CS449/649:
Human-Computer Interaction
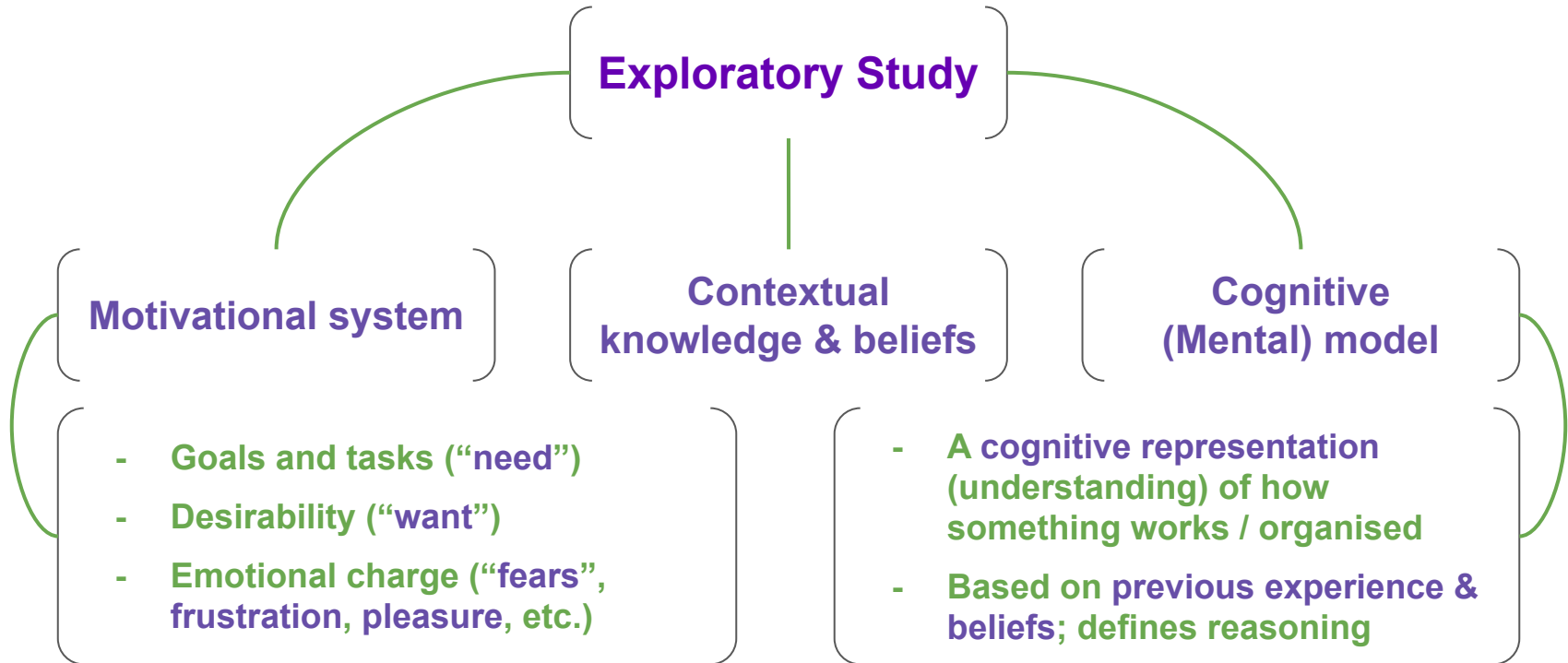
Spring 2019

Lecture V

Anastasia Kuzminykh and Edward Lank

Understand Your Users: Exploratory Studies

Exploratory Study

Motivational system

Contextual knowledge & beliefs

Cognitive (Mental) model

- **Goals and tasks ("need")**
- **Desirability ("want")**
- **Emotional charge ("fears", frustration, pleasure, etc.)**

- **A cognitive representation (understanding) of how something works / organised**
- **Based on previous experience & beliefs; defines reasoning**

Understand Your Users: Exploratory Studies

There is a product	There is NO product

- True-Intent Studies
- Remote Unmoderated Usability Studies
- Intercept Surveys
- Clickstream Analysis

