Brainstorming

Rob Heyman

Rob.heyman@vub.be
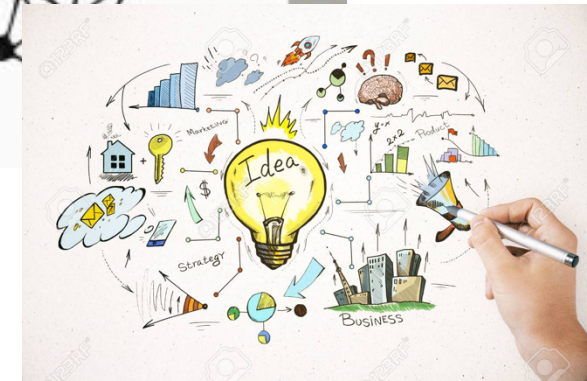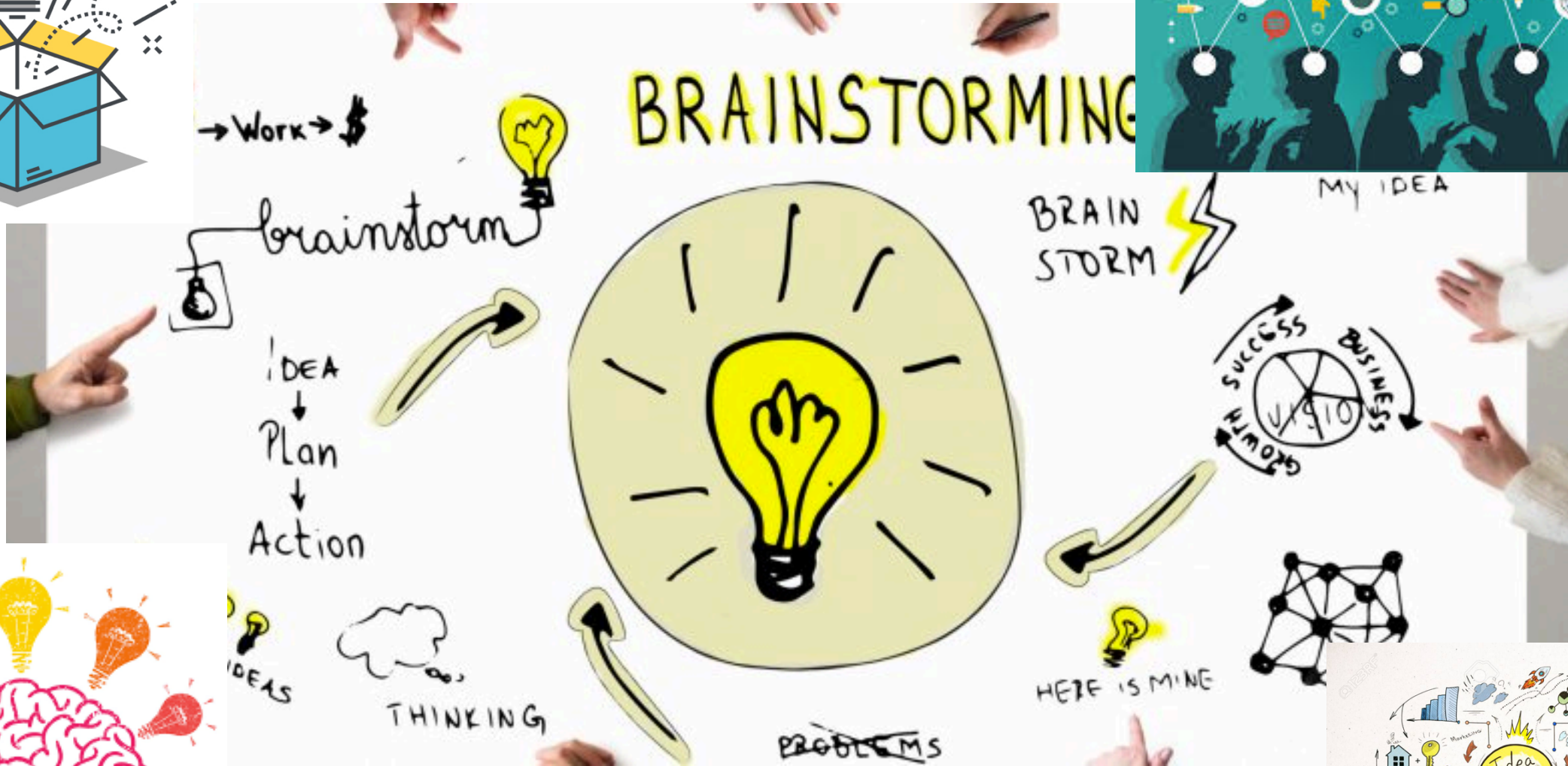
Osborn 1939

