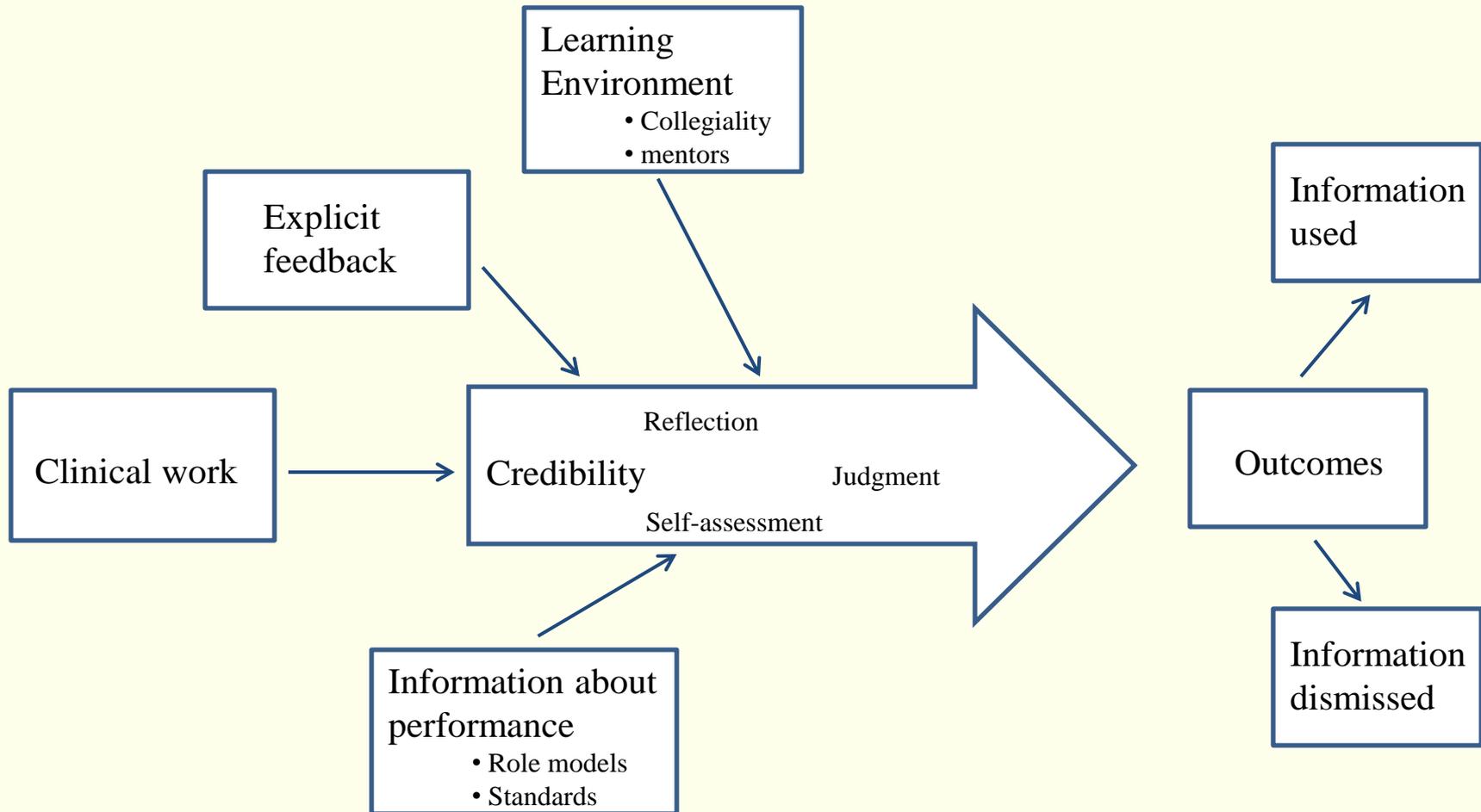
1. Learners consider a number of factors when making judgments about the credibility of the learning information that surrounds them. These factors include whether or not the information aligns with their personal values. If it conflicts with their personal and professional values, it is likely to be judged as not credible and discarded.
2. Credibility of feedback received from a supervisor is strongly linked to the respect the learner has for the supervisor. Respect is derived largely from that individual's performance as a clinician, rather than his or her style of relating to the learner.
3. based on their perceived clinical expertise.
- 4.
5. When feedback from a supervisor is clearly linked to the clinical work, and when the central concern is patient well-being, the feedback is deemed credible (regardless of how it is delivered)
6. Feedback that matches self-assessment is more likely to be deemed credible.
7. Feedback credibility is strengthened when sound rationale or justification accompanies it. The most persuasive rationale is grounded in clinical work and outcomes. Feedback needs to “make sense” in the clinical context.
8. Feedback from patients or families is more likely to be judged as credible.
9. Negative feedback can be judged as credible when accompanied by clear evidence that it is true. Perhaps this evidence is a requirement? In a sense, it is necessary for the learner to decide to agree with the feedback.
10. Feedback deemed not credible may have unintended consequences. (e.g. Feedback is dismissed, learner career choice is affected, etc)Some general comments:Credibility statements mainly relate to determining the credibility of feedback. Does this imply that other performance indicators (e.g. Clinical outcomes) have intrinsic trustworthiness?The judgments that are made are grounded in the clinical work – Is the feedback source good at the work? Does the feedback align with the learner's value system and their approach to their professional work?

