



“Honey, come look! I’ve found some information all the world’s top scientists and doctors missed.”

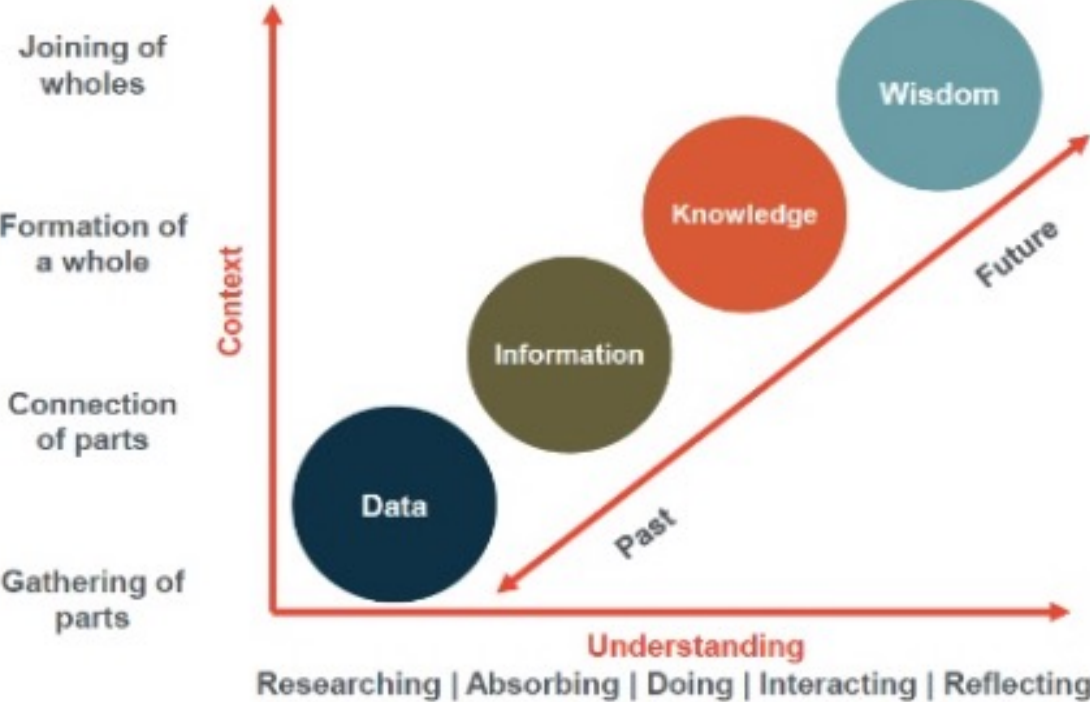
Data and Information \neq Understanding

Ackoff's view: From data to wisdom



- **Wisdom:** evaluated understanding that can be applied to decision-making.
- **Understanding:** appreciation of "why" – synthesis of new knowledge.
- **Knowledge:** collection and application of data and information; answers "how" questions
- **Information:** data that are processed to be useful and have a meaning; provides answers to "who", "what", "where", and "when" questions.
- **Data:** symbols as raw data. For example 0&1

Wisdom guides good decisions for the future



Russell Ackoff, "From Data to Wisdom"

**How to find problems worth
solving?**

LVA MINISTRY OF TRANSPORT
AND COMMUNICATIONS



**DIGITAL AND POPULATION
DATA SERVICES AGENCY**

Goals + institutions

What other viewpoints can we have?



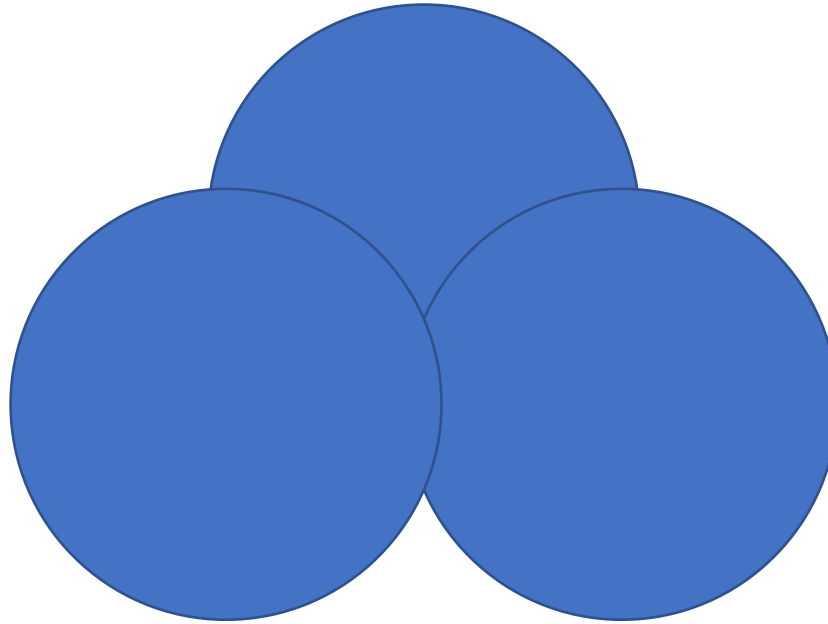
PEOPLE





PRACTICE





PEOPLE

- Who are the people we need to understand?
- What is it like being them?
- How is this policy/service/problem/solution part of their life?