Brainstorming

For other uses, see Brainstorm (disambiguation).

Brainstorming is a group creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its members.

In other words, brainstorming is a situation where a group of people meet to generate new ideas and solutions around a specific domain of interest by removing inhibitions. People are able to think more freely and they suggest as many spontaneous new ideas as possible. All the ideas are noted down without criticism and after the brainstorming session the ideas are evaluated. The term was popularized by Alex Faickney Osborn in the 1953 book *Applied Imagination*.

1. Set a time limit – depending on the problem's complexity, 15–60 minutes is normal.
2. Begin with a target problem/brief – members should approach this sharply defined question, plan or goal and *stay* on topic.
3. Refrain from judgment/criticism – no-one should be negative (including via body language) about any idea.
4. Encourage weird and wacky ideas – further to the ban on killer phrases like "too expensive", keep the floodgates open so everyone feels *free* to blurt out ideas, as long as they're on topic.
5. Aim for quantity – remember, "quantity breeds quality"; the sifting-and-sorting process comes later.
6. Build on others' ideas – it's a process of *association* where members expand on others' notions and reach new insights, allowing these ideas to trigger their own. Say "and"—rather than discourage with "but"—to get ideas closer to the problem.
7. Stay visual – diagrams and Post-Its help bring ideas to life and help others see things in different ways.
8. Allow one conversation at a time – keeping on track this way and showing respect for everyone's ideas is essential for arriving at concrete results.

Brainstorming, stakeholder management, participation, co-creation, design thinking...

- A group
- A goal
- Rules of engagement
- Physical objects
- A room
- Time (limit)
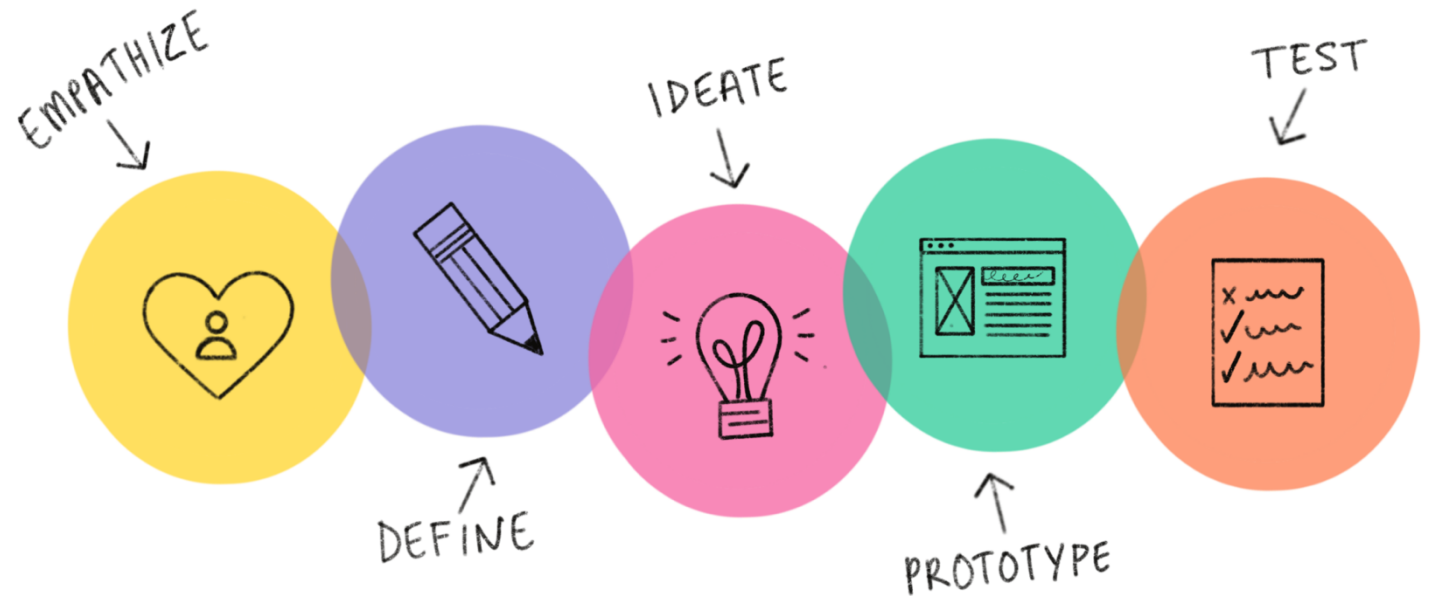
Brainstorming, stakeholder management, participation, co-creation, design thinking…