Axial coding

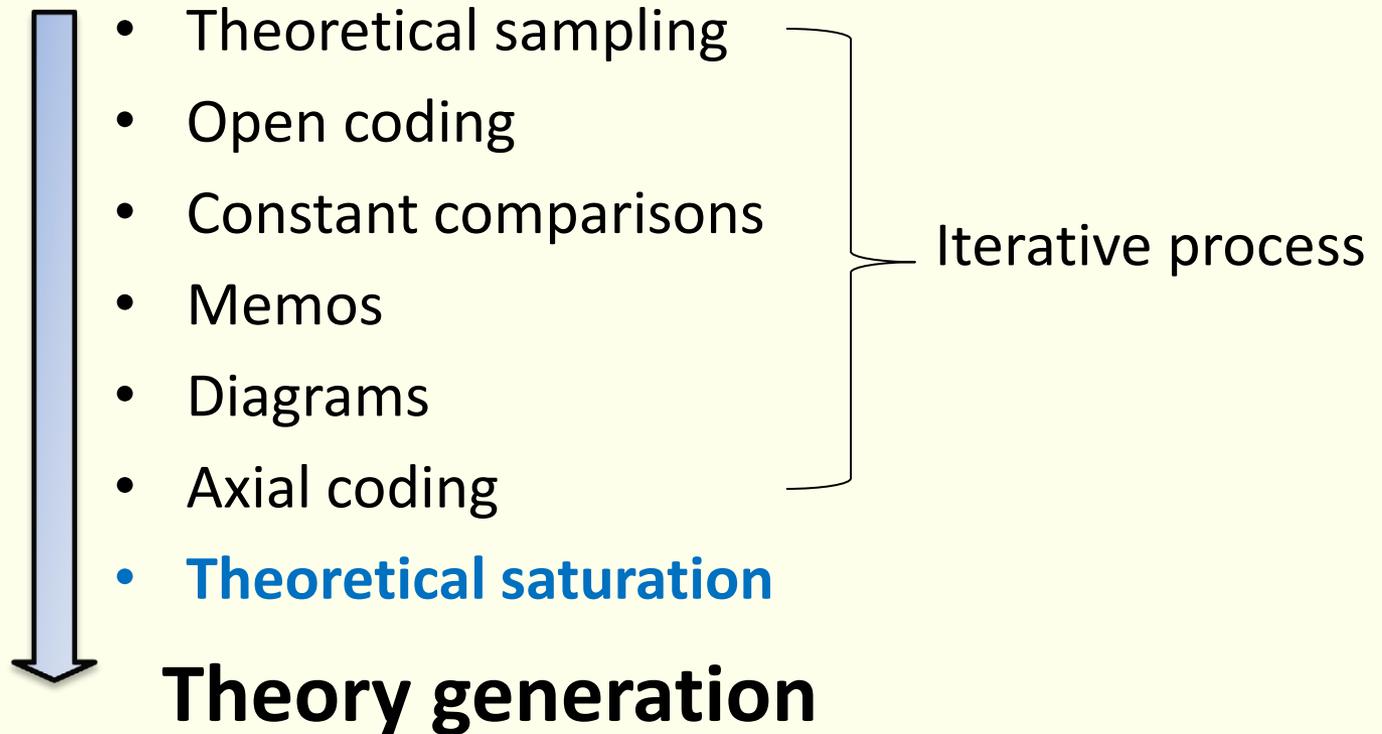
- Identifying relationships between codes
- **Model** adapted from (Strauss and Corbin, 1990)