PRACTICE

- What are the relevant practices people engage in?
- How are these practices experienced?
- What is the role of policy/service/product in these practices?

STRUCTURE

- What are the relevant social and cultural structures in our context?
- How are they changing?
- How are the changes affecting people and practices?

How to Study These?



Neil deGrasse Tyson 

@neiltyson

Seuraa



In science, when human behavior enters the equation, things go nonlinear. That's why Physics is easy and Sociology is hard.

 Käännä twiitti

16.03 - 5. helmik. 2016

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695



14 t.



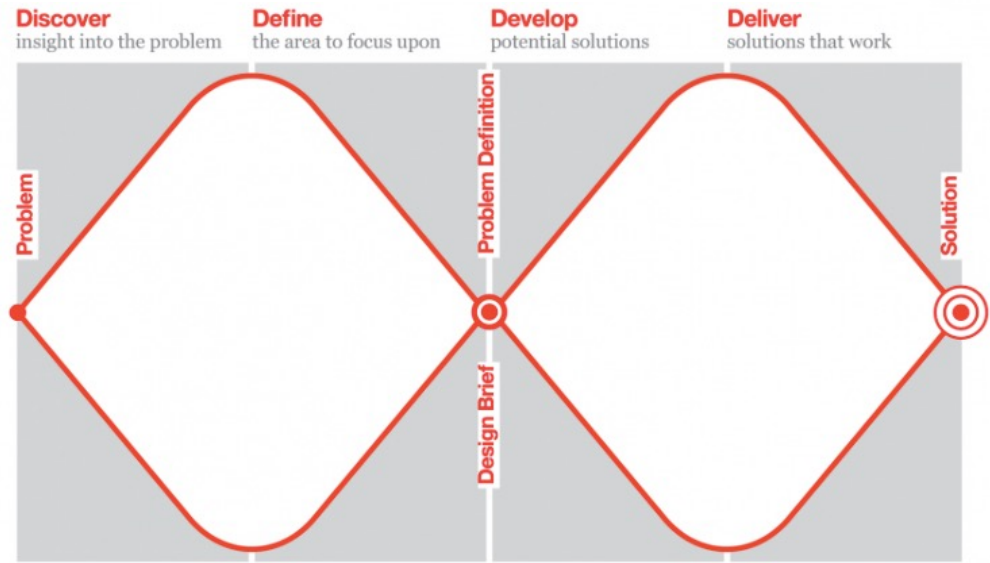
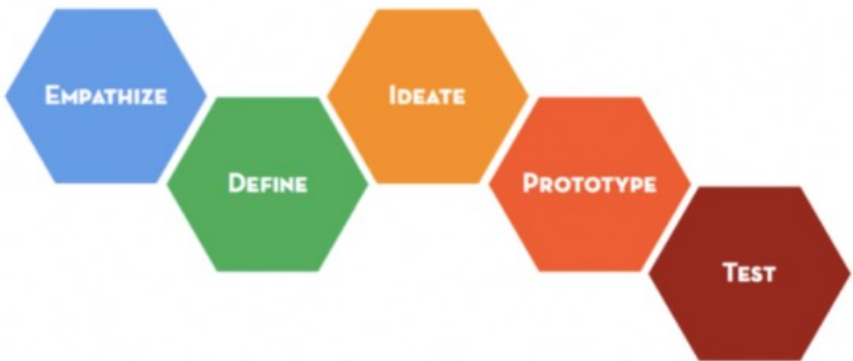
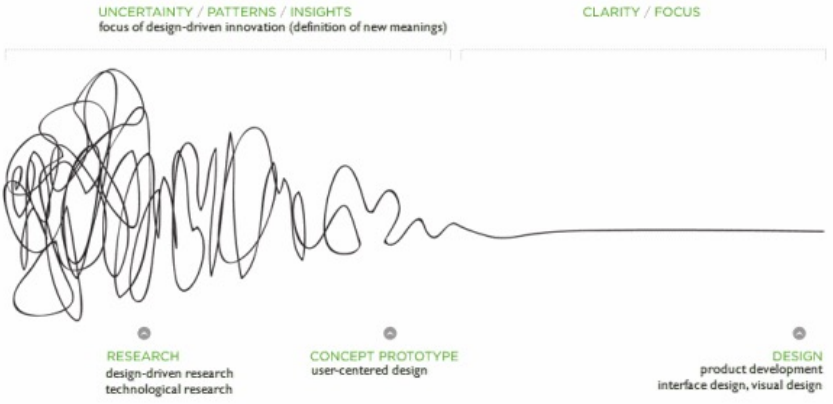
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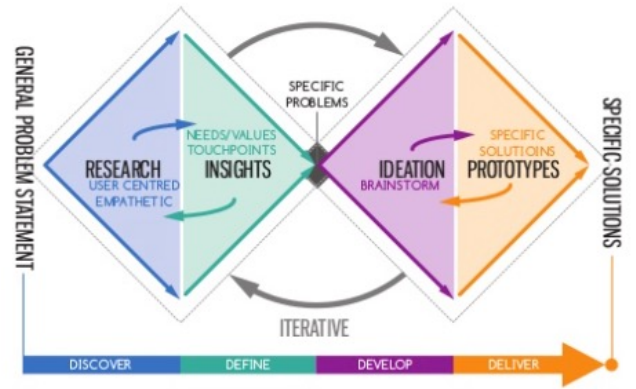
Traditional academic research vs. applied research (in DfG also)

