

HOW TO USE THE RESEARCH PATHWAY TOOL

THIS CONVERSATION TOOL HELPS TO MAP YOUR RESEARCH PATHWAY AND TO DEFINE THE SCOPE OF YOUR RESEARCH.

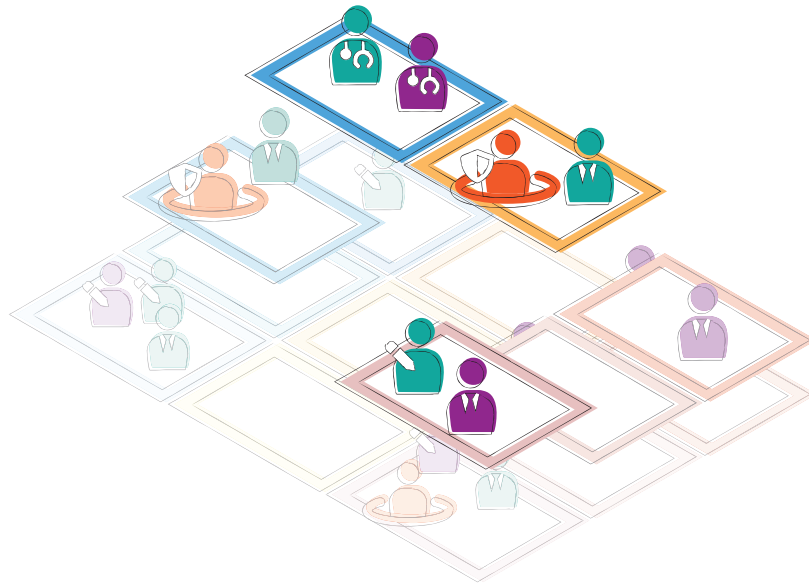


Figure 7.1 Layers of the Research Pathway Model

INTRODUCTION

The Research Pathway Tool (RPT) is designed to structure conversations between research partners about the research pathway. This research pathway consists of the research steps and the activities that are undertaken to achieve the goals of the research. The tool helps to explore and articulate the many different goals that the partners who are involved have adopted in relation to the project as well as the various ways of getting there that they identify. By doing this, partners are able to pinpoint difficulties in advance.

After you have worked with this tool, you will know more about your research. For instance, you will be able to answer the following questions:

- What do all parties have in mind with this project?
- What (common) goals are you working towards?
- What (research) activities will you conduct?

- In what order will you achieve the goals that you have set?
- Who is involved in which research step?

Consequently, you could also use this tool to plan your project, to discuss changes during the project, to evaluate and/or to map activities to outcomes retrospectively. Doing so could help determine your next steps, such as learning more about what the problem your next research project may need to solve, be it practical problems, further prototype development or delivering knowledge.



Figure 7.2 Research Pathway Tool

BACKGROUND

The Research Pathway Model (RPM) is a process model that explains the type of outcome that follows from different research steps. This helps to create a better shared understanding of a research project. The model consists of two axes (research contexts on the horizontal axis and research activities on the vertical axis) and nine research steps (Figure 7.1).

We discern three research contexts.

- The theoretical context, in which the research is focused on creating, exploring and delivering a better understanding of problems and related propositions for solutions that are advanced and not yet verified in practice.
- The conceptual context, which translates the presupposed solutions into a more specific prototype that is created, explored and made. In this context, researchers, project partners and other stakeholders provide experiential knowledge to translate theory to prototype by themselves, together with the consortium and with or without the end users, but always in a protected space such as a brainstorm room, a pilot environment or in the context of a pilot organization.
- The real-life-practice context, which concerns the context in which the prototype is tested in the world of professional practice and/or the living environment of the end users.

In addition to the three research contexts, the model identifies three overarching research activities.

- Understand and Create refers to research goals, with the aim of improving the understanding of the problem and creating an idea that can be used to solve it. These goals can be realized by engaging in research activities throughout the whole research pathway, whereby it is possible to iterate a research goal during the iterative process. The examples of research activities include performing a literature review ('create theoretical understanding'), co-designing a prototype ('create a concept') and observing end users in their domestic setting ('create understanding of real-life practice').
- Explore and Test refers to research goals, with the aim of exploring an idea, concept, construct or solution by performing research activities. The examples include laboratory research and tests in a controlled environment ('explore theory or a concept in a controlled situation'), evaluating a prototype in a pilot ('explore a concept') and testing a prototype in the environment of the end user ('explore a solution in real-life practice').

