

# **CEIHM**

## **Questionnaires et Entretiens**

### **Séance 2**

Université Côte d'Azur

**Marco Winckler**

Université Nice Sophia (Polytech) | I3S | SPARKS team | bureau 446

[winckler@i3s.unice.fr](mailto:winckler@i3s.unice.fr)

<http://www.i3s.unice.fr/~winckler/>



# **SURVEYS/QUESTIONNAIRE**

# Surveys

- The most often used method in HCI research.
- Def : surveys are a „well-defined“ and „well-written“ set of questions to which an individual is asked to respond. Surveys are typically self-administered ... (Lazar et al., 2009, p. 100)
- ❖ Benefits:
  - ❖ Easy to collect data from large number of people
  - ❖ relatively low cost
  - ❖ good for getting an overview
  - ❖ unobtrusive
  - ❖ do not require special tools (can be even done on paper)
- ❖ Drawbacks:
  - ❖ difficult to gain „deep“ understanding
  - ❖ no follow-up questions possible
  - ❖ biased data: e.g. asking for usage during the last 6 months, current feelings, ...

# Survey/Questionnaire - Examples

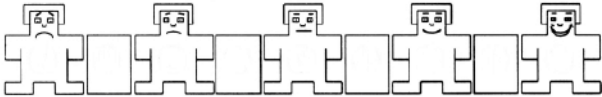
- Evaluation of Usability:
  - <https://garyperlman.com/quest/>
- SUS:
  - [https://www.researchgate.net/publication/228593520\\_SUS\\_A\\_quick\\_and\\_dirty\\_usability\\_scale](https://www.researchgate.net/publication/228593520_SUS_A_quick_and_dirty_usability_scale)
- Hedonic and Pragmatic Quality (User Experience):
  - <http://attrakdiff.de/>
- Self-Assessment Manikin Questionnaire (SAM)
  - [http://irtel.uni-mannheim.de/pxlab/demos/index\\_SAM.html](http://irtel.uni-mannheim.de/pxlab/demos/index_SAM.html)

# Developing Survey Questions

- Two types:

- ❖ Overall Structure of the Survey
- ❖ Structure of the Single Questions
  - ❖ How do we have to formulate a question?
  - ❖ Which kind of questions (and answer categories) are reasonable?
  - ❖ Why is a questions asked?

# Types of Questions:

- ❖ Open: „What do most of your colleagues think about working 50 hours per week for the same salary?“
- ❖ Closed: „Do most of your colleagues support or deny to work 50 hours per week for the same salary?“
- ❖ Examples for answer categories:
  - ❖ Likert Scale
  - ❖ Ratings
  - ❖ Level of Agreement (Very much agree, Do not agree at all)
  - ❖ Emotions (😊 ) 
  - ❖ Fixed set of answers
  - ❖ Branches (e.g. no/yes; if yes, please describe ....)

# Influences when answering questions

## PRIMACY and RECENCY EFFECT

- ❖ If you have a long list of possible choices (written down), there will be a tendency for taking one of the first answers – Primacy Effect
- What do you think is important for a healthy nutrition
  - ☐ Water
  - ☐ Fruits
  - ☐ Vegetables
  - ☐ Coffee
  - ☐ Beer
  - ☐ Meat
- ❖ If you read out a long list of possible answers, then there will be a tendency to take one of the last answers – Recency Effect.

# Influences when answering questions: OPEN or CLOSED Questions

- **What is the most important thing that children should learn to prepare them for life?“**
  - **Open: ..... (let participant answer freely)**
  - **Closed:**
    - ☐ Learn reading
    - ☐ Learn writing
    - ☐ Learn maths
    - ☐ Do sports
    - ☐ Make them independent
    - ☐ Educate them with table manners
- ❖ Open: 5%; Closed 62%: make them independent.



# Influences when answering questions: answer categories

- **How much time do you spend watching TV (daily):**

0 – 0,5 hours

0,5 hours – 1 hour

1 hour – 1,5 hours

1,5 hours – 2 hours

2 hours – 2,5 hours

More than 2,5 hours

up to 2,5 hours

2,5 hours to 3 hours

3 hours to 3,5 hours

3,5 hours to 4 hours

4 to 4,5 hours

more than 4,5 hours

**Average: 16,2 % watch more than 2,5**

**37,5 % watch more than 2,5**

# Influences when answering questions: answer categories

- **How often are you really upset on your workplace?**
  - Sometimes during the day once per week
  - Once per day 2-3 times per month
  - Nearly every day once per month
  - Once per week once every half year
  - Less than once per week less
- **People will report when they were a bit upset** really upset
- **Overestimation of „small events“**

# Influences when answering questions: answer categories

- How successful have you been in your life?

- Scale: 10 – 0

- Value named from 4 to 0:

- 34 %

- **Average: 6,4**

+5 --- 0 --- -5

Value named from - 1 to – 5:

13 %

**Average (transferred): 7,3**

# Influences when answering questions: answer categories

- **How satisfied were you with the shipping time in days for the product from Asia?**

1 day

5 days

2 days

6 days

3 days

7 days

4 days

8 days

5 days or more

9 days or more

**Using the scale on the right makes people “more satisfied” with the service 😊**

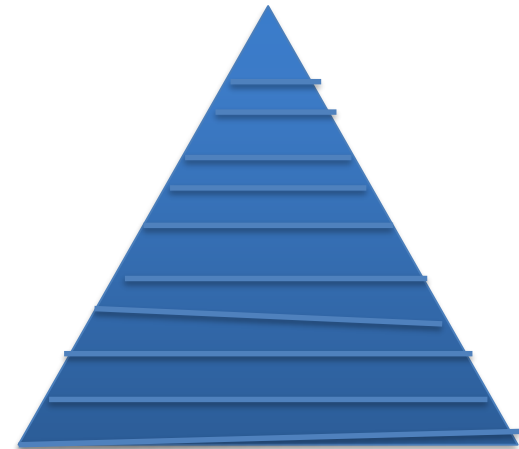
# Influences when answering questions: direction of comparison

- „Thinking of your teachers in high school, would you say that your female teachers were more empathetic with regard to academic and personal problems than your male teachers, or were they less empathetic?“
- Females more empathetic 41%
- „Thinking of your teachers in high school, would you say that your male teachers were more empathetic with regard to academic and personal problems than your female teachers, or were they less empathetic?“
- Females more empathetic 9%

# Influences when answering questions: graphical format

**„At every university, some students are doing better than others. Some tend to be towards the top of the performance hierarchy and some tend to be towards the bottom. Where would you place your own academic performance?“**

- scale from 1 (top) to 10 (bottom)
- Percentage of participants choosing a value between 6 and 10:
- If you use a simple row of ☐: 18,8%
- If you use a Pyramid with the values : 48,8%



# What shall we do?

- Rotate/Permute Answer Categories
- Equidistant answer categories
- Make clear introductions for each topic / when you change topic
- Split the sample: make two independent surveys/samples
- Method mix
- Pretests (review by knowledgeable colleagues; interview potential respondents, pilot study both tool and implementation procedure)
- Make an experiment to control the possible influences in the questionnaire

# How many participants?

- See: <https://www.uxmatters.com/mt/archives/2016/01/how-to-determine-the-right-number-of-participants-for-usability-studies.php>
- <https://www.nngroup.com/articles/user-interviews/>



# INTERVIEWS

# Interview : Definition

- „An interview is a (fixed) procedure with a scientific goal, where participants responses are evoked by a number of questions or other (spoken) stimuli.“
- An interview is typically oral.
- Structured (theme and order of questions are fixed) or standardized (questions are fixed)
- In most cases researcher and interviewer are not the same person
- A researcher is „translating“ the research plan in a number of questions (questionnaire) and a set of interviewers is conducting the interviews.

# Interviews: Pro's & Con's

- Pro:

- ❖ Ability to go „deep“
- ❖ Interviews can be open ended and exploratory
- ❖ Flexible

- Cons:

- ❖ Effort
- ❖ Analysis can be difficult (1 hour recording, 10 hours analysis)
- ❖ Problems of recall (people can not remember)
- ❖ Interviewer has to be trained

# Interview : Application

- Standardized Interview can offer a broad variety of information (depending on the size of the questionnaire and the willingness of the interviewed persons).
- Interviews are the basis for information on positions, perceptions and facts.
- Limitations of interviews are posed by the limitations of language (people might not have „words“ to describe their feelings or perceptions) and limitations of people's language skills.

# Rules for Asking Questions

## Open questions:

- ❖ The order of answers to a question is not representative for the importance of the answers
- ❖ It can happen that the most important aspect is not named, as it is completely evident to the person being interviewed.
- ❖ When the number of answers is increasing, the person being interviewed should get more time for answering (do not interrupt)
- ❖ Be careful not to influence (suggest) answers. (Especially if the interviewed person is not able to give an answer ...)

# Rules for Asking Questions

## **Closed Questions:**

- ❖ The more someone has thought about his opinions, the more likely s/he will not be happy with a fixed set of answers.
- ❖ The less someone has thought about his/her opinion, the more s/he will appreciate a fixed list of answers.
- ❖ Be careful: If people do not have informations about a topic, or no opinion on a topic, they might just check answers by chance.
- ❖ Unpleasant reasons, that would not be named in an open question, can be presented with a closed questions as one of the pre-scripted alternative answers.

# Rules for Asking Questions

- ❖ Short, easy, and focusing on the framework of the interviewed person
- ❖ The long(er) ago an event, the more unprecise the answer
- ❖ The more a person is interested in a thematic area, the more valid the answers
- ❖ The more important an event, the more precise the answers
- ❖ The more dangerous (drastic, threatening) an event, the more likely the person will forget it
- ❖ The more something is social disapproved, the less likely people will report that (e.g. mental illness)
- ❖ The higher something is socially valued (e.g. salary), the higher the answers
- ❖ Closed questions with two alternatives: The alternative named last, sounds more attractive to the interviewee.

# Rules for Asking Questions

## Questions in List Format:

- ❖ The less information the interviewee has, the more he will try to „guess“ the „right“ answer in the given alternatives. Based on experience we know that he will choose a category in the lower middle (position effect).
- ❖ To avoid position effects it is necessary to change the order (for the different interviews)
- ❖ The longer the information, the more likely that the interviewee gets lost.
- ❖ Sometimes it is useful to avoid a „neither-nor“ category. This leads to a clear position of the interviewee and avoids the „maybe, don't know, don't care“ effect.



# When asking a questions ...

1. Try to understand the reasons for an answer (so you understand the framework of the interviewed person) e.g. by posing additional open or closed questions.
  2. Keep in mind that people have different levels of information/education or familiarity with a subject
- ❖ AVOID:
- ❖ unclear terms
  - ❖ abstract terms
  - ❖ → conduct a pre-test (to see if people understand your questions!)

# When asking a questions ...

3. Answers can have multi-dimensions:  
e.g. Can you tell me what people live in your neighbourhood – people might answer:
  - „old people“ (Dimension Age),
  - „friendly people“ (Dimension Sympathy)
  - „working people like we are“ (Dimension Status in Society)
4. Biased questions: all questions that lead to a bias (e.g. „Don't you think too, that we have to many immigrants“?)

# When asking a questions ...

5. Ordering of questions: From general to special 5 dimensional question planning:
  - i. **Consciousness:** open knowledge question: „What do you understand when we talk about employee participation? “
  - ii. **Unconscious Attitude:** „What should a labour union do to improve employee participation“?
  - iii. **Specific attitude:** closed question: „Some people say, that employers should have the majority of seats in the management board, others say that employer and employees should have equal number of seats. What do you think?“
  - iv. **Open-Why-Question:** Why do you have this opinion?
  - v. **Intensity:** closed intensity question: How sure are you about that? Extremely sure, sure, unsure, extremely unsure?

# Be Careful ....

- It is necessary to have more than one question to answer a hypothesis.
- Never use a hypothesis directly as a question e.g. „Are you neurotic?“, „Do you feel lonely in your new apartment?“, „Are you able to use this software“?

# Conducting an Interview

- Behavior of the interviewer
- Goal is to help the interviewed person to feel comfortable in the situation.
- The behavior of the interviewer is important. Interview depends heavily on the behavior of the interviewer (additionally there are influencing effects based on gender/ethnicity/social group).
- Reaction on the interviewee's behavior
- Interview location

# Conducting an Interview

- Other important aspects:
  - The way the interviewer is posing the questions, e.g. slow/fast
  - The length of the break after each question
  - Usage of not pre-scripted requests (e.g. „Could you explain that more detailed?“)
  - Usage of sentences that allow a resume (e.g. „You mean ...“)
  - The usage of stimuli to show interest („mmm, oui, d’accord, mais encore, oui j’ai compris, ...“)
  - Eye contact
  - Body movement, congruent body positions, distance to the interviewee

# Possible Error Sources for Interviews and Questionnaires

- Formulation of the Questions
- Order of the questions
- Behaviour of the interviewer
- Number of „Drop-outs“ in the selected sample
- It is important that the interviewers have a good training
- Do not trust interviewers (neither students nor chief interviewers from commercial institutions)
- Reliability of answers can be improved by using control questions, repeating questions.

# Special Types of Interviews:

## Depth Interview

### Oral Interview:

non standardized questions, low level of question structure, Expert questioning, Interview-Guideline

### Goal:

- To understand meaning and importance of an answer of the interviewee
- To investigate one special aspect of the opinion of the interviewed person
- To understand influences on the opinion and opinion making process of the person
- To analyse complex attitude patterns
- To allow a motivational interpretation
- To investigate an explorative research question (= a research question where we do not have an explanatory theory or model)



# Special Types of Interviews and Questionnaires: Tests

- Types of tests:
- Performance tests:
  - Intelligence test
  - Development test
  - School test
  - Psychometric personality tests
  - Attitude tests, interest test, personality test
- Tests for personality and personality development (e.g. Rorschach-Test)
- Possibility for diagnostics  
e.g. long term diagnostics