	Academic	Applied
Value	Absolute value in the accumulation of knowledge itself	Functional value in order to achieve something
Time	Long processes	Limited projects and resources
Use of methods	Chosen methodological frameworks as discourses to participate in	Choosing and mixing methods according to the task at hand
Use of theories	Using chosen theories to make sense of the research topic and to connect to a theoretical discussion	Using a mix of concepts and theories as ideas that serve as tools to make sense of data

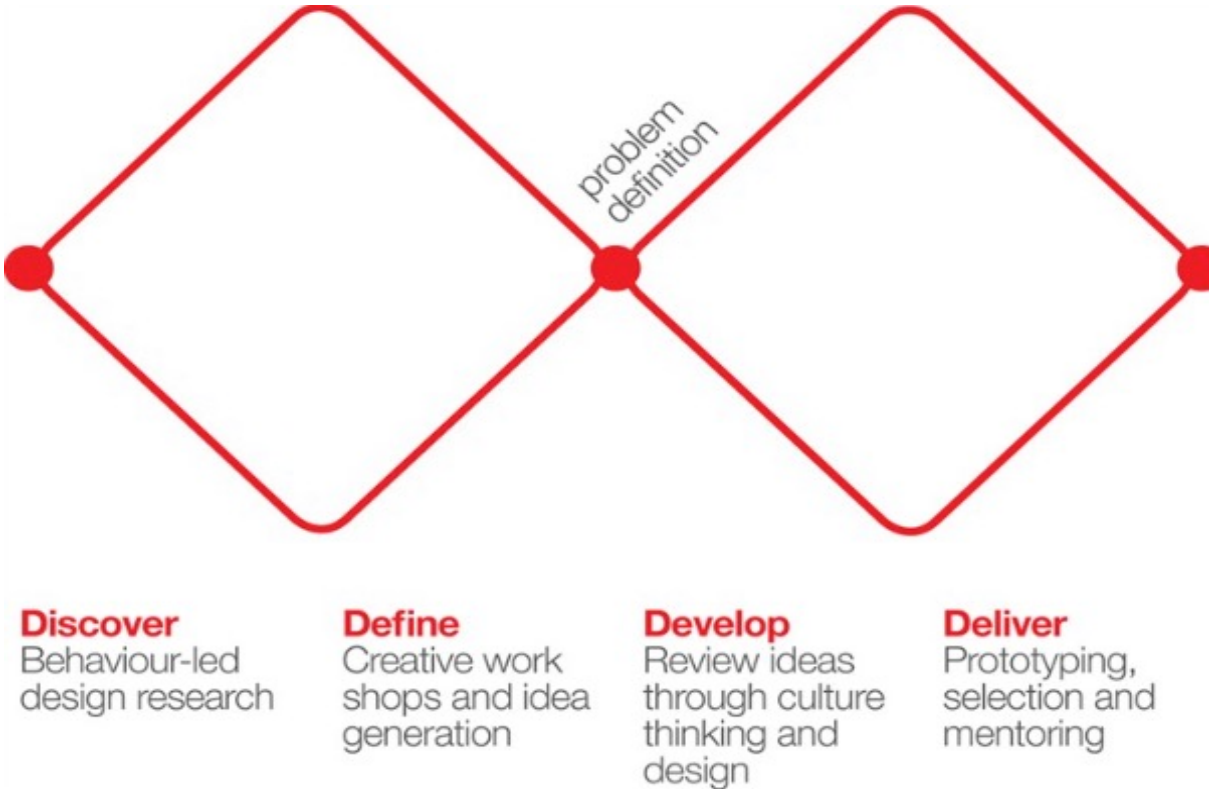
Problem-finding in design processes



DOUBLE DIAMOND PROCESS

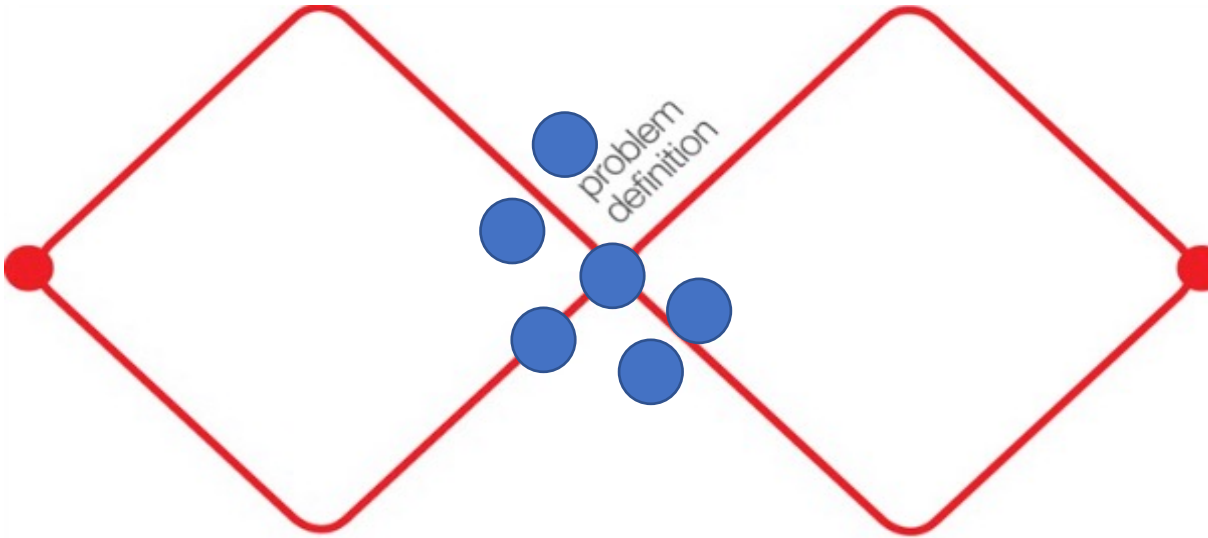


Aim of the research is to help define right (fruitful) problems



Double diamond model of Design Council UK

Aim of the research is to help define right (fruitful) problems



Discover
Behaviour-led
design research

Define
Creative work
shops and idea
generation

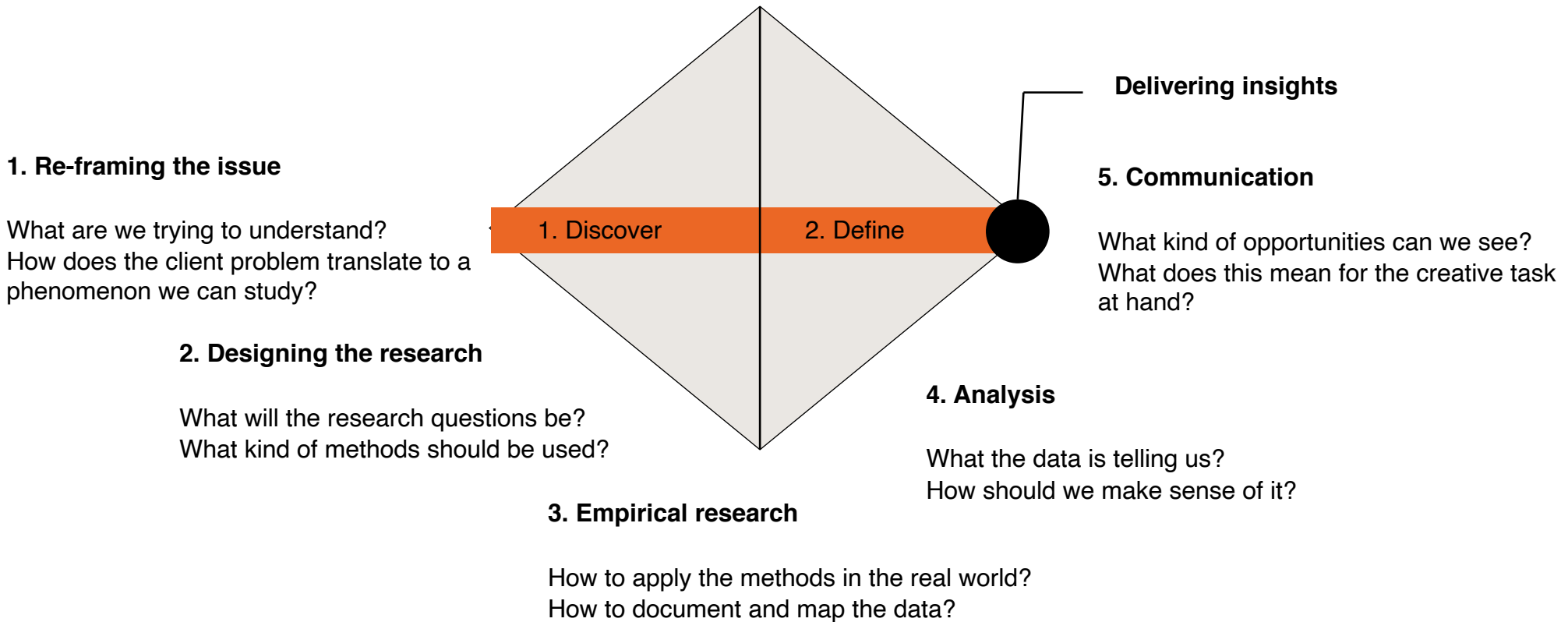
Develop
Review ideas
through culture
thinking and
design

Deliver
Prototyping,
selection and
mentoring

Double diamond model of Design Council UK

Analytical approach fuels the creative process

Five stages:



Different types of problems require different types of thinking

Three types of problems – three types of thinking

	Expertise	Experiment	Experience
Type of problem	<i>"Where do we cut costs from operation?"</i>	<i>"Which design will improve our conversion rate?"</i>	<i>"What is it like to be old? How is accessibility perceived?"</i>
Domain	Domain of classic business consultants.	Domain of software developers and growth hackers.	Domain of anthropologists and philosophers.
Activity	Logical analysis of existing data.	Prototyping and user-testing.	Contextual immersion and critical thinking.
Situation	Predictable business environment with clear cause and effect.	Hunch for different creative options to try out as hypothesis.	Something is wrong, but no clear idea what, and what to do about it.
Outcome	Executable plans.	Iterations of new products and services.	Understanding of what is valuable.
	Low level of uncertainty		High level of uncertainty

Based on: Harnoss & Harnoss (https://medium.com/@JJ_Harnoss/sense-making-and-innovating-a-primer-fc2061a0b384) and Madsbjerg & Rasmussen, 2014.

What about methods?

Disclaimer on method-naming:

- It is about differentiation and legitimation
- In practice research methods are tools for an end – choose a tool based on your aim

Watch

- See what is being done in practice
- Immerse yourself in the context

Observations



Desktop research



Listen

- Dig deeper by asking
- Learn the story
- Understand their thought process

Interviews



Group discussions



Work

- Get viewpoints
- Engage in creating together
- Test how something works

Co-creation workshops



Prototyping workshops



Play

- Step out of institutional roles
- View things from different perspectives
- Use imagination

Design probes



Design games



Examples of methods from past DfG courses

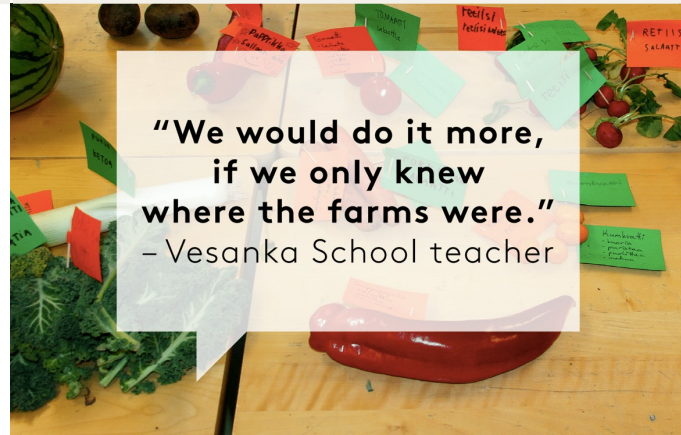
Desktop for statistics

The annual cost of obesity
in Finland is

€ 330 M

– National Institute of Health, 2011

Interviews



Co-creation workshops



Examples of methods from past DfG courses

Participant observation



DfG 2015. Primary Producers team. Bice Lee Herold, Eevi Pauliina Saarikoski, Panu Matias Autio, Richard Eric Birger Hylertstedt

Interviews of extreme users

RESEARCH

“The paperwork we have to do has nothing to do with our real work and the subsidies are almost not worth the headache.”

-BIODYNAMIC FARMER

Prototyping

CONCEPT

The form is titled 'MAATILALOMAKE 2015' and includes fields for 'www.merkkaa 5/101A', 'Lomake 2015', and 'Vasemmalla sivulla'. It contains several sections with checkboxes and input fields:

- 1. MAATILAN KOSKEVAT PERUSTIEDOT**: Fields for 'Maatalon nimi', 'Tällä harjoitetaan eläintaloutta tuottamalla', 'Tällä harjoitetaan automaattilajaa ("kasvintuotanto")', and 'Tällä harjoitetaan eläintaloutta tuottamalla'.
- 2. TAVOITTEIDEN SAAVUTUS**: Fields for 'Tavoitteiden saavutus' and 'Tällä harjoitetaan eläintaloutta tuottamalla'.
- 3. MAANVUOKRAN EHDOT**: Fields for 'Maanvuokra', 'Maanvuokran määrä', 'Maanvuokran määrä', 'Maanvuokran määrä', and 'Maanvuokran määrä'.
- 4. TILAN 1.4.2015 OLETTAVAT KOTIELÄIMET**: A table with columns for 'Elinikä', 'Tuotanto', and 'Muut'. Rows include 'Kanat', 'Lohi', 'Koripöytä', 'Muu eläin', 'Kalkkunan', and 'Muu eläin'.

How to set up an interview?

Recruitment – find the right people

Portigal Consulting

www.portigal.com

2. Do you own a portable MP3 player that you use regularly?

Yes
No **DISMISS**

2a.. If yes, how long have you owned a portable MP3 player?

Less than 3 months **DISMISS**
Between 3 months and 1 year
More than 1 year

2b. If yes, how many hours per week do you estimate you use your portable MP3 player?
IF < 5 THEN DISMISS

3. Do you listen to music on a computer?

Yes
No **DISMISS**

3a. If yes, how often?

Daily
Weekly

Steve Portigal, 2013

Brief – explain what and how of the interview

- What will we discuss, in some cases also what not
- How long will it take
- What will it be like
- What if you need to take a break
- What kind of information are we after
- Why we want to talk to you
- What kind of a project is this part of
- How their words and their name will be referred to, what is the level of anonymity
- Make sure you have consent on your research and documentation

Aim for access and informed consent

Consent for Participation in Interview

This consent applies to the Design for Government students at Aalto University (ARTS, Department of Design) working on the **add name of the project** in collaboration with **add partner organisations**.

The data collected during interviews will be used as qualitative evidence to inform a design proposal to address this topic.

Different kinds of data, such as drawings, recorded interviews and meetings, and written notes are gathered during the project. The data is stored in an archive, which only the project team can access. The recordings will only be used for research purposes. The research follows guidelines for ethical principles of research in the humanities and social and behavioural sciences given by the [Finnish Advisory Board on Research Integrity \(TENK\)](#).

1. My participation in this project is voluntary. I may withdraw and discontinue participation at any time.
2. Participation involves being interviewed by students from Aalto University. The interview will last approximately 60-90 minutes. Notes will be written during the interview. An audio recording of the interview and subsequent dialogue will be made.
3. I understand that the researcher will not identify me by name in any reports using information obtained from this interview and that my confidentiality as a participant in this study will remain secure. Uses of records and data will be subject to research guidelines that protect the anonymity of individuals and institutions.
4. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
5. I have been given a copy of this consent form.

I consent students to:

- Use my real name or role in my organization
- Audio recording
- Video recording
- Taking photographs
- Use audio/photographs in the Final Report and Final presentation, publicly available on the [DIG](#) website: <https://dig-course.aalto.fi>

My Signature _____ Date _____

My Printed Name _____ Signature of the Researcher _____

Contact:
Núria Solsona
Design for Government, Course director
Aalto University (ARTS), Department of Design
+358 (0)504717475



Using an interview guide vs. defined script

Portigal Consulting LLC
415.894.2001
2311 Palmetto Avenue Suite D1
Pacifica, CA 94044

Portigal
consulting
www.portigal.com

Reading Ahead Interview Guide

Introduction

1. We'd like to talk with you today about reading. We have lots of questions to ask you, and we're interested in hearing your stories and experiences.

Overview

2. Can you tell us a little about yourself—what you do, hobbies, etc.?
3. Can you tell me about a recent book you've read? Your favorite all-time book?
4. Why do you read?
5. What is your current reading like?
[Probe for different types of reading, locations, motivations, etc.]

- Following a strictly defined set of questions vs. themes you wish to cover.
- Translate your research questions into something that can be asked in a discussion. Typically, you start from more open-ended question and consider possible follow-ups.
- Plan well and use the guide as a tool that supports you but doesn't restrict you. You don't have to go word-by-word.
- Think about your timing – how much for different themes and sections.
- If you are doing exercises, such as card sorting or map drawing, have everything you need prepared beforehand.

5 x Why?

- Often used for root-cause analysis in organizational settings, but you can also apply it in an interview setting.
 - Helps you discover how actions, beliefs and thoughts ladder. Consider also 5 x “in order to”
-
- The vehicle will not start. (the problem)
 1. **Why?** - The battery is dead. (First why)
 2. **Why?** - The alternator is not functioning. (Second why)
 3. **Why?** - The alternator belt has broken. (Third why)
 4. **Why?** - The alternator belt was well beyond its useful service life and not replaced. (Fourth why)
 5. **Why?** - The vehicle was not maintained according to the recommended service schedule. (Fifth why, a root cause)^[2]

Other tips on getting the most out of an interview:

- Think about where you will have the interview and how you will document it. Real contexts usually provide rich discussions. When remote, make use of cameras.
- Leave your worldview behind the door. Embrace and learn from theirs.
- Listen to, by asking questions and body language – don't be afraid of silence.
- Focus on the respondent, don't start sharing too much of your own experiences.
- Feel free to ask stupid and simple questions – you are there to learn about their experience and views.
- Try to ask open questions that provide stories instead of closed “yes” or “no” answers.
- Don't lead the respondent e.g. *“Why do you think it is important for high school students to learn about bio-diversity?”*
- Think about the order in which you're asking your questions, make it easy in the beginning and allow them to relax.
- Plan your interview, but be prepared to discover emerging themes and new ways to frame the problem you are working on.

Different types of interviews: focus groups or group discussions – study the discussion on a specific topic



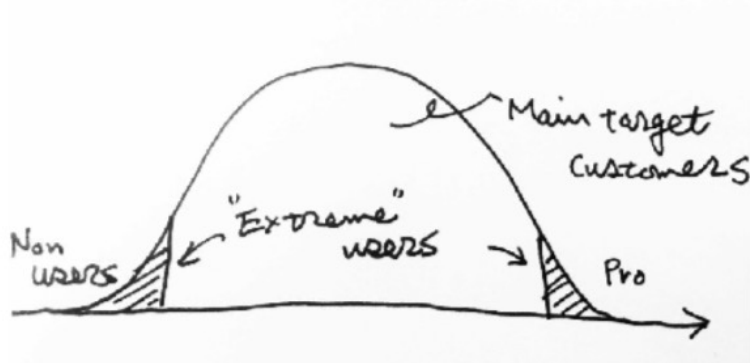
Example from: guardian.com Taking time out to listen: the benefits of focus groups.

- Often used for concept and product testing in different phases of the development process.
- Well-planned discussion moderated by a researcher whose goal is to tease out useful answers and engage all participants into the discussion.
- Typically 6-8 people in a group for 1-2 hours.
- Allows you to study how ideas, topics or concepts are received in a group. What kind of conflicts and consensus they evoke.