- Deliver and Implement refers to goals that are related to the delivery of insights as part of the research pathway. The examples include publishing research papers or grey literature ('deliver theory or knowledge'), delivering a prototype ('proof of concept') to developers or another research project ('deliver a concept') and working on an implementation strategy for an organization ('deliver change in real-life practice').

This results in a 3x3 matrix of nine squares. Each square represents a particular type of research step in a particular context. The matrix does not prescribe an ideal sequence of steps. The resulting pathway might well be an iterative process in which a specific square appears in various steps. The RPM can be used as a process model to map activities, patterns and the linkages between them. By using such a process model, researchers are able to design their research pathways prior to planning their actual research activities. In addition, it helps them to engage in monitoring along the way and to evaluate activities after concluding the research project. The matrix makes it possible to map the activities that contribute to the implementation of the innovation project, whereby contributions to the real-life-practice context, the conceptual context and theoretical context can be made explicit.

| | THEORETICAL CONTEXT | CONCEPTUAL CONTEXT | PRACTICAL CONTEXT |
|------------------------|--|-----------------------|--|
| UNDERSTAND & CREATE | CREATE THEORETICAL UNDERSTANDING | CREATE A CONCEPT | CREATE UNDER- STANDING OF THE REAL-LIFE PRACTICE |
| EXPLORE & TEST | EXPLORE A THEORY OR CONCEPT IN A CONTROLLED ENVIRONMENT | EXPLORE A CONCEPT | EXPLORE A SOLUTION IN REAL-LIFE PRACTICE |
| DELIVER & IMPLEMENT | DELIVER A THEORY OR KNOWLEDGE | DELIVER A CONCEPT | DELIVER A CHANGE IN REAL LIFE PRACTICE |

Figure 7.3: Research Pathway Model

HOW TO START WITH THE RESEARCH PATHWAY TOOL?

You start with a research question or a real-life problem. With this tool, you will put together the pathway for this project. Therefore, ask yourself what the ultimate goal and the purpose of the project are. This may be the same goal, but more often it is not. Most innovations take longer to develop. For each phase, it is important to consider what the goals are, who will be involved and what (research) activities are appropriate for a given phase of the innovation process.

The following five steps will help you to create a research pathway for your own project. You can also use the tool to explore a specific part of your research project, such as the involvement of the target group. Another important point to note is that the RPM mandates no specific order, obligation or purpose for all the steps. The same is true of this tool. We can imagine instances in which it is more appropriate to start by defining the target group or to restrict the use of the tool to the conversation about who does what within the consortium or project team.

By asking yourselves questions in each step or each phase, you could spark a conversation between the research partners.



Figure 7.4: Components of the RPT

STEP 1 : IDENTIFY STAKEHOLDERS, INCLUDING THE TARGET GROUP

The tool is designed to facilitate conversations with stakeholders. Therefore, start the conversation with each other. Who is at the table, and why? What are the different motives of each of the participants in the research project? What are their different fields of expertise and their goals in the project? For whom are you going to develop an innovation, product, service or change? Are they the individuals for whom the innovation is intended? Are they already involved in setting goals?

In Chapter 3, we discussed the goals that projects and their stakeholders have in relation to the research pathway. The RPT can help to clarify the goals of each stakeholder and their involvement during the process. For example, are stakeholders primarily involved in the real-life-practice context because they have a role in understanding the context for which an innovation is intended, or do they have a role in the co-design process in the conceptual context, for example because they want to be involved in the formulation of ideas about a solution?

In Chapter 4, we discussed the values of projects and their stakeholders within the research pathway. Will any value accrue to them directly within the process of the research project?

The RPM could also help to identify stakeholders. When you have an overall picture of the research pathway, it becomes clear which stakeholders are essential to each of the steps of the research (Figure 7.2).

