Instrument Design 101

Diva Dhar

Policy and Training Manager

J-PAL at IFMR
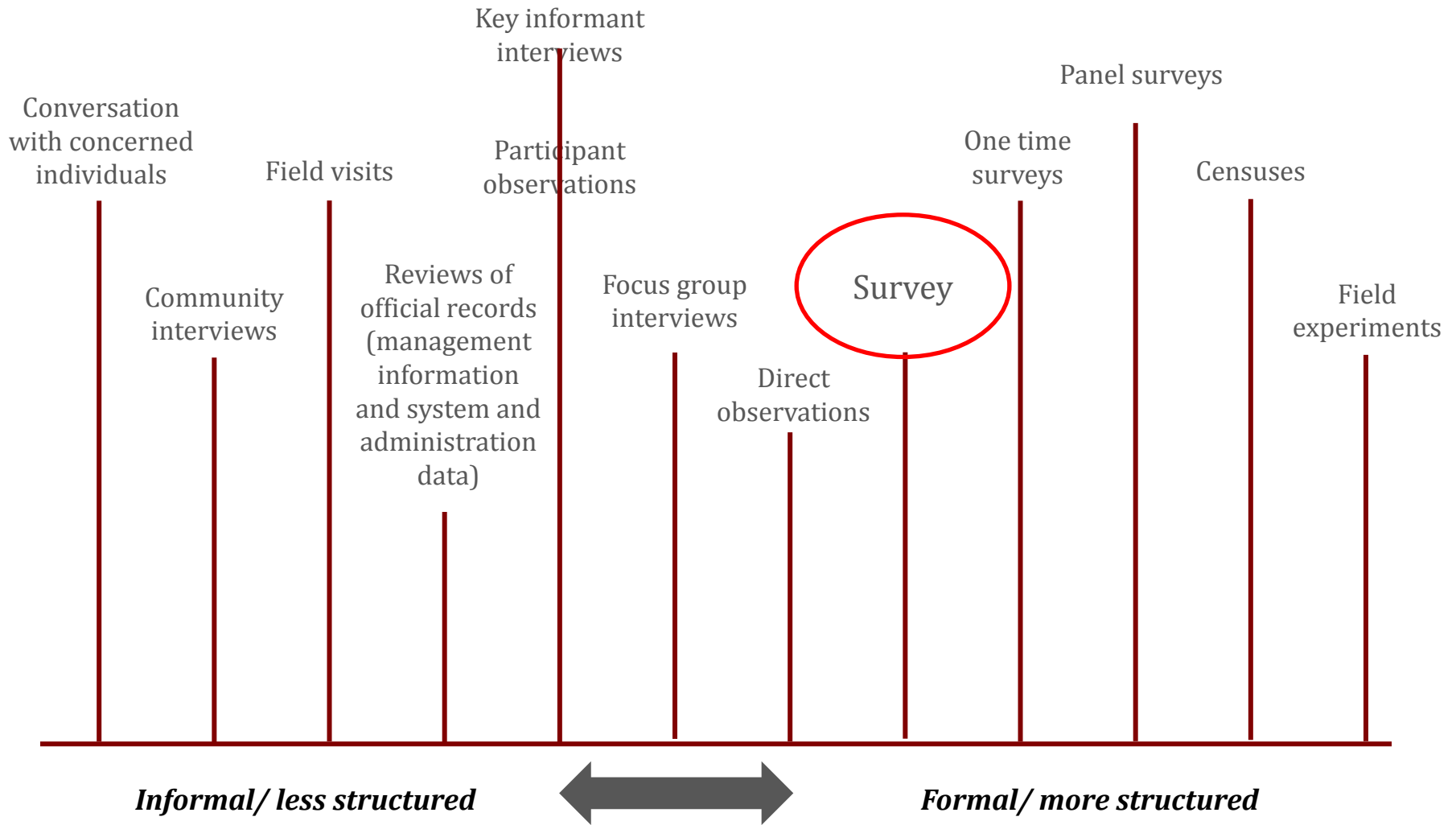
Outline of lecture

❖ Methods of data collection

❖ Deciding what to ask

❖ Deciding who to ask

❖ Writing and wording questions

❖ Structuring and formatting

❖ Questionnaire design resources

Methods of data collection

❖ Administrative data

❖ Surveys- household/individual

❖ logs/diaries

❖ Qualitative – eg. focus groups, RRA

❖ Games and choice problems

❖ Observation

❖ Health/Education tests and measures

Key informant interviews

Panel surveys

Conversation with concerned individuals

Participant observations

One time surveys

Censuses

Field visits

Community interviews

Reviews of official records (management information and system and administration data)

Focus group interviews

Survey

Field experiments

Direct observations

Informal/ less structured

Formal/ more structured

Deciding what to ask: Purpose of the Questionnaire

❖ Each question should relate to the study and theory of change

  ➢ Covariates

  ➢ Measurement outcomes

❖ List all indicators for what you intend to measure

  ➢ Use participatory approach to develop indicators (existing instruments, experts, beneficiaries, stakeholders)

  ➢ Assess based on feasibility, time, cost and importance

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Deciding what to ask: Modules

❖ "Modules" =components or sub-sections of instrument

❖ Each module captures a different theme

❖ Logical order, from

  general->specific,

  factual->attitudinal/behavioral,

  least sensitive->most sensitive

❖ Watch out for priming and question order

Deciding what to ask: Units of Observation

Choosing Modules: Units of Observation

Often this is simple: For example, sex and age are clearly attributes of individuals. Roofing material is attribute of the dwelling.

Not always obvious: To collect information on credit, one could as household's

1. All current outstanding loans.
2. All loans taken and repaid in the last one year.
3. All "borrowing events" (all the times a household tried to borrow, whether successfully or not).

→ Each of the three units of observation has its analytic benefits…and biases

Deciding who to ask: Target respondent

❖ "Target respondent": should be most informed person for each module. Respondents for each module can vary.

❖ For example: to measure use of TLM, should we survey the headmaster? Teachers? SMC? Parents? Students?

❖ Choice of modules decides target respondent, and target respondent shapes module design.

Deciding how to ask: Writing and Adapting Questions

A. Type of question

B. Wording of the question

C. Time-frame/Recall Periods

A. Estimation Technique

B. Unit of Measurement

C. Detailed coding of answer choices

A) Types of Questions

❖ Close-ended versus Open-ended

❖ Single vs. Multiple Response

❖ Ranking

❖ Rating

A) Types of Questions

❖ Open-Ended versus Close-Ended:

  ➢ Why don't you send your child to school?

❖ Gives precise judgments;

  But….if you are concerned, as most surveys are, in summarizing replies to produce picture of population, better approach is probably a closed ended question:

OR

❖ Do you not send your child to school because:

  ➢ Nearest school is too far away

  ➢ Teacher does not come

  ➢ Need child to work in the field

A) Types of Questions

❖ **Single vs. Multiple Response**

Do you want respondent to give single or multiple answers?

❖ **Question formats: Likert ("Rating") Scales**

Example: Boys should be allowed to get more opportunities and resources for education than girls (strongly agree, agree, neutral, disagree, and strongly disagree)

AVOID asking descriptive terms for facts: ask for numerical estimate.

➢ <u>Inaccurate</u>: How often do you deposit savings in your account? Never, hardly ever, sometimes, constantly

➢ <u>Accurate:</u> In the last 1 month, how many times did you deposit savings?
Number of times_____.

A) Types of Questions

❖ Ranked Responses

Sometimes useful for respondent to rank a set of options by numbering

Example: Which Teaching-Learning Materials do you use?

Options: Workbooks, flipcharts, textbooks, maps, flash cards, games etc.

Which teaching-learning materials do you use most often?

(Rank the top 3)

Trouble spots:

➢ Assumes respondent feels differently about each item

➢ Assumes respondent knows enough about each item to make a comparative judgment

B) Clear definitions and Precise wording

❖ How do you define a household?

  ➢ Is it "A 'household' is usually a group of persons who normally live together and take their meals from a common kitchen/common cooking unless the exigencies of work prevent any of them from doing so" as in the Census of India

  ➢ Is it "A 'household' consists of two types of people: 1) people who usually live in the household and 2) people who stayed in the household the night before the day of the survey." as in the DLHS

B) Clear definitions and Precise wording

❖ How do you define income?

➢ Any activity with compensation?

➢ What if compensation is in the form of rice/wheat/maize?

➢ Rent?

➢ Pension or retirement income?

➢ Welfare payments?

B) Clear definitions and Precise wording

Question: "What proportion of children do not know the basics?"

Questions: "Do officers monitor the schools regularly?'

Wording of the questions should be precise, not ambiguous

C) Recall Periods

Trade off potential recall (memory) bias from long period reporting against potential variance from short periods

Example, consumption:

❖ Frequently purchased items (e.g. food), recall period between one week and one month

❖ When practical: diaries for a week or two

❖ Durable goods: annual recall basis

→ Reference periods can be different across questions, and sections

→ Different recall periods can present a problem when combining or comparing data across modules

D) Estimation

Estimation is important, but can be tricky

❖ Provide tools and benchmarks

❖ Break down the calculations

❖ Cross-check with multiple sources

E) Detailed Response Coding

❖ <u>Designing good response codes</u> requires strong knowledge of the phenomena being studied.

➤ Background research and possible qualitative research are handy here. See similar questionnaires.

➤ Ideally responses to almost all questions should be given code numbers, and only code numbers, as opposed to words or phrases, should be recorded on the questionnaire and entered

E) Detailed Response Coding

❖ **Specifying Wording – Pre-coding**

Pre-coding requires that codes be clear, simple, and

1. **mutually exclusive**;

2. that they **exhaust all likely answers** ,

3. that **respondents will not all provide the same response**,

4. and that **none of the codes apply to only a handful of respondents**

 To ensure codes encompass all possible answers , add "other (specify⎯⎯⎯)" code to questions where precoding each possible response is impossible/ inconvenient
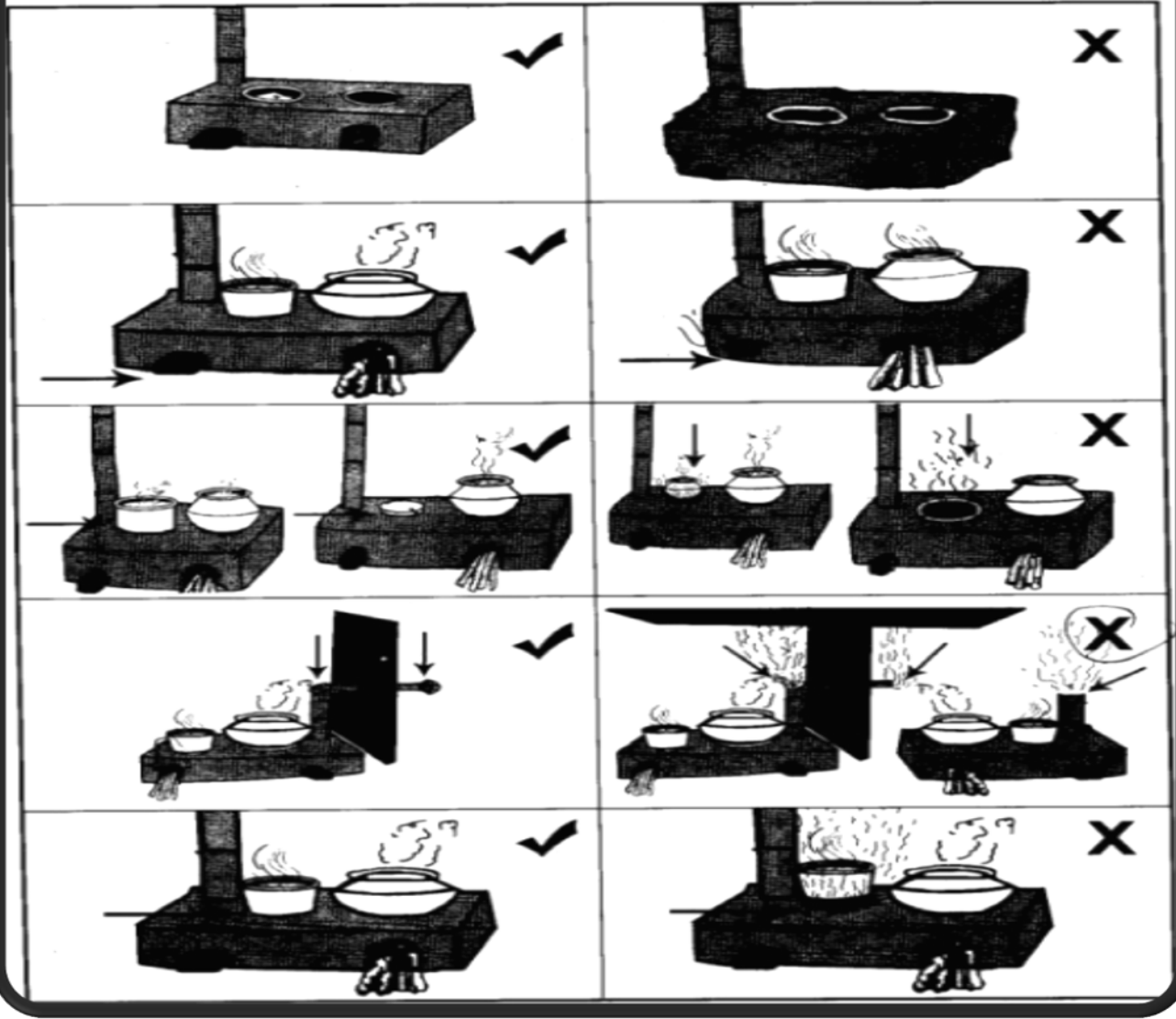
Structuring and Formatting

❖ **Skips**

❖ **Surveyor Instructions**

A2.13	Has this person ever attended school (formal or informal)?	Yes				1	
		No				2	→ A2.16
A2.14	What is the highest class of school this person has *completed*?	Did not complete Class 1				0	
		Class 1				1	
		Class 2				2	
		Class 3				3	
A2.15	How many days of school did the person attend in the last 14 days	Record Number					
A2.15a	Did the person miss any days of school due to illness	Yes				1	
		No				2	→ A2.16
		Will not answer				-888	→ A2.16
		Does not know				-999	→ A2.16
A2.16	*INTERVIEWER CHECKPOINT:* Is this person 13 yeas old or older?	Yes				1	
		No				2	→ A2.20

Structuring and Formatting

Consistent styles->

A1.14	Is he/she studying this year or going to angawadi/balwadi?	YES................................1 NO...................................2 DO NOT KNOW...−999	
A1.15	What is his/her marital status? CIRCLE ALL THAT APPLY	MARRIED, LIVING WITH SPOUSE.............................1 MARRIED, NOT LIVING WITH SPOUSE YET ....2. SEPARATED/DIVORCED...3. SPOUSE/PARTNER DIED....4 NATA......................................5 NEVER MARRIED/DONE NATA..................................6	→ A1.20
A1.16	How many spouses and/or partners does this person have now?	☐	
A1.17	Do any of these spouses and/or partners live in this house?	YES................................1 NO...................................2	→ A1.19
A1.18	What is/are the name(s) of his/her spouse(s) and/or partner(s)? INTERVIEWER: WRITE IN CODE NUMBER(S) FROM BOARD	1 ☐☐ 2 ☐☐ 3 ☐☐	
A1.19	In what year, or at what age, did he/she first get married or do a 'nata'?	YEAR ☐☐☐☐ AGE ☐☐ DO NOT KNOW...−999	
A1.20	Is this person mentally retarded or disturbed?	YES................................1 NO...................................2	
A1.21	Is this person handicapped?	YES................................1	

Questionnaire Design Resources

❖ Please don't forget to grab the hand-outs!

➢ Guidelines on design and piloting

➢ List of helpful books, papers

➢ Literature reviews and survey questions

THANK YOU!

Questions?