- Questionnaires
- Observations
- Interviews

- Diary/Camera Studies
- Participatory Design

- Ethnographic Field Studies
- Contextual inquiry

Understand Your Users: Exploratory Studies

- Questionnaires
- Observations
- Interviews

- Diary/Camera Studies
- Participatory Design

- Ethnographic Field Studies
- Contextual inquiry

Understand Your Users: Exploratory Studies

- **Questionnaires**
- Observations
- Interviews
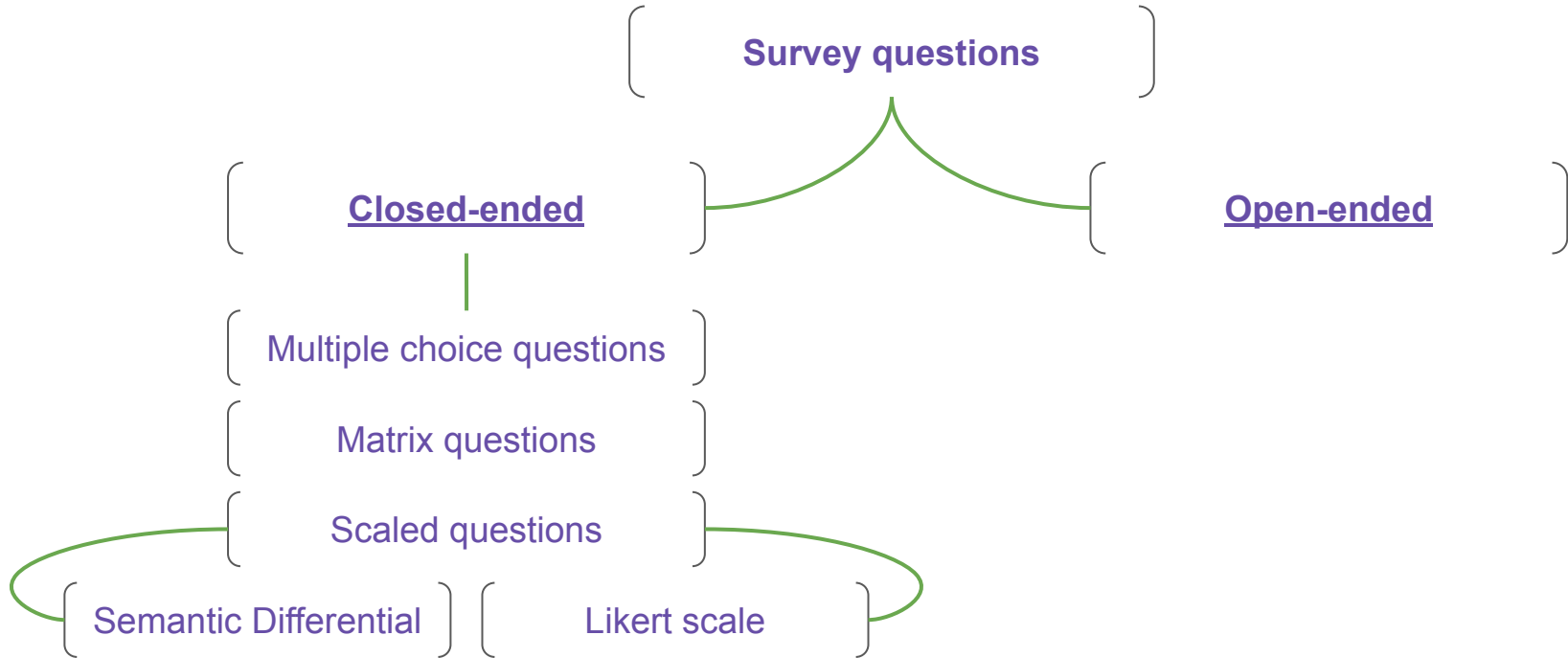- Diary/Camera Studies
- Participatory Design
- Ethnographic Field Studies
- Contextual inquiry