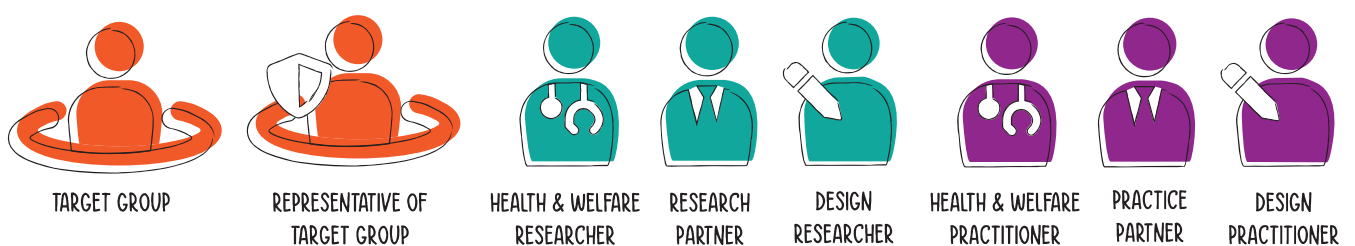


Figure 7.5: Stakeholders

Discuss the context(s) in which everyone who is involved would be engaged and the ones in which they feel most comfortable. Again, for each actor, you could discuss everyone's preferences about the nine steps in which they can be involved. Use a figure for each actor in the steps below, and discuss the pathway together.

In which steps is the target group involved?

- How will they be involved?
- How will they contribute to the project?
- Will there be any direct value for them within the process of the research project?

In which steps are the other stakeholders involved? Use the figure.

- How will they be involved?
- How will they contribute to the project?
- Will there be any direct value for them within the project?

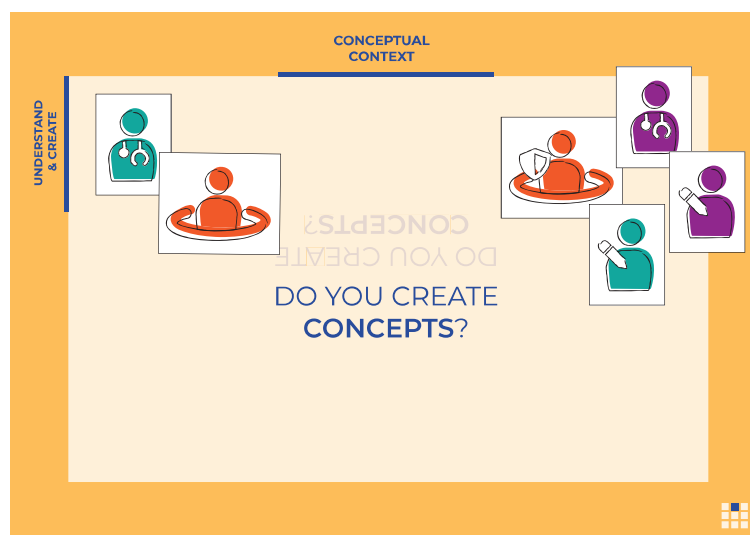


Figure 7.6: Stakeholders placed in the RPT

STEP 2: DEFINE YOUR RESEARCH GOALS

Each square raises a question about the research goals of every step of the research. Do you plan or envision that you will perform a certain step at some point in the research project? If the answer to this question is 'yes,' the research pathway will involve this square. If the answer is a definite 'no,' the square is not relevant to this particular project. If all or some partners disagree, then discuss the question further.



Figure 7.7: Checked boxes for the steps you want to explore

When you have printed the tool (Figure 7.4), you can remove the steps you do not use and move on to the ones you want to explore further.

STEP 3: DETERMINE ACTIVITIES FOR EACH RESEARCH GOAL

How can you make sure that all of the activities are performed so as to support the ultimate goal of the research?

You could take the following actions:

- Incorporate previous research results or project outcomes;
- Outsource an activity and collaborate with an organization, an entrepreneur or a professional;
- Define the activities, desired results, the stakeholders that are involved and the person who is responsible for each step of the research pathway.

To work towards the goals, you can combine methods from different disciplines in various ways (See Chapter 3 for examples from the projects). