

# Research Co-creation Toolkit Guide (v1.3)

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**This practical guide is a complementary resource to the copyleft download materials that you will find [here \(English\)](#) and [here \(Spanish\)](#).**

The research co-creation toolkit is aimed at researchers who wish to facilitate co-design dynamics of projects, as well as communities or groups that want to investigate, for themselves, topics affecting them or situations that must be solved. In both cases, if the objective is to formulate and select questions collectively, and plan a collaborative research process, I hope you find it useful :)

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# Introduction

The toolkit in its current version has been developed within the framework of a doctoral research project by [Enric Senabre Hidalgo](#), from the [Dimmons](#) research group (IN3 / UOC), on how co-creation can contribute to the design and development of research processes. It combines a variety of learnings and formulas, methodologies and materials previously tested in areas such as software development, free culture or social movements.

Its first version and development phase has been possible thanks to a close collaboration with the [OpenSystems](#) team from the University of Barcelona for the European project [STEM4youth](#). Through 2017, the various phases of the toolkit were developed and tested together with the scientific team of OpenSystems. It was put to the test in a co-creation environment of citizen science with three groups of secondary schools in the Barcelona area. The material and its different phases, in turn, are based on facilitation dynamics I developed with [Platoniq](#) in 2015 and 2016 during the [Europeana Creative](#) project and two first editions of the [IdeaCamp](#) with the [European Cultural Foundation](#).

It is, therefore, material under development that should work in specific contexts. For this, tailoring and other factors that we detail here are key. The toolkit can be used modularly (or added to other methodologies and co-creation materials). The results of its first pilot phase were successful and met the objectives; they were studied and reflected in an [academic publication](#) that demonstrates the benefits of following this approach in a sequential and dedicated manner.

## What is this toolkit for

The toolkit has been conceived to guide the collective ideation and planning of a research process. It includes materials to print and use in different sessions that allow common concerns and problems to be solved, objectives and research questions collectively generated, diagrams of the process created and tasks and their assignment agreed on. It is conceived as a modular sequence that can be executed by adapting the material to different contexts, so that it is suitable for the desired phases of collaborative research.

Considering how broad the world of science and research is, it is important to mention that this toolkit may not be appropriate for various types of projects. In contexts characterised by citizen science initiatives, action research or participatory research, transdisciplinary initiatives, as well as for groups of students or people who are starting out in the world of research (such as PhD students) -- I believe that this type of resource can be of help.

## Previous requirements

There are several factors that can favor or harm a co-design process, in any context, and others that must be taken into account when doing so in a research or science framework. For this reason, this guide tries to specify what should be prepared and done during the process, starting from the basis that the best way to move forward and succeed is to dare to try things out and practice regularly!

## Selection of participants to achieve diversity

For collaborative research, one of the main requirements is to define who will participate in the process, where a key factor will be diversity. For this, it is very important to think about who is going to be invited to join the process: specific professional profiles, experts in fields of knowledge that may be complementary, representatives of groups or communities with a shared problem, stakeholders from institutions that may have something to say about it, students or neighbors from a certain local context.

These are just some possibilities, but the point is that it will be important to think in advance about who will participate, and ideally try to ensure that they can engage on a regular basis, not just occasionally. As we will see, given the maximum diversity possible, a key aspect is to try to start off on the right foot, so people feel safe and recognize who is starting to work with whom on a specific project.

## Importance of the time factor

Another key aspect to keep in mind is that co-creation takes time, and it requires different moments, intensities and capacity to reflect progressively on what is being done. At the same time, it must be a modular process that allows generating ideas and then taking decisions, but also changing the course of things, or accelerating, if at some point things are not working as expected.

In the case of this research co-creation toolkit, it is conceived as having five different stages with a sequence that goes from joint discovery to planning and assigning tasks. At the same time, it is designed in a way that any of these stages can be carried out independently, in case it is just needed to identify problems, or to formulate research questions, for prototyping a concrete experiment or intervention, etc.

In any case, each of these stages will require working sessions that have their own rhythm and timing. Ideally, such sessions should last a minimum of 2 hours each, on average. The best approach is that between each session and stage some time is allocated for the facilitators to talk and discuss the proceedings, and to be able to process the data generated (to prepare the next stage incorporating it). For this, the guide indicates the ideal time to be dedicated to each phase, but it is also important to consider that this will vary depending on the number of participants, as well as other factors such as how well they work together, or the distribution of space, complexity of the project, etc.

## Who facilitates?

As with all co-creation processes, it is essential that someone is responsible for carrying out the facilitation during each of the sessions. This means preparing the dynamics in advance, having a script of the sequence to be worked on, and during each session to explain what is going to be developed, to clarify doubts and especially to control the time necessary for each phase, being very flexible in accordance with how the group evolves.

In my experience, facilitation is a type of task that requires a lot of intensity and a lot of effort, and if done in tandem or by a small group (instead of being carried out individually), then it works much better. One possibility is to divide the roles in advance, and who will do what, knowing that facilitation means more than just presenting and giving instructions. It will also be very important to pay attention simultaneously to questions or issues arising from different sub-groups, unblock and motivate specific people at specific moments, moderate, ask questions or summarise results, etc.

As for the preparations, here is a basic list of items to keep in mind so that nothing important is forgotten:

- Printed materials: those canvas or cut-out materials that will be used, in the proper size and a copy for each sub-group in which participants will be divided (plus some extra ones).
- Content to present: slides about the subject to be treated, written instructions as reminders, summary about how the previous session unfolded, etc.
- Infrastructure: tables and chairs necessary for group work, screen projector, coffee and/or cookies, more food if you are going to work for a long time.
- Consumables: sticky notes of various sizes and colors, markers, green and red sticker dots, scissors, double-sided zeal or putty to display the results on the wall at the end of each session.

## General concepts about group facilitation

Since this is a key factor, here are some tips regarding facilitation with this type of toolkit material. Also taking into consideration that research between different disciplines, knowledge and personal baggage needs a common language and a good dose of patience, as it advances iteratively in agreements and shared visions.

- Interest in the context or problem: facilitators must have a high motivation, similar or even higher than the initial motivation of the participants, to promote the intensity required for the challenge.
- Open mind: although key aspects of each session depend on the facilitation role, when different people work together intensively in co-creation, anything can happen. If facilitators have a predefined idea of the result and what is going to happen, they will soon see the opposite :)
- Importance of examples: indications and instructions need to be contextualized, and they work better if a clear example has been prepared in advance. So it helps if each canvas is introduced with sticky notes or sentences added previously, to clarify the type of desired output.

- Do not repeat indications if not necessary: when there is more than one facilitator, sometimes they fall into the error of repeating the same things to reinforce this or that instruction, but you should try to avoid that if possible. You don't want to give the sense of disorganization, or that things are not working.
- Flexibility with timing: although you should have a rough idea of how much time to devote to each activity, it is usual in practice to take a little more time or lengthen the moments when a group discusses or puts forward things in common. For the same reason, it is key to know how to indicate what is still missing at specific moments, or interrupt interventions if they get longer.
- Use questions: if you have a real interest in the context and the process that is being facilitated, a fundamental tool is to ask the group, or specific people, each time the results of an activity are shared. That contributes to breaking the ice and motivates others to do the same.

## Is the space ready?

The characteristics of the space where the co-creation takes place are also very important. Many of the dynamics can be influenced for good or bad by how comfortable or uncomfortable the place is, or its lighting, and especially its size, and how people can be distributed to work. Ideally, large rooms with good natural light are best.

As there are moments for sharing progress, alternating with others to work in small groups, it is important that (usually after an initial presentation format) chairs can move easily around tables that are sufficiently separated. Also, it is important that the rooms have wide and clear walls, and there is no problem in displaying there the materials produced in each session, in a small exhibition that will show everything together at the end.

## Stages and sequence of steps

The toolkit proposes a series of activities based on a fundamental principle of design thinking, which is to alternate phases of divergence with phases of convergence. That is, first for generating ideas and possibilities in a participatory way (sequence of divergence: normally through the formation of subgroups) and afterwards a phase of jointly selecting options (sequence of convergence: by clustering of concepts and decision-making mechanisms).

For this, it is very important to ensure that each phase of divergence begins with a clear indication of what is proposed (ideally presenting an example, keeping it visible during the exercise). Also, when clustering concepts or ideas at the moment of convergence (usually sharing the results of what was developed in each subgroup), the speaking times of each person involved should be well managed. The latter is sometimes the most difficult thing to achieve, since flexibility and empathy is needed so that there is no one who talks too much, as many voices as possible are heard, and all potentially interesting possibilities are exposed.

### Co-creation stages

(EACH STAGE CORRESPONDS TO A WORK SESSION)		
<i>(Divergence sequence)</i>	>>	<i>(Convergence sequence)</i>
Preliminary step: General presentation + Accreditation of participants according to roles and aptitudes		
Stage 1: Definition of the problem to be addressed		
Brainstorming on issues of concern at the local level	>>	Clustering, discussion and selection based on thermometers of concepts (social impact, viability, motivation)
Stage 2: Generating research questions		
Structured formulation of questions according to models: descriptive, comparative or relational	>>	Selection by subgroups according to voting, sharing and grouping of selected questions
Stage 3: Conceptual diagram of the research process		
Prototyping/low fidelity chronogram of research steps: With key concepts, time development and methods to be employed	>>	Presentation by each subgroup and discussion prior to individual voting
Stage 4: Task and logistics planning		
Brainstorming on logistics tasks, dissemination and definition of research	>>	Sharing and subsequent processing to perform the experiment

The other aspect to be taken into account in each stage, as will be seen, is to constantly document results. The most usual and simple thing is to take pictures after each session of how each piece of work material was generated. There may also be cases in which it is useful that someone takes notes, specially when summarising and discussing results at the end of each stage. Usually that role works better if not done by someone with an important facilitation role, but instead a notetaker dedicated almost exclusively to that task.

# Preliminary step: research profiles

**Duration:** 15 to 30 minutes

**Material:** Canvas printed on adhesive paper, scissors, colored threads and transparent CD cases.

When starting, an important step is to "break the ice" and allow all participants to identify themselves in relation to the concept of research, thinking about their role and abilities. As a preliminary step in the development of the first stage of co-creation, and to promote the diversity of skills in each work subgroup (ideally comprised of 6 to 8 participants), the toolkit proposes a set of identifying badges, for which the participants have to select between different profiles or research roles.

**ColMeth: Collaborative Research Toolkit – Step 0: Research profiles** Date \_\_\_/\_\_\_/\_\_\_ Project \_\_\_\_\_

0 **Your DIY badge for the sessions** Research profiles: choose, cut and paste (3 maximum, those that best define you)

<b>Name / Alias:</b> _____ <b>Twitter:</b> _____ <b>Instagram:</b> _____	<b>Experimenter</b>	<b>Techie</b>
[profile sticker #1]	<b>Intuitive</b>	<b>Feminist</b>
[profile sticker #2]	<b>Activist</b>	<b>Curious</b>
[profile sticker #3]	<b>Qualitative</b>	<b>Quantitative</b>
← Put it visible if you do not want to be photographed	<b>Communicator</b>	<b>Observer</b>
<p><b>Step 0:</b> Cut out this piece of paper to assemble your accreditation for the co-design sessions. Add your personal and contact information, and then choose three adjectives that characterize you as a researcher. Cut them and get them by order of major importance on your badge.</p> <p>Think about your way of being, facing problems and the role you can contribute from according to your training and interests. In case you do not find any that fit with you, or you want to add some new ones, you can write them directly. Customize it and go!</p>	<b>Explorer</b>	<b>Artistic</b>
	<b>Organizer</b>	<b>Analyst</b>

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## Sequence

1. Print this canvas of the toolkit on adhesive paper (one copy per each participant), and cut out the various stickers and place them neatly on a table.
2. Each participant must complete the accreditation with their own data (name or alias and contact information) and select three roles that connect with their individual nature, experience or ability.
3. When everyone has done it (ideally, the facilitators as well) you can proceed to a round of personal presentations. This facilitates getting to know who is who, and jointly discovering those types of profile that are most repeated among participants, as well as those that may be less reflected.

## **Tips**

- When choosing three adjectives that characterize each participant as a researcher, interesting issues or questions may arise that lead to a group discussion about, for example, what it means to be a feminist or activist researcher in a certain area, or differences between what is understood as qualitative and quantitative methods, etc.
- When giving the indications so that each participant can customize their accreditation, they can be told to think about their way of being and the role they can bring to the project, according to their training and interests. In case there are no predefined features that fit someone, or you want to add a new one, you can customize the stickers.
- In addition to initiating the project with the collective identification and visualization of different possible roles, this step can help to promote the complementarity and diversity of the participants when forming subgroups.

# Step 1: Identification of the problem to be addressed

**Duration:** 1 to 2 hours

**Material:** Canvas of thermometers, rectangular post-its, markers, numbered cards.

The first step of this method is designed for a session in which participants jointly explore and agree on those problems or concerns that can be addressed through a joint research process.

**ColMeth: Collaborative Research Toolkit – Step A: Problems and concerns** Date \_\_/\_\_/\_\_ Project \_\_\_\_\_

**1** Brainstorm on issues and topics      **2** Selection of problems, comparing them using each thermometer. To raise or lower a position, concerns should be argued every time :)

	Impact on the neighborhood	Global impact	It can be solved	It motivates us
Paste your postits below	HIGH	HIGH	HIGH	HIGH
Our concern is that...]	LOW	LOW	LOW	LOW
Our concern is that...]	LOW	LOW	LOW	LOW
Our concern is that...]	LOW	LOW	LOW	LOW
Our concern is that...]	LOW	LOW	LOW	LOW
Our concern is that...]	LOW	LOW	LOW	LOW
Our concern is that...]	LOW	LOW	LOW	LOW
Our concern is that...]	LOW	LOW	LOW	LOW
Our concern is that...]	LOW	LOW	LOW	LOW

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## Divergence stage: Brainstorming on issues of interest

1. First, after summarizing the purpose of the session, participants should be invited to form groups of 4 to 6 people. On each table they will find markers and a pack of sticky notes (long ones better than squared, which do not have much writing surface).
2. Then they must write individually everything that comes to mind concerning a specific problem. They must dedicate a sticky note to each point (avoiding listing them all in a single post-it). It is best to indicate, by means of an example, that each problem to be addressed needs a phrase that begins with "My concern is that ..." (this usually allows the sentences to be more concrete than a simple word or title).
3. After about 10 or 15 minutes, a first round is indicated for each subgroup to present and discuss outputs among themselves.
4. Each subgroup must dedicate a few minutes to select the 2 or 3 concerns or topics of interest that they consider most important (for example, they can vote by using green dot stickers).

### **Convergence stage: Cloud of post-its and thermometers for comparing outputs**

1. To initiate the sharing of main outputs, a couple of representatives from each subgroup places the post its they have selected in their group on the main wall or board, briefly explaining the problems that they reflect.
2. Each time new representatives come out, with the facilitator's guidance, they can be asked to try to group together common problems (if a very close relationship is noted between some).
3. Once this shared visualization and clarification of the problems selected by the different subgroups has been completed, as well as the way in which they are grouped or related, it is likely that there will still be a high number of issues to be addressed. To solve this, a second phase should be proposed in which the toolkit thermometers are used, which should lead to more detailed discussion and comparison of the possibilities that have arisen.
4. Placing the thermometers on a visible part of the wall, next to the area where the post-its have been placed, each problem (or grouping thereof) must be assigned a number, that facilitates moving it up or down in front of all the participants.
5. Proceed in order, and commencing with problem #1, applying each point on the thermometer (e.g., impact, viability, motivation, etc.), taking a moment to ensure that there is agreement among participants on whether the level is "high" or "low". For this, the convention to adopt is that the facilitator (or a volunteer from each group) does not move the number up or down on the thermometer unless the person requesting the move gives a brief explanation of the reason why (which is an excuse to specify and discuss the maximum possible criteria during this key moment of selection).
6. You should repeat the process with the remaining problems identified on the post-its (e.g., #2, #3, etc) following the same pattern. As it unfolds, it will become increasingly evident (in comparison to previously calibrated problems) whether they are higher or lower in significance than the others.
7. Finally, once each thermometer reflects all the main problems or concerns identified, now compared and discussed according to different criteria, it will be possible to choose the one with the highest position in proportion to the others, or at least a couple of them as finalists (if for the next session it is preferred to leave that element still open).

### **Tips**

1. When preparing this session, the ideal is to adapt each thermometer (up to an advisable maximum of four) to criteria that allow the project to fit in its scope. That is, it can be specified if the concept of "impact" refers to a more local or global environment, or if for example academic impact is a better option, etc.
2. The same with questions of viability or motivation. The important thing is that they are criteria that can give rise to discussions of a certain depth, comparing ideas and thus assessing which of them should be retained for further work.
3. Both the cluster of post-its on the wall, as well as the ones that may have been arranged on each table, and the results with the different numbers on each thermometer, are the material that after this session will be worth photographing and thus documenting. For example, for the creation of a summary a presentation that will serve as the starting point for the next session.