- Predefined series of written questions
- Usually relatively large samples - fast and cheap method
- Often used remotely
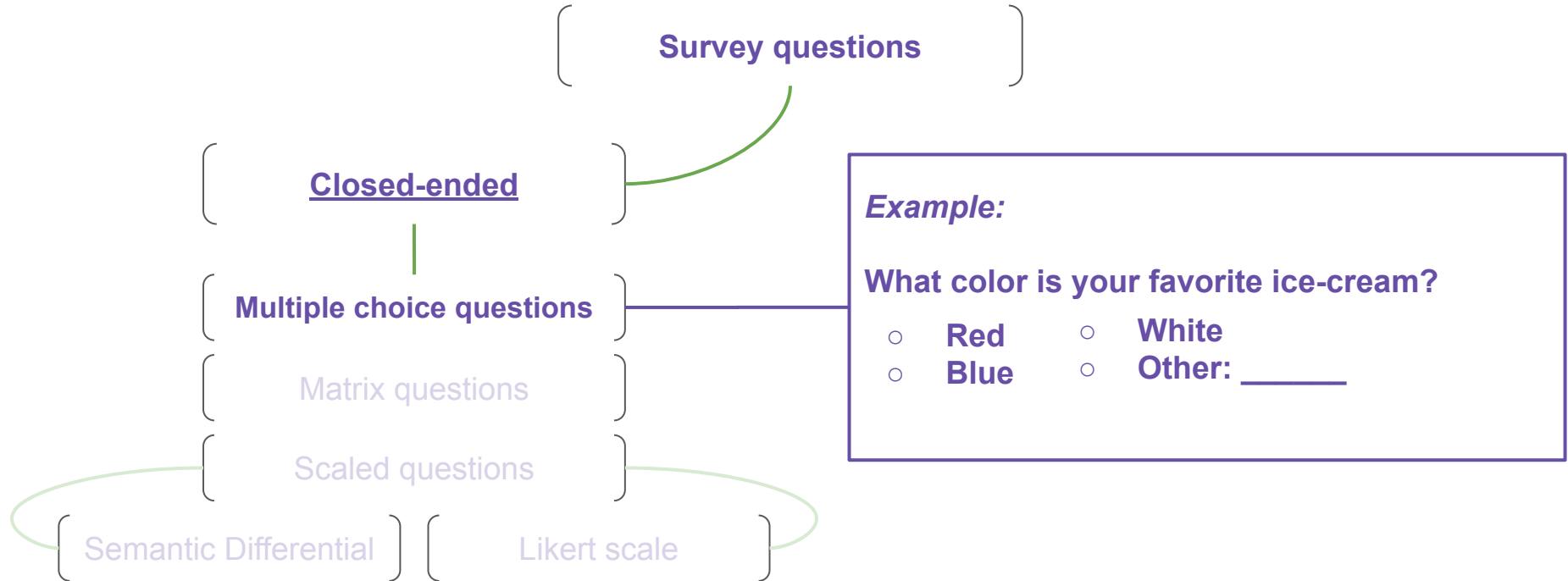- Better to keep within 20-25 questions
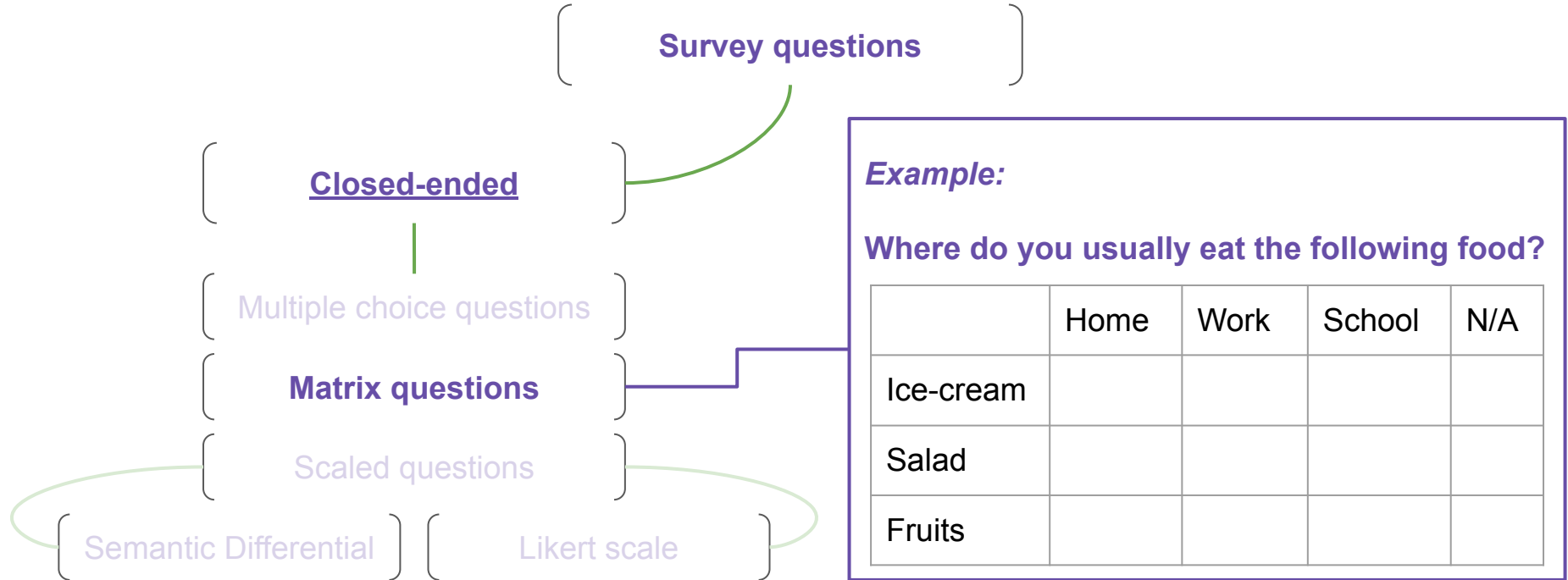
click me

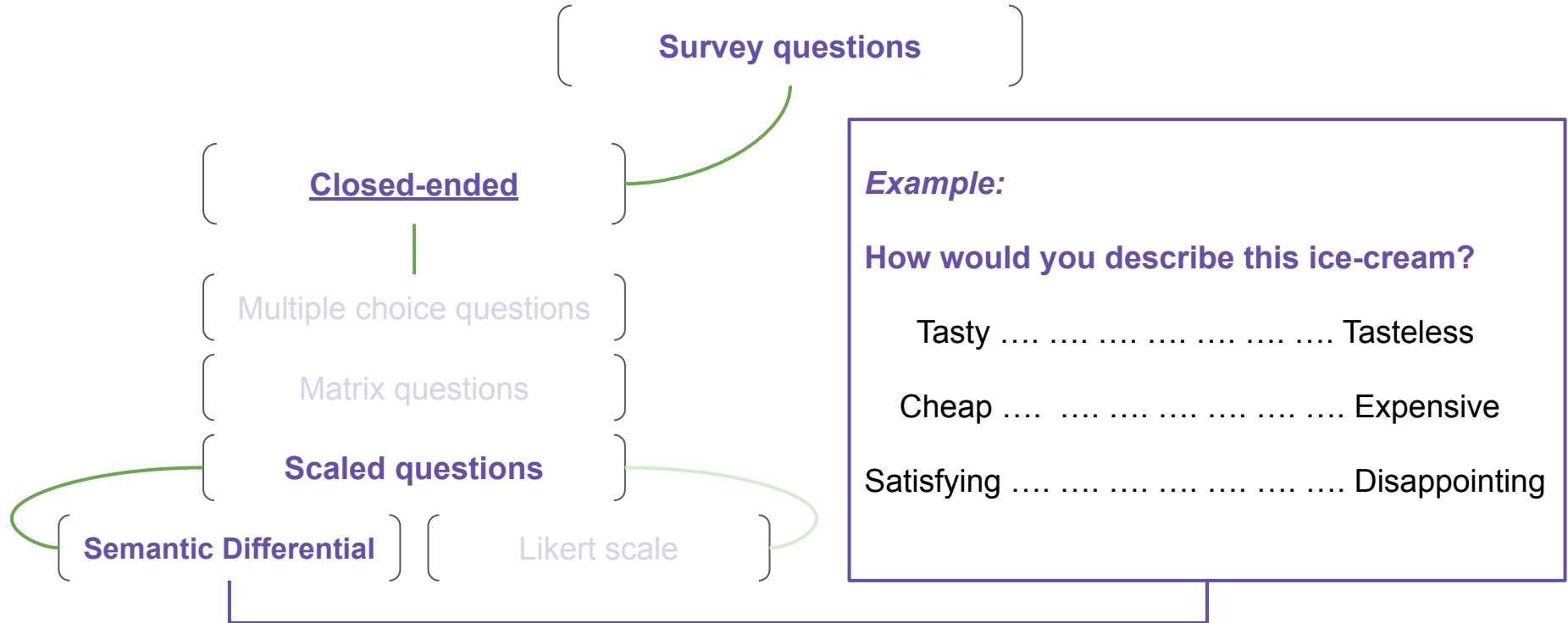# Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

Open-ended

Multiple choice questions

Matrix questions

Scaled questions

Semantic Differential

Likert scale

Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

Multiple choice questions

Matrix questions

Scaled questions

Semantic Differential

Likert scale

Example:

What color is your favorite ice-cream?

- ○ **Red**
- ○ **Blue**
- ○ **White**
- ○ **Other: _____**

Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

Multiple choice questions

Matrix questions

Scaled questions

Semantic Differential

Likert scale

Example:

Where do you usually eat the following food?

	Home	Work	School	N/A
Ice-cream				
Salad				
Fruits				

Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

Multiple choice questions

Matrix questions

Scaled questions

Semantic Differential   Likert scale

Example:

How would you describe this ice-cream?

Tasty …. …. …. …. …. …. …. Tasteless

Cheap …. …. …. …. …. …. …. Expensive

Satisfying …. …. …. …. …. …. …. Disappointing

Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

Multiple choice questions

Matrix questions

Scaled questions

Semantic Differential

Likert scale

Example:

Ice-cream is my favorite food at this restaurant:

....
Strongly   Neutral   Strongly
Agree   Disagree

- *Typically 5, 7 or 9 point scale*

Understand Your Users: Exploratory Studies

Survey questions

Open-ended

Unstructured questions

Explanation questions

Completion questions

Association questions

Example:

Any of us can sometimes unexpectedly run out of ice-cream. What do you usually do in such situations?

_____
_____
_____
_____

Understand Your Users: Exploratory Studies

Survey questions

Open-ended

Unstructured questions

Explanation questions
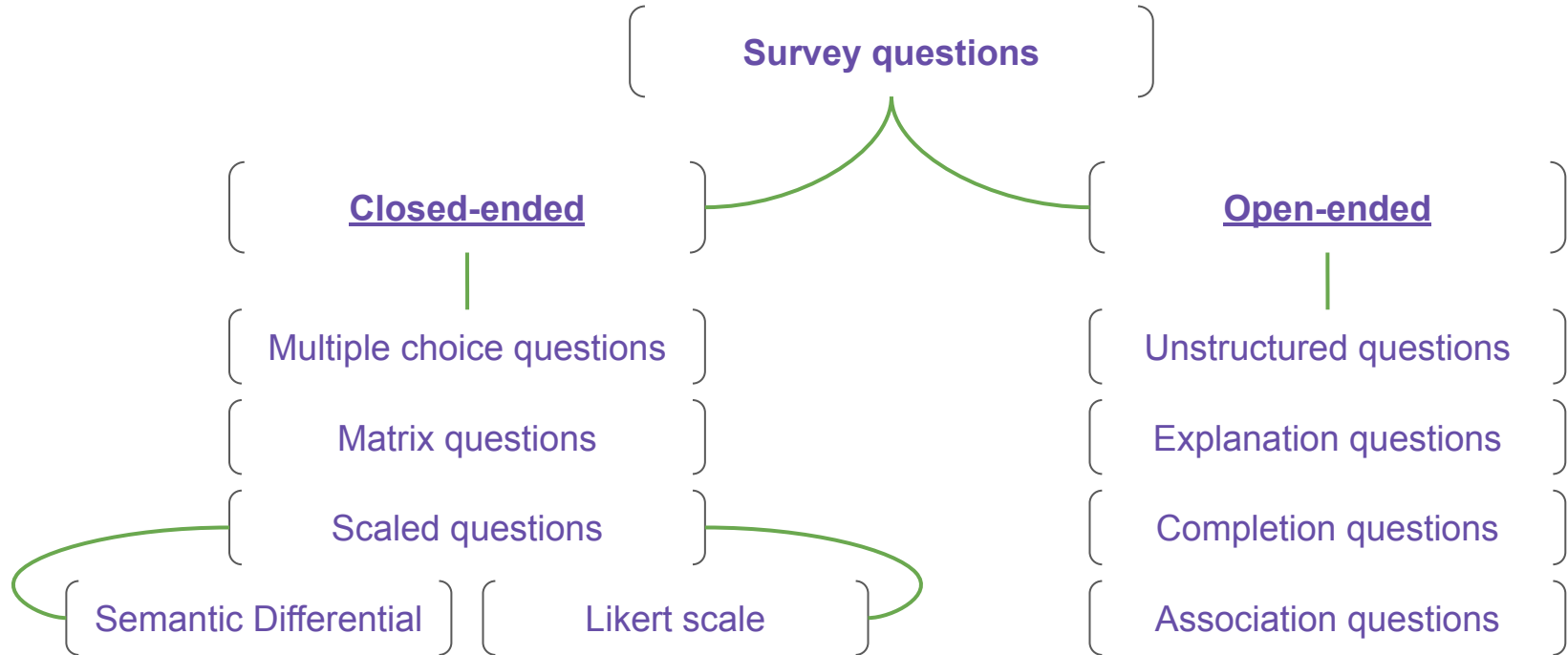
Completion questions

Association questions

Example:

In previous question you said you prefer salads. Please, explain why:

_____
_____
_____
_____

Understand Your Users: Exploratory Studies

Survey questions

Open-ended

Unstructured questions

Explanation questions

Completion questions

Association questions

Example:

My favorite taste of ice-cream is _____. I like it the most because it is _____. I usually eat it at (in)_____ when I am _____.

Understand Your Users: Exploratory Studies

Survey questions

Open-ended

- Unstructured questions
- Explanation questions
- Completion questions
- **Association questions**

Example:

What is the first word that comes to mind when you see the following:

Summer,   Tasty,   Cold,   Flavour
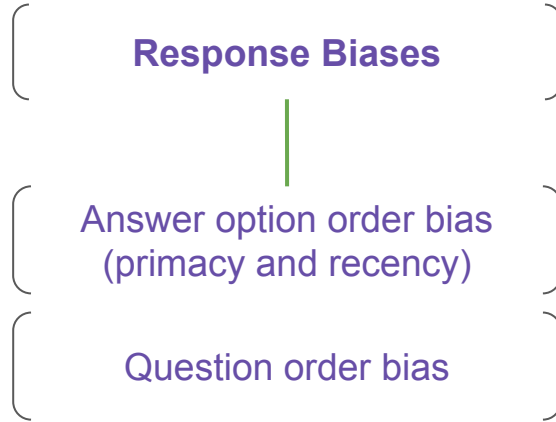
_____

Understand Your Users: Exploratory Studies
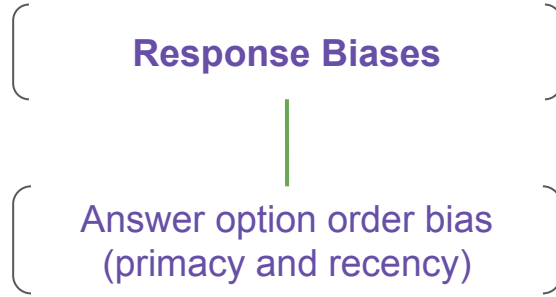
Survey questions