“Influential Experiences Study”: Example of diagram drawn from data collected



Methodologic Fundamentals of Grounded Theory



Theoretical Saturation

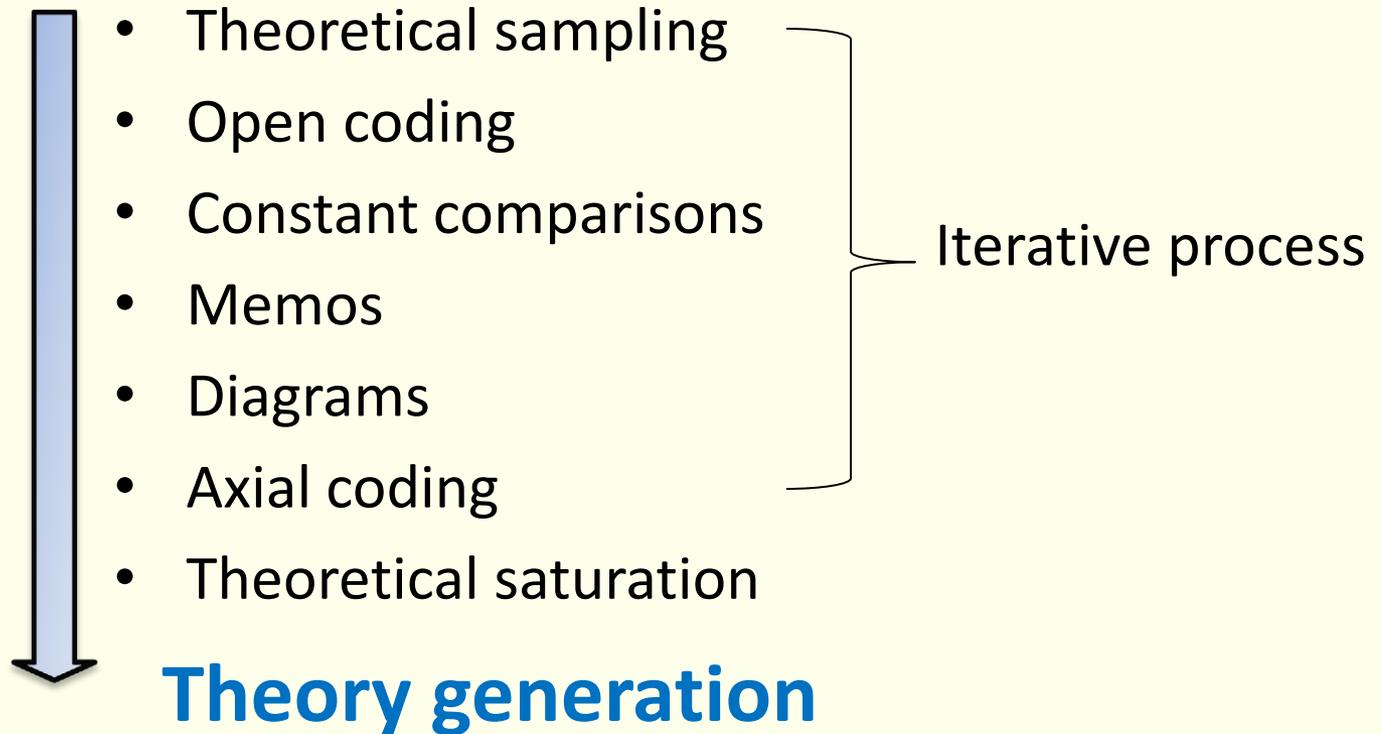
State when

“sufficient data has been collected for the researcher to have gained an adequate understanding of the dimensions and properties of the concepts and themes that have emerged.”

(Watling and Lingard 2012)

Rather than absence of new information from continued data collection

Methodologic Fundamentals of Grounded Theory



Moving from Thematic Analysis to Grounded Theory takes:

- Effort
- Discipline
- Constant thinking
- Inspiration and creativity
- Experience?

Combine all of these and you may develop a “theory” of what’s going on.

So what is a “theory”?

“... an explanatory scheme comprising a set of concepts related to each other through logical patterns of connectivity”

Birks and Mills 2011

(The definition I like best)

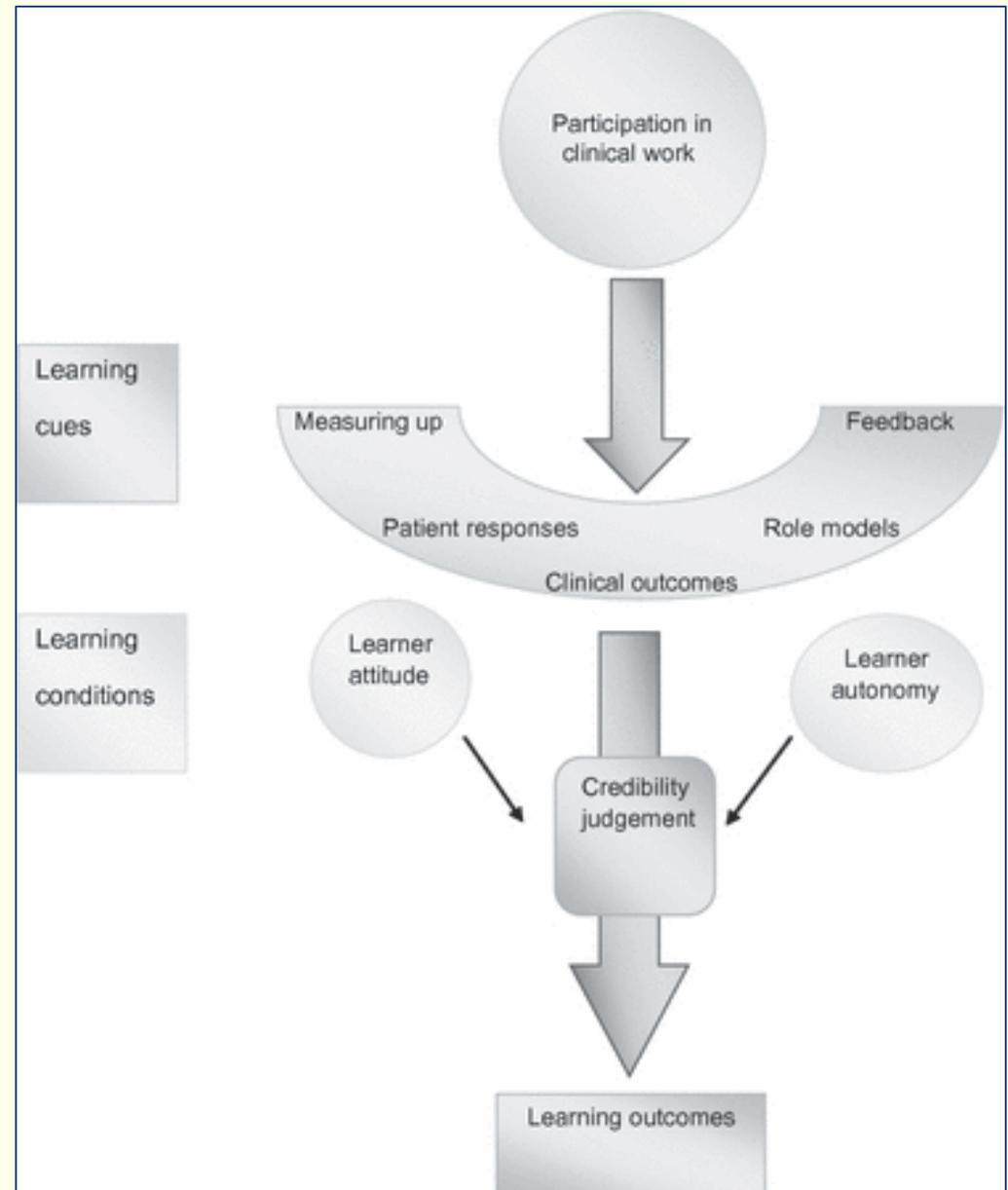
The “theory” is articulated through a storyline that employs “descriptive narrative about the central phenomenon of the study.”

Strauss and Corbin 1990

Diagrams also commonly used.

“Influential Experiences Study”: Resultant story and conceptual diagram

“Learning occurs through the accumulation and processing of clinical experiences. As they participate in clinical work, learners can attend to a variety of sources of information, or ‘learning cues’, that facilitate the interpretation of the experience and the construction of knowledge from it. These cues include feedback, role models, clinical outcomes, patient or family responses, and comparisons with peers. The integration of a cue depends on the learner’s judgement of the credibility of the information. . . Various learning conditions, including the learner’s own attitude and values, shape how these credibility judgements are made and how reflection proceeds.”





‘Grounded Theory’ in the Med Ed literature and personal experience

“‘Grounded theory’ is perhaps one of the most abused phrases in the qualitative health literature. Increasingly researchers are making claims to have used a grounded theory approach in what emerges as rather superficial thematic content analysis.”

Green and Thorogood Qualitative Methods for Healthcare Research Sage Press, 2009.

Grounded Theory is

**sometimes misunderstood and
unappreciated by reviewers.**

“The lack of a control group is a huge problem.”

“How did the authors measure internal consistency or reliability of the transcript analysis?”

Grounded Theory is

**sometimes misunderstood by authors
including me.**

“You have not used your results to build theory nor a model around bedside teaching or the process for bedside teaching. . . Thus, grounded theory as your form of methodology will need to be removed from the manuscript.”

“What they describe however is not quite what I consider to be grounded theory. . .

There is no strong argument to support the use of grounded theory. . .

If I were in the authors position, I would want to try to identify a qualitative expert to see if they could not guide the group in taking a deeper approach to data analysis.”

Grounded Theory is

“a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon” (Strauss and Corbin, 1998:24)

References

Birks, M. a. J. M. (2011). Grounded Theory. Los Angeles, Sage Press.

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Proposed Criteria for Grounded Theory studies

(Glaser & Strauss 1967)	(Corbin & Strauss 2008)	(Charmaz 2006)
<ul style="list-style-type: none"> •readily understandable •“fit” the substantive area to which it was applied •sufficiently general to be applied to a variety of diverse daily situations 	<ul style="list-style-type: none"> •“fit” (i.e. findings resonate with both the professionals for whom the research was intended and study participants) •Usefulness. •quality criteria: <ul style="list-style-type: none"> ▪development of concepts ▪ logic ▪Depth ▪Variation ▪Creativity ▪Sensitivity ▪evidence of memos 	<ul style="list-style-type: none"> •Credibility (logic and conceptual grounding) •Originality (significance) •Resonance •Usefulness



096 **I'm looking at her labs.**

097

098 **Laboratory studies:**

099

100 Leukocyte count 7800 μL ($7.8 \times 10^9/\text{L}$) with normal differential

101 Bilirubin (total) 12.0 mg/dL (205.2 $\mu\text{mol/L}$) - "**Elevated.**"

102 Bilirubin (direct) 5.6 mg/dL (95.6 $\mu\text{mol/L}$) - "**Elevated, as well.**"

103 Aspartate aminotransferase 23 U/L

104 Alanine aminotransferase 35 U/L

105 Alkaline phosphatase 464 U/L - "**Certainly elevated.**"

106 Antinuclear antibody titer Negative

107 Anti-smooth muscle antibody Negative

108 Antimitochondrial antibody Negative

109

110 **Looks like they also ran a bunch of rheumatologic tests, which are negative.**

111

112 **Ultrasound shows normal caliber of the hepatic ducts and normal gallbladder without wall thickening.**

113

114 Which of the following should be done next?

115

116 A. Cholecystectomy

117 B. Endoscopic retrograde cholangiopancreatography

118 C. Liver biopsy

119 D. Observation

120

121

122 "So, in this case, the values show why she has elevated bili and this new jaundice and nausea. She is 19 and she just had Bactrim. I'm thinking maybe there's some sort of drug-induced issue. Maybe I'm thinking she has an issue with some hemolysis. Maybe she has G6PD deficiency, which does need (A). I'm looking through the answers. So, she doesn't have cholelithiasis, so I don't think in this case, she needs a liver biopsy, for sure. It's either (B) or (D). It's like ERCP. I'm trying to see if there is any reason why she... Like the Alk phos is 464. That could be because of either bone or because of something in her biliary duct. The gallbladder has no wall thickening. So, in this case, I'd probably choose (D)."

123

☒ reading question and all answer choices

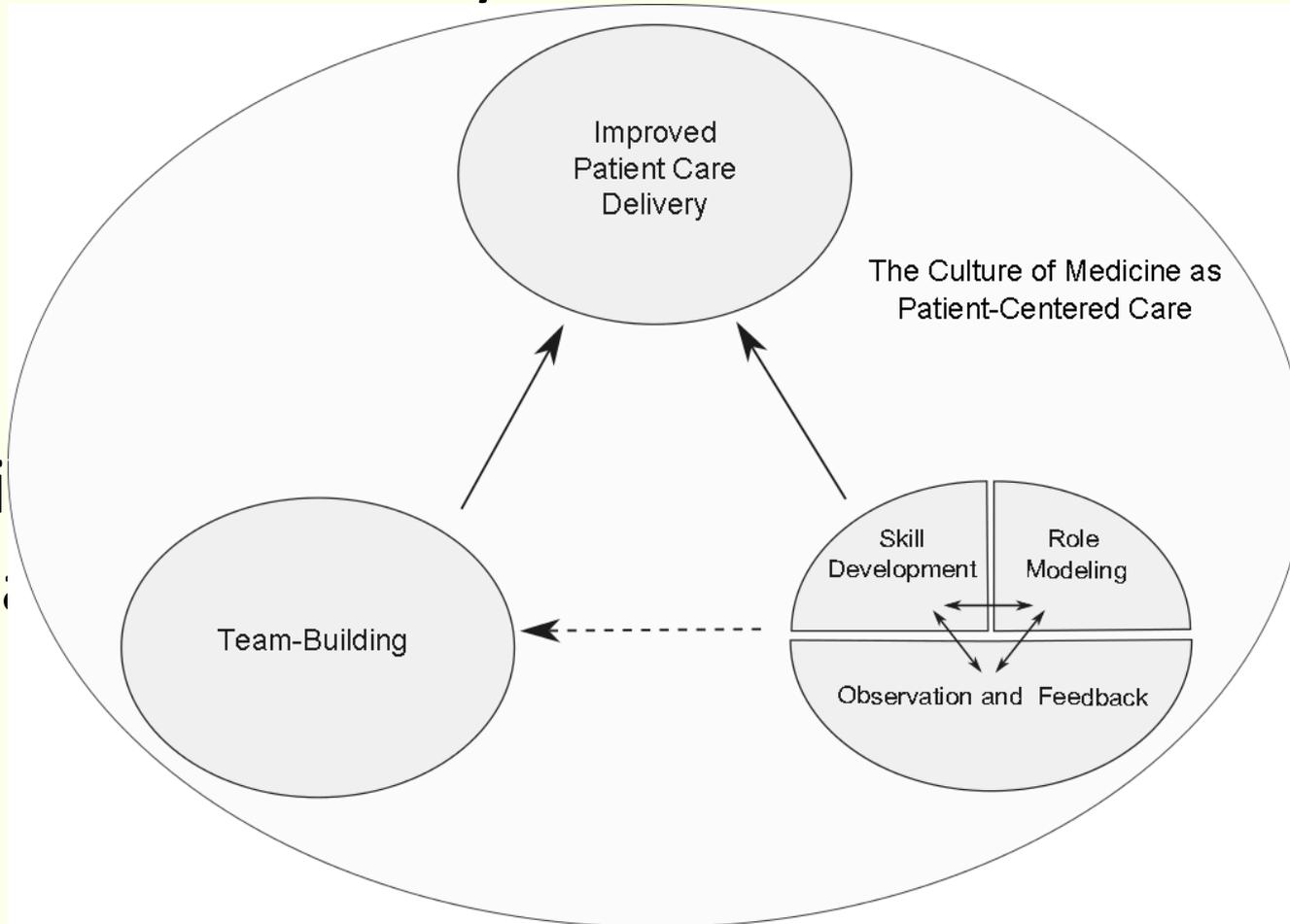
☒ summarizes briefly, focusing on KF with interpretation. Proposed diagnosis. (this is a "what should be done next?")

☒ Excludes three answers systematically (and correctly) but with incomplete, unclear, and incorrect justification.

☒ Selects lone remaining answer choice (correct) without justification from data.

- The Value of Bedside Rounds – A Multi-Center Qualitative Study

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