## Step 2: Preparation of research questions

**Duration:** 1 to 2 hours

**Material:** Canvas of squares (DinA3), post-its, markers, adhesive points.

This second stage proposes that starting from the specific themes selected, participants jointly formulate research questions, and then select all those that should guide the project.

ColMeth: Collaborative Research Toolkit – Step B: Research questions				Date __/__/__ Project _____
3 The selected issue or concern is: _____				
4 Build together 3 different types of questions on the subject (each participant add a postit minimum)				5 Votes:
<b>DESCRIPTIVE QUESTION</b> (Select a beginning) <input type="checkbox"/> What...? <input type="checkbox"/> How...? <input type="checkbox"/> How often...? <input type="checkbox"/> What percentage...? <input type="checkbox"/> What proportion...? <input type="checkbox"/> How far...? <input type="checkbox"/> What value...?	[2nd part of the question]	[+ details of the question]	[+ details of the question]	
<b>RELATIONAL QUESTION</b> (Select a beginning) <input type="checkbox"/> What is the relationship between...? <input type="checkbox"/> What is the effect of...?	[Element to relate #1]	[Element to relate #2]	[+ details of the question]	
<b>OPEN QUESTION</b> (Select a model from the options above) <input type="checkbox"/> ...	[2nd part of the question]	[2RD part of the question]	[+ details of the question]	

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### Divergence stage: Modular generation of questions

1. As a first step, it will be important to start the session by remembering the main subject or topics in which the research will be framed, specifying everything that is considered important and even clarifying doubts or debating if those aspects should still be clarified.
2. Organizing again in subgroups of between 4 and 6 participants, on each table you will place standard square post its and markers of different colors, a canvas template printed with question boxes and pre-cut strips, with three green dot stickers each.
3. For the co-creation of specific research questions, each participant must provide at least one post it to complete one of the three possible sentences on each template. It should follow the proposed structure, and be written individually.

4. In this way, participants will utilise the predefined phrases ('What value ...', 'What is the relationship between ...', 'How often ...', etc) that contain in a modular way different options for formulating a research question: descriptive, comparative and relational.

### **Convergence stage: Voting and discussion rounds**

1. After cooperatively generating at least three sentences following this structure, each subgroup proceeds by voting on the research questions that most interest them. For this, each participant has three green adhesive points to place next to the question or questions they prefer.
2. Optionally, if enough time is available, brief rotation phases can be done in which each subgroup visits the questions on the next table (where there is a representative of each group, to better explain the questions generated). This can establish another round of generation or improvement of questions, as well as voting by points.
3. To end the session, we proceed to share the best valued questions from each subgroup. They are written or placed on the wall so that everyone can read them, and the people who have intervened in their preparation present them and clarify doubts if needed.
4. If possible, by similarity or complementarity of the questions, you can try to merge or improve them together, to generate a shorter list of questions that will guide the next phase of defining the research process.
5. Through a final round of voting or discussion, the final list of questions should be agreed on (i.e., those to be finally discarded and those on which participants will continue to work (and polish, if necessary)).

### **Tips**

- For the selection of questions, which must be formulated as concretely as possible, you can add a mechanism that will assist in identifying discrepancies. That is, participants assign additional red adhesive points to a proposed question, signifying that he or she has some important objection or warning comment about it (which must then be explained).
- When documenting the different questions generated, you can again photograph the individual canvases, as well as the wall or board where the final questions have been located. Additionally, a digital document can be created as a table or a list of all questions generated.

# Step 3: Conceptual diagram of the investigation

**Duration:** 2 hours

**Material:** Canvas grid (DinA1), canvas with icons of methods, concepts and people (DinA3), voting cards, glue, scissors, colored markers.

This third phase of co-creation focuses on a joint visualization of how the research process could unfold, step by step. It covers the different elements to be taken into account at a methodological level, and also logistically, as well as for communication or for dealing with the subjects of study. It is a more explorative and creative stage, which allows linking a sequence of concepts as a flow of actions along a timeline.