Closed-ended

Multiple choice questions

Matrix questions

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Semantic Differential

Likert scale

Open-ended

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Association questions

Understand Your Users: Exploratory Studies

Response Biases

Answer option order bias
(primacy and recency)

Understand Your Users: Exploratory Studies

Response Biases

Answer option order bias
(primacy and recency)

Question order bias

Understand Your Users: Exploratory Studies

Response Biases

Answer option order bias
(primacy and recency)

Question order bias

Acquiescence Bias
and Dissent Bias
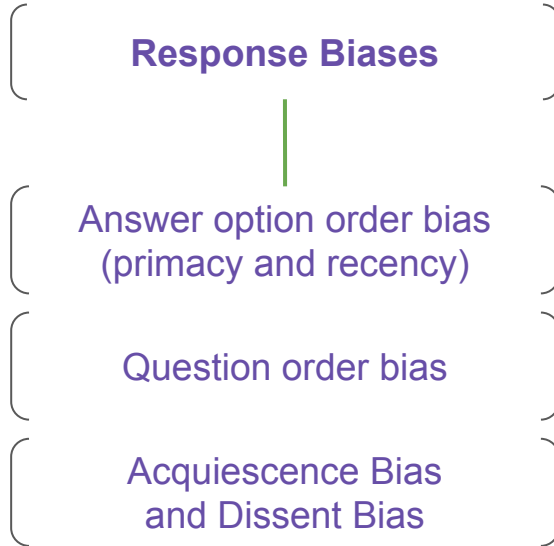
Understand Your Users: Exploratory Studies

Response Biases

Answer option order bias
(primacy and recency)

Question order bias

Acquiescence Bias
and Dissent Bias

Extreme Responses
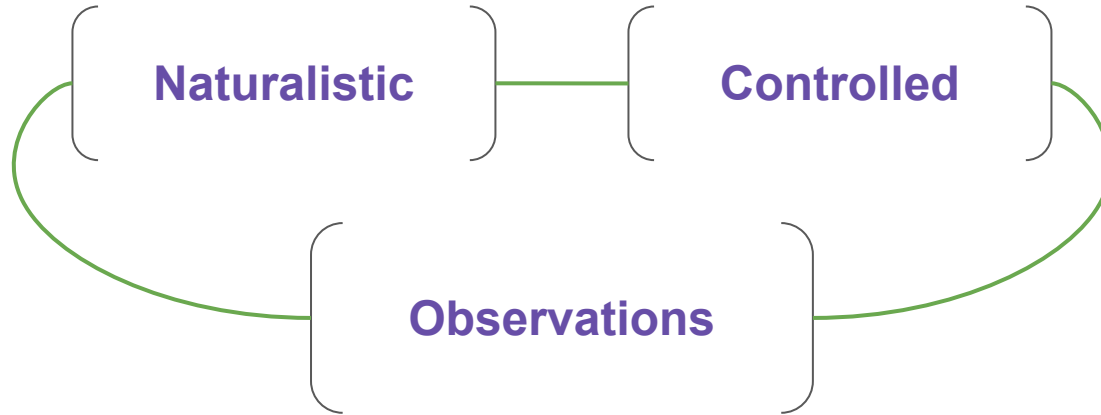
Understand Your Users: Exploratory Studies

- Questionnaires
- **Observations**
- Interviews

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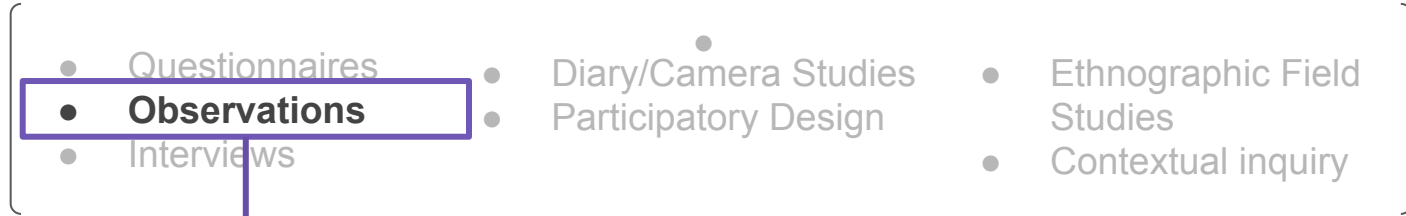
- Observing participants performing some type of activity (ongoing behaviour)
- Can be controlled (lab) or naturalistic (field)
- Different possible levels of participation
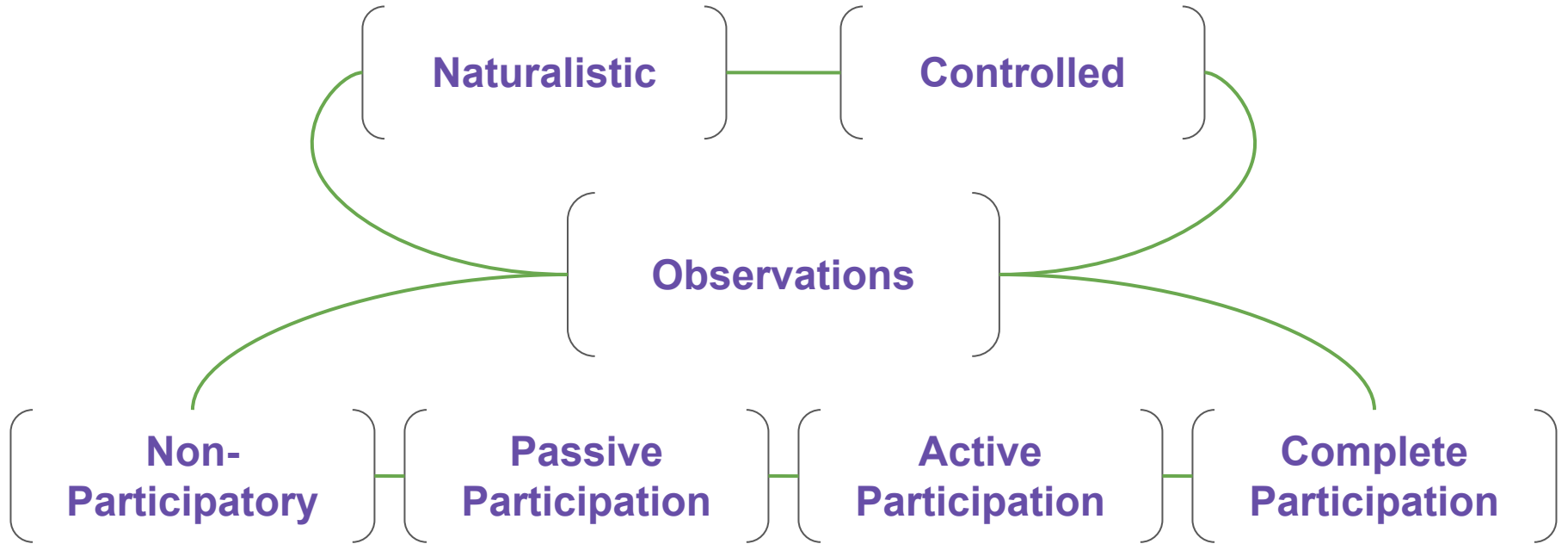- Written or video recording (requires consent!)

click me

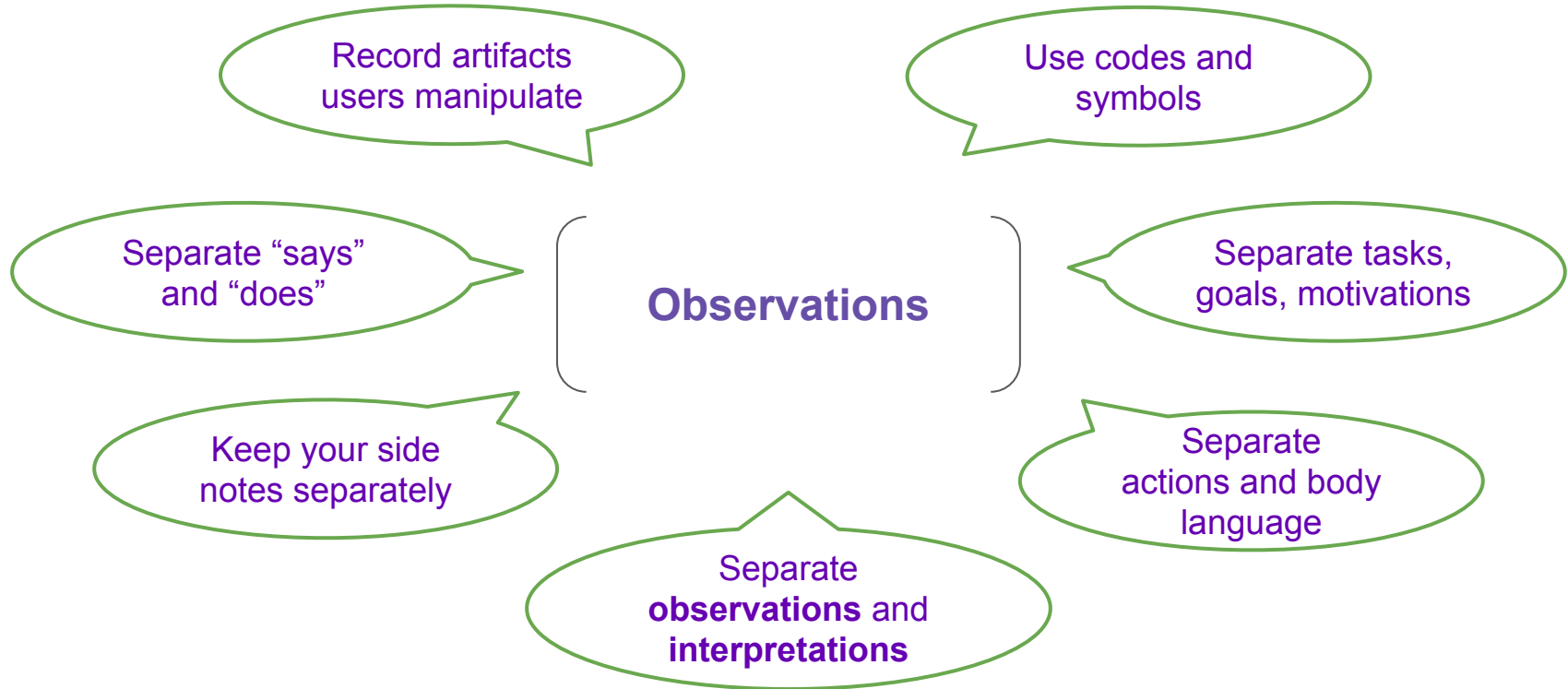**Understand Your Users: Exploratory Studies**