- Methods to solve a problem or challenge in a group through interaction

- It should have a clear structure, problem, #participants, timing, roles in order to achieve a certain goal

- It can make use of creativity, empathy, imagination, collaboration, association to reach these goals

What should everyone know about AI?

Divide the group in 3 subgroups

- Group 1
  - Go sit around a table and discuss 10°
- Group 2
  - Make an individual drawing of the issue 5°, discuss 5°
- Group 3
  - Do not talk, use post-its and cluster without debate what post-its are related to each other 10°
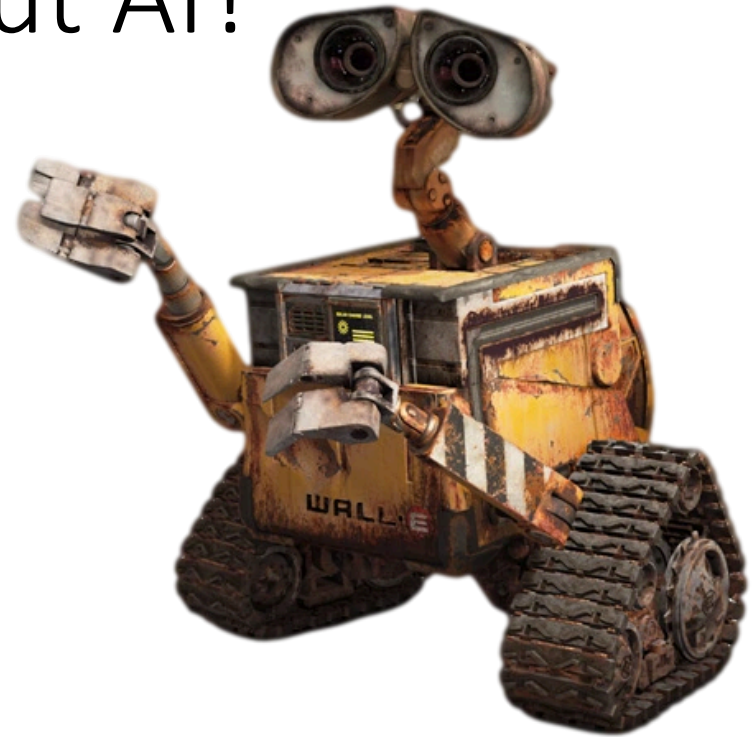
Report on these questions °5

Most heard group member:

Least heard group member:

What was remarkable in your group?