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**ColMeth: Collaborative Research Toolkit – Step C: Conceptual map**

Date   /  /   Project

**6 Process scheme as an action diagram, specifying each step and component**

[research questions]

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[key concepts]

---

[methods]

---

[people involved]

---

[logistics]

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[timeline]

**Key concepts**

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**Questions**

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**Personas**

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**Methods**

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This phase is for reflecting how the data collection process will be. Think first of all the key elements to include ... Variables, units of analysis, people or groups (you can select them from the icon sheet). First select everything that you think is necessary, discuss it and then organize it in a temporary order (from left to right). It will be the sequence to follow to carry out the research!

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METHODS FOR THE EXPERIMENT (select a bunch of them)			LOGISTIC TASKS (some of them are essential)		

KEY PEOPLE / GROUPS TO CONTACT		KEY CONCEPTS FOR THE EXPERIMENT			

### Divergence stage: Collage of the research process

1. In groups of 4 to 6 participants, grouped again around work tables, there will be a big canvas (empty timeline) and a series of icons previously cut out as cards (from the other two canvases). Participants will also have colored markers, and glue or adhesive putty.
2. Each card kit will have icons related to these categories: research methods; logistics; key concepts or variables; participants and groups. It is very important to clarify here that this part of the material is the one that needs more adaptation according to the context and type of project in which it is framed. If needed, I recommend personalizing them and generating new cards through the use of new icons.
3. On the empty canvas, which indicates the timeline from left to right at the base, participants have to place and organize the icons they consider key to carrying out the research.
4. Starting at the top of the canvas is recommended (writing the research questions selected in the previous stage), and progressively adding the rest of the layers below: key concepts (derived from the research questions); methods for obtaining data; people or groups to address, and finally aspects of communication and logistics to be taken into account.
5. As participants agree on the elements that must be considered for the research design, those icons can be fixed with glue or adhesive paste, as well as drawn with colored markers around them (to highlight concepts, establish connections, etc).

### Convergence stage: Exhibition format and presentations

1. Once each group has generated through collage the diagrams of the respective research processes, each of the posters is placed on the wall, each one next to the other in "exhibition mode".
2. The participants are invited to look at the different diagrams elaborated by the other groups, and to decide which could be reflected in a more detailed and efficient way in a viable sequence to be applied in the research.
3. Next, two representatives of each group must present each of the diagrams so that all the participants can understand the potential implications of each design, and clarify any doubts that may arise.
4. Subsequently, using the voting card, each participant must select in order of priority those prototypes that he or she thinks are most suitable for the investigation (without considering the diagram made in his or her group). For this, participants must briefly specify the reason or reasons of their choice.
5. Finally, results should be checked according to the votes, to decide which design will guide the research process. Optionally, in case of more than one final possibility, if there's time the final designs could be merged into a new one, describing the best strategy and sequence of the research process.

VOTING THE BEST CO-DESIGNS	
 Name: _____	
#1 design Grup n°: _____	Reason: _____
#2 design Grup n°: _____	Reason: _____
#3 design Grup n°: _____	Reason: _____
   	
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### Tips

- When deciding the groups, it will be important to consider if the design or artistic profiles (as reflected in the badges) are well represented among them. Is also important to

explain in detail each set of icons and their importance, ideally based on a previous example: methods, logistics, key players, concepts and groups.

- Additionally, you can experiment with more open techniques such as having magazines or newspapers available (ideal for collage techniques), from which participants can cut out fragments that would help in describing the intended research process.
- For this crucial phase of the co-creation process, a key piece of advice when facilitating is to approach each group and wherever an in-depth discussion or debate is taking place, recommend that in parallel participants begin to cut and place on the canvas those icons that are discussed or thought to be useful. In this way, simultaneously, those basic elements will be added and will begin to relate to each other, without the need for prior consensus that normally blocks the possibility of moving forward.
- This material can be documented easily in a graphic way, photographing each canvas and archiving it or sharing it later with the group (specially at moments when it is necessary to remember the starting point of the research).
- If participants can detail in each icon, on the section dedicated to it, who will be involved in that particular task or concept, this will help in the next stage and the necessary assignment of future tasks.

## Step 4: Task and logistics planning

**Duration:** 1 to 2 hours (and periodically during the research process )

**Material:** Canvas with columns (DinA1), regular post-its of different colors.

This last phase of co-design represents a joint reflection and discussion about the different tasks or needs involved in carrying out the research, their priority and who can be responsible for and develop each one of them.