Naturalistic — **Controlled**

Observations

Understand Your Users: Exploratory Studies

Naturalistic — Controlled

Observations

Non-Participatory — Passive Participation — Active Participation — Complete Participation

Understand Your Users: Exploratory Studies

- Questionnaires
- Observations
- **Interviews**

- Diary/Camera Studies
- Participatory Design

- Ethnographic Field Studies
- Contextual inquiry

- In depth discussion of the topic with a participant
- Usually one-on-one
- Written, audio, video recording options (requires consent!)

click me

Understand Your Users: Interview

Interviews

Structured

Semi - Structured

Narrative (Unstructured)

Focus - Groups
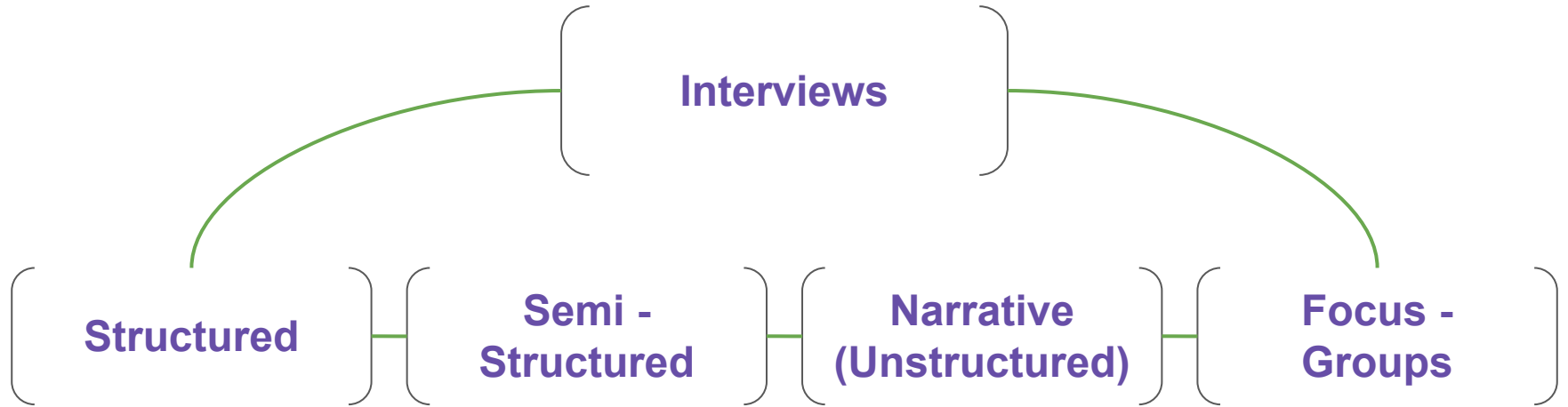
Understand Your Users: Interview

Structured

- Same set of questions
- Standardized process
- Little freedom of expression
- Often self-reported

Semi - Structured

- List of guiding questions / topics
- Trajectories in a conversation
- Often preceded by observation
- One of the most popular

Narrative (Unstructured)

- Focus and goal guide the discussion
- Open-ended questions
- Freedom of expression & little control
- Popular in ethnography

Focus - Groups

- Semi-structured in a group
- Moderated
- 6-10 homogeneous strangers
- May permit discussion
- Emerged in the 1940s

Understand Your Users: Exploratory Studies

- Questionnaires
- Observations
- **Interviews**

- Diary/Camera Studies
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