What did you like or dislike about the method?
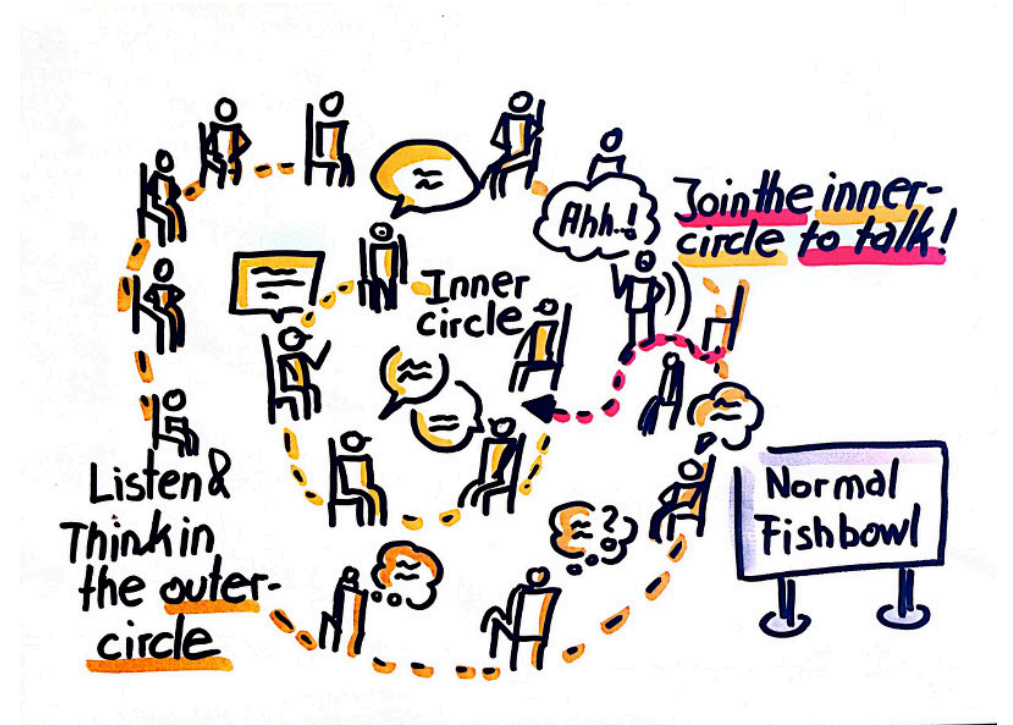
What should we be worried about in AI? 15°
Fish bowl

Inner fishbowl

- Listen while others are talking
- Do not speak when someone else is talking
- Raise your hand if you have an idea to share
- If someone taps your shoulder make room

Outside of the fishbowl

- Listen to the inner circle
- Take note
- If you have something to say, tap a shoulder and take someone's place

Brainstorming, stakeholder management, participation, co-creation, design thinking…

An architecture of collaboration

- Using the room, the number of participants, media that change how we can communicate, we can control the outcome of an interaction
  - We can decide who talks, how to balance intro- and extraverts
  - The type of information shared
  - Power imbalances can be addressed
  - Creativity, ratio, association, stories, different things can be added more or less to the mix

Journalist method, a really good use of time and people

- Each person has one question, it is your responsibility to get answers to this question
- You will work in teams of four, so you will take turns in asking and answering questions until everyone answered your questions and you answered everyone's questions
- Rules of engagement
  - You are a journalist, you ask why and for clarification but you do not start a debate
  - You get one minute to ask your question and write down the answer

Set tables and chairs so that you are a group of four

Questions:

1. What types of AI do you encounter in your daily life?

2. What is the most important thing you need to know about AI? Why?

3. Who should explain AI so that everyone understands?

4. What should an AI speedcourse look like to you?

At your table, have four different questions

Go sit with other people that have the same question you had

- Report on the question and present
  - 5 minutes to create the report
  - 2 minutes to present the report

First intermediary conclusion

- What have we been doing so far?
  - In terms of the goal of the methods
- Can you see how the architecture of participation determines how well a goal can be reached?
  - Time is a very important prioritiser
  - Group size determines participation
  - Communication format is the main tool to level the participation playing field

How to design participation?

A quick guide on the basics

Design criteria

- Goal of the workshop
- Constraints
  - Time, money, place
- The topic itself
- # and kind of participants

Goal of the workshop

- Information gathering
- Problem definition
- Solution area identification
  - Who are your allies? What are the available means?
- Solution definition
- Evaluation
- (getting to know others)
- (feedback)

Constraints

- Place
  - How big is the place you can use, what is this place for whom?
    - Accessibility, safe, loud, quiet, good looking, ugly, inspiriational
- Time
  - Time to recruit participants
  - Time people are willing to spend on the workshop
- Budget
  - Tools
  - People that can help
  - Reporting
  - Incentives

The topic itself may impose constraints

- Let's have an explorative focus group on STD's and where you got them
- Let's discuss the up and downsides of assisted machine learning for medical imaging
- Let's invite the dean and the whole faculty to discuss how we should improve the faculty and the VUB
- A brainstorm on sending a VUB mission to Mars
- #metoo

and kind of participants

- Children, elderly, working people have different daily schedules and means to communicate

- Power relations cause challenges: natural enemies, competitors, employer-employee

- Involvement in the theme discussed

High

Keep satisfied

Manage closely

Power

Monitor

Keep informed

Low

Interest

High
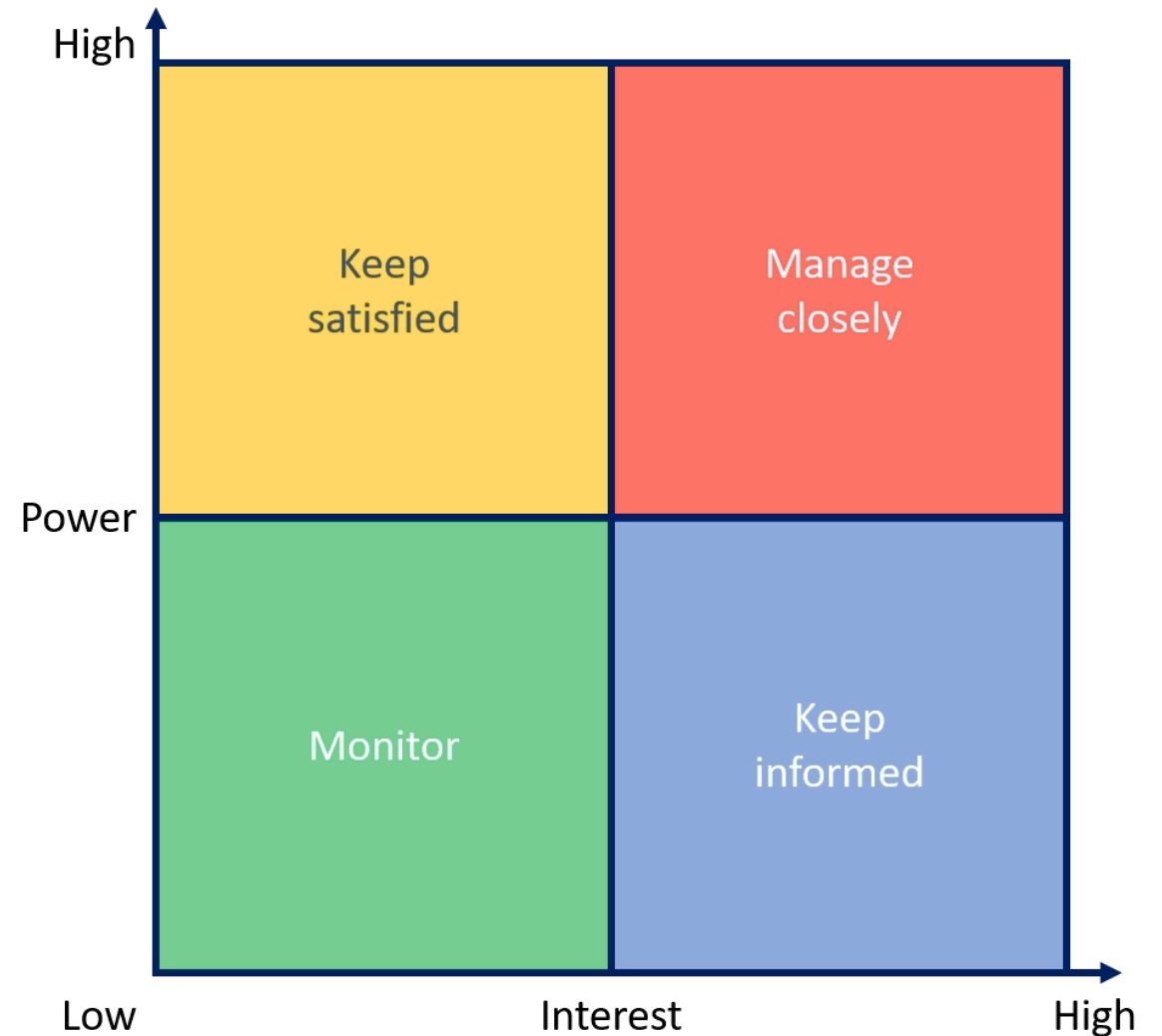
Problem solving starts with problem creation

- You need a really good definition of a problem that everyone understands

- Given that (stakeholder) is running into (challenge) and has the following (problem) to overcome

- How can we help stakeholder to (solution) so that he or she or they can do (challenge) in a (solution effect) way?

Reverse brainstorm (10 minutes)

How to make sure nobody wants to know anything about AI? Be original, funny, …

- Rules:
  - Stand up
  - Don't think just add
  - Yes, and instead of yes, but

Define the problem 10 minutes

- Use the journalist method output to answer what you as students need to know about AI

- Given that (stakeholder) is running into (challenge) and has the following (problem) to overcome

- How can we help stakeholder to (solution) so that he or she or they can do (challenge) in a (solution effect) way?

Purge

- We try to take out the usual suspects in a brainstorm but we also want you to get into a more creative mindset
  - Did you at any moment feel more sponteneaous?
  - Creative?
  - No longer overthinking or analysing?
- Alternatives:
  - Brainwriting:
    - sit in a group with 4-6 people, each write one sentence of a solution that comes to mind
    - Pass the sheet to the next person and write a sentence below the one you receive
    - Keep going until you receive your own paper

Icebreaker

- Who was your childhood actor/actress crush?
- If you were a wrestler what would be your entrance theme song?
- What's the most embarrassing fashion trend you used to rock?
- If you had to eat one meal everyday for the rest of your life what would it be?
- If you had to delete all but 3 apps from your smartphone, which ones would you keep?
- Say you're independently wealthy and don't have to work, what would you do with your time?
- What is your favorite item you've bought this year?

Energizer

- Count to 20
- Count to three
- Play a game
- Do something blindfolded
- Simon says

Left brain shut up and allow right brain to start

- In every participatory session, people feel awkward, shy, too serious to brainstorm
  - Left brain dominance on analytical stuff, verbal instead of intuitive and creative thinking
    - What will people think of me? I am no expert on this topic. I have no cool ideas
  - I am here to do business, I have no time for sillyness or your shenanigans
- We need to create a feeling of trust to speak our mind but we cannot have an open bar so we need something else

Post-it method

- Take 5 post-its
- Add 1 idea per post-it
- Stick them on a wall

Post-it + rolestorming

- Think of your favourite hero/inspirational person and add 5 post-its on how they would solve it
- But first tell me who you are going to play by playing the person and presenting 1 solution
- We will use no timer, but you are only allowed to use one breath

Crazy eight

- Take a paper and fold it in eight sections
  - Look at the demonstration
- You pick an idea and work it a drawing
- You have one minute per drawing

Add new ideas to the post-it wall

Great now we have too many ideas

Gibson-method: quick selection of ideas (10 minutes)

Put what you want to discuss on paper

- step 1: Turn papers facing down if you agree with an idea

- step 2: remaining face up papers are put away

- step 3: turned around papers from step 1 are put back on the table

- step 4: if someone disagrees, turn paper around

- step 5: Open papers = unanimous great ideas
  - The facing down papers are contested, if needed a discussion is held about these

Implementation (it is bad form to stop at the idea part)

- Divide into groups, 4 per group
- Pick one idea you want to work on with your group
- Draw out the solution in a story board

SHOT #	SHOT #	SHOT #
ACTION	ACTION	ACTION

Brown paper session (25-40 minutes)

- You coat a brainstorm room wall in brown paper (wrapping paper) and you add the following columns

- To your left:
  - Problems and actors

- To your right:
  - Goals and subgoals

- The middle:
  - Who does what, when? Be as specific as possible

How to DIY brainstorm

- Define what you want to achieve
  - What is it that you need at the end of the day?
- Order subgoals into start, middle and end
- Add a time and a detailed description of the applied method
- Have your brainstorm

Useful references

- http://www.toolboxtoolbox.com/ is a website with an overview of relevant tools for brainstorming and design thinking