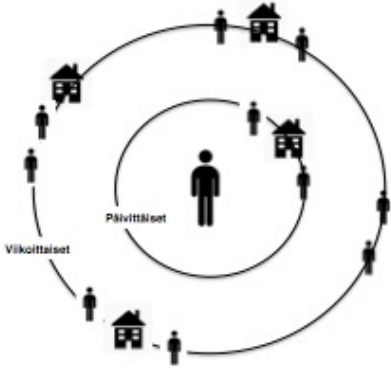
Different types of interviews: extreme users



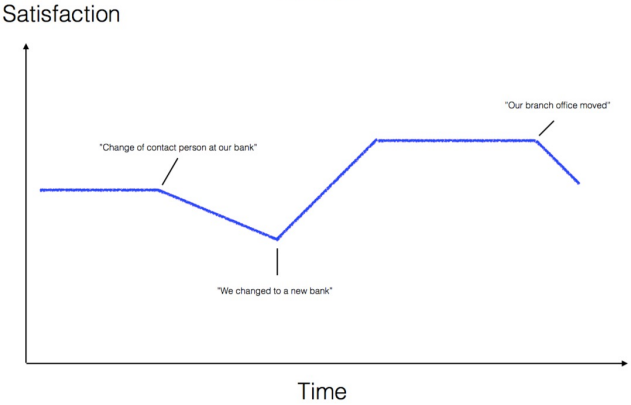
- Consider different extreme types of users that really stretch some qualities of a service or product
- “If it works for the extreme user it works for everyone”
- Very skilled and experienced vs. inexperienced users



Different types of interviews: drawing exercises

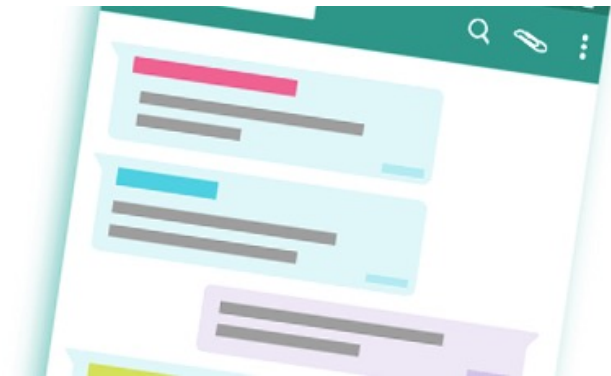


Example



- Visualizing while discussing helps stick to concrete experiences, and tell stories around them.
- Drawing as an activity allows the respondent to take a step back from their own life and reflect.
- Drawing timelines and sociograms provides comparable visual data.

Different types of interviews: synchronous vs. asynchronous



- Asynchronous discussions can be a way to give people time to reflect their answers.
- You can develop the discussion and take time to clarify your thoughts in the written form.
- Might be easier for some people with hectic schedules.
- It may be challenging to keep people engaged in asynchronous discussion for longer time periods.

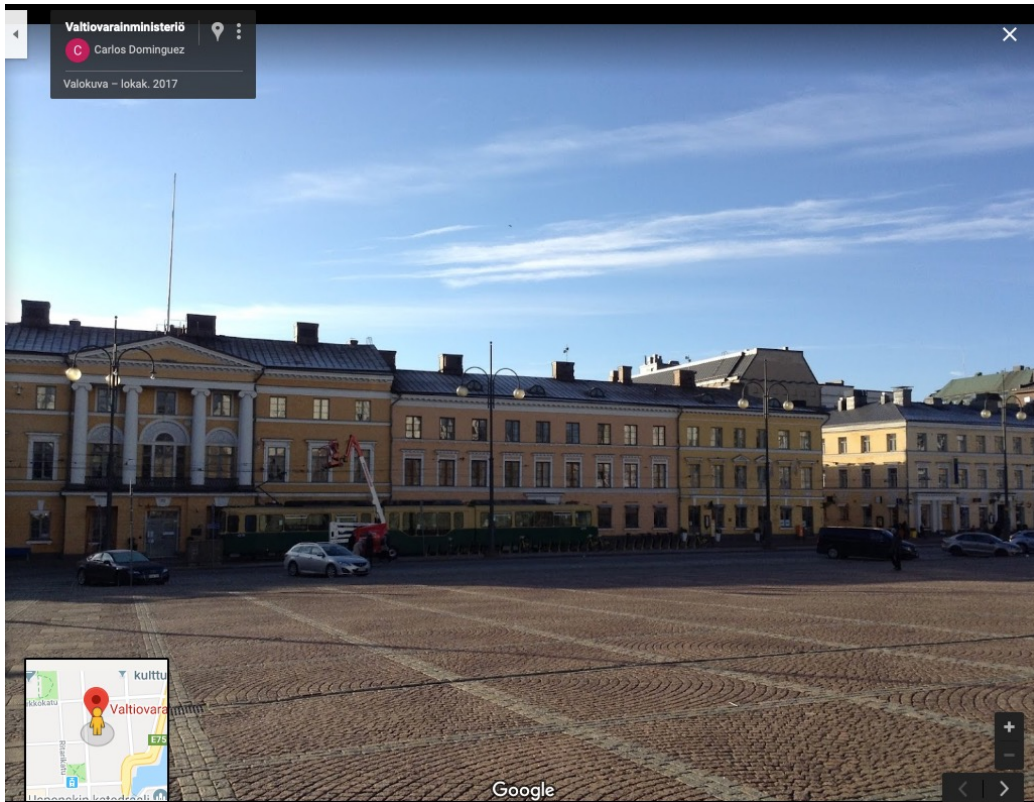
Different types of interviews: card sorting exercises



Portugal 2013.