ColMeth: Collaborative Research Toolkit – Step D: Planning and development Date \_\_/\_\_/\_\_ Project \_\_\_\_\_

7 Prioritized list of research tasks (according to categories from previous step)				8 Regular follow up of tasks	
Logistics & plan <small>Permits, choice of space, groups, etc.</small>	Comm. & design <small>Participants recruitment, decoration, logo, etc.</small>	Protocol & data <small>Linked survey, interface steps, roles, etc.</small>	Analysis of results <small>Final report, media outreach, presentation, etc.</small>	In process... <small>Only what is being done now.</small>	...& done! :) <small>Move tasks here when they are completed.</small>

At this stage it is necessary to define who will be in charge of tasks such as preparing the protocol of the experiment, disseminating the call, designing the space and interface, collecting data, analyzing them, communicating them, etc. Using as base the selected diagram (Step C) first locate the tasks identified on the corresponding column, specifying who will do it. Then align the cards of each column in order of priority, and move them to the columns on the right as they are completed and finalized.








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### Divergence stage: Brainstorming of possible tasks

1. Starting from the diagrams finally selected in the previous stage, this is the moment of moving from the co-design paradigm to one of preliminary planning. For this purpose, the selected research design, printed or visible for each of the working groups, must be the focus of the session. Again in small groups, post its in a variety of colors should be available on each table.
2. The selected design will be accompanied by this new canvas, which will be located in the middle of each table. This presents a surface divided into different columns, as a basic “kanban” board, inviting explicit tasks that could otherwise go unnoticed.
3. Participants should brainstorm on tasks to be placed on each column, which describe a category of action points derived from the icons used in the selected prototype: logistics and planning; communication and design; methods, protocols and data; analysis of results.

4. They will describe each possible task on coloured post its, placing them on the corresponding column.
5. Then, once each subgroup has generated the maximum number of possible detailed tasks, a second round should be done in which they agree on their level of priority, rearranging the post-its so that the tasks with the highest priority are located in the top positions of each column.

### **Convergence stage: Joint priority list of tasks and responsibilities**

1. In this second round, participants will proceed to present the tasks identified by each group in a gradual way, using a large canvas with different columns, that must be placed on a wall or central space of the room, clearly visible to all.
2. By iterative rounds, column by column, starting with the first one, a representative from each subgroup will refer to the post-its with highest priority according to their results.
3. This will progressively allow each column to be completed with everything that has been identified, reorganizing it in order of priority when discussing it among the whole group. Also to ascertain whether any element not yet mentioned could be missing, before finishing one column and moving on to the next.
4. Once all the columns have been completed, and consensus has been reached that there is no lack of important tasks to be able to start the research, a second round will be made in which post-its with specific tasks must be moved (from the top of the list ) to the column "In process ...". This should reflect everything that needs to be done at the very beginning of the project.
5. When moving post-its with specific tasks to that column, it is important to specify and agree on who in the group can take charge (either individually, in pairs or as a group), specifying the name(s) on the same post it. In this way, participants will have a shared visualization about the first steps of the process and who is doing what.
6. Periodically, whenever possible, the same type of iteration should take place again, as tasks are completed, moving post its to the "Done" column (and moving those which follow to "In process... "). Time for reflection and discussion should also be assigned to new unforeseen tasks, which need to be prioritized and carried out by someone in the group.

### **Tips**

- This stage can also be adapted to other Agile project development principles<sup>1</sup>, by which this part of the process is inspired, which include many more elements of ideation and monitoring of collaborative project management.
- In contexts where it is not possible to have a permanently dedicated physical space, where a paper canvas with the flow of tasks in progress can be displayed, it is recommended to transfer the content of the post its to digital tools that fulfill a similar function<sup>2</sup>.
  - We recommend the <https://kanboard.org/> open source tool for this, which can be installed on a dedicated service and customized for research purposes taking advantage of a wide list of extensions<sup>3</sup>.

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<sup>1</sup> See [https://en.wikipedia.org/wiki/Agile\\_software\\_development#Agile\\_management](https://en.wikipedia.org/wiki/Agile_software_development#Agile_management)

<sup>2</sup> See <https://trello.com/>, <https://asana.com/> or <https://slack.com/>

<sup>3</sup> See <https://kanboard.org/plugins.html>

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