- Visual aids that evoke discussion through the exercise of arranging cards or coming up with thoughts and stories based on them.
- You can use visual cues of ideas, sort brands and images related to them, use pictures of places, times of the day etc.
- Helps you see how people organize and relate things to each other and what kind of preferences they have.

Where and how can we learn the most? What will it be like?



- Field research usually means that learning is connected to concrete places.
- Exercise for getting a sense of a place prior to going there
- Helps you orientate, be prepared and get more out of your field trip
- You can also do an exercise of how someone would go about planning a specific kind of trip or activity
- Potential tools include youtube-videos, google maps, travel websites and discussion with people who live or have visited the location.
- Search for: places and their names, routes, potential issues to tackle, landmarks, sites to visit etc.

Probes and diary studies help you gather qualitative self-reported data over time

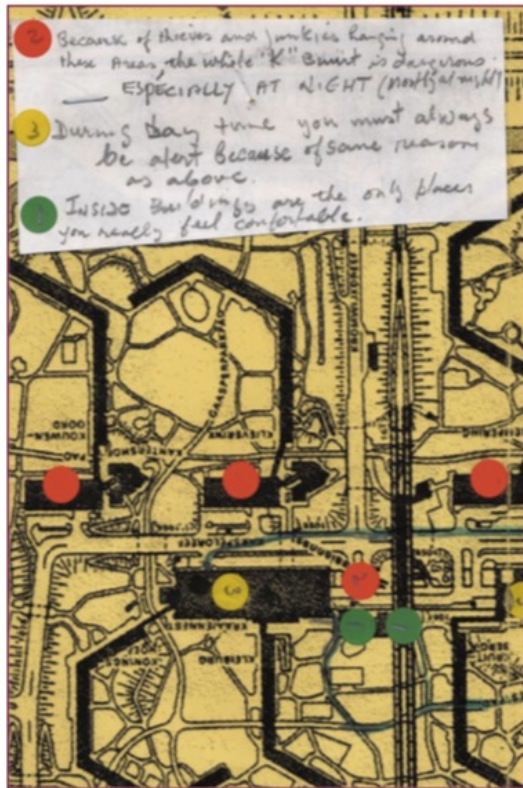


Figure 7. A returned map showing zones of safety and fear in the Bijlmer.



Figure 1. A cultural probe package.

- Packages with tasks and artifacts given to research participants. They record and deliver the tasks to researchers.
- Typically & traditionally, disposable cameras, diaries, stories, maps etc.
- Allows the gathering of data over time.
- Requires good briefing.
- Recruitment is crucial to get right kind of people who are able to self-report with your support.
- Analyzing the probes and conducting a follow-up interview with the respondents.
- Originally introduced by Gaver, Dunne & Precenti on a design research project of elderly people in 3 different EU countries.

Observation without interfering vs. participant observation

Fly on the wall



- Observe and record
- Beware of the illusion of objectivity

Participant observation



TUTKIMUS

Jussi Perälä

"Miksi lehmät pitää tappaa?"


Etnografinen tutkimus 2000-luvun alun huumemarkkinoista Helsingissä


- Active learner who engages with the field
- Reflection on biases, but no value judgments


Try out a service from the perspective of a specific role


Processing Time Checker


Check the processing time of your application
Select the application you submitted.

 Residence permit

 EU registration


 Citizenship

 Travel document

 Asylum

[Clear selections](#)

Services and instructions

Application Finder → The Application Finder helps you find the right application form.	Requests and certificates → The Finnish Immigration Service may, at your request, issue certificates on matters that concern you.	Instructions → The page of each application lists the requirements for that application and the documents you need to attach to it.
Immigration Information Centre →	Telephone service →	Migration Library  Kamu chatbot

- You can do this yourself or ask someone to try out and record their experience.
- Can be used to search for moment-of-truths, potential problems in how the service is perceived etc.
- Consider connecting this to other methods as part interviews or group discussions for example.

Principles for data synthesis by Jan Chipchase

1. Data should be consumed fresh.
2. Data is atomistic.
3. Data is traceable.
4. Data needs to breathe.
5. Move together. Remove together.
6. Optimize the absorption of data.
7. Supporting evidence builds validity.
8. Micro, macro and the middle distance.
9. Appreciate the value of informal sessions, and informal data.

How to plan?

Tips for a research plan

It's a living document that will change. Having a plan allows you to deviate from the plan.

Goals: what needs to be learned in order to find fruitful problems.

How to gain access to people and institutions to learn from?

What are the research questions and how do they translate to interview questions?

How to document for successful collaboration? Share resources and tasks.

**Supporting exercises to
consider**

Consider a purpose statement for your research

The purpose of this study is to
[explore/describe/discover/understand/develop] the [phenomenon]
in/at [research site/field].

For example:

The purpose of this study is to explore opportunities for secondary schools to address climate anxiety in their curriculum and counseling.

- Provides guidance for research and setting of research questions
- Helps in taking the research to a more concrete empirical level

Write your assumptions and hypotheses down and put them in a bucket



“How do we know that we are not biased in our analysis?”

->

“What kind of thoughts, roles and relations affect our biases?”

Discuss what is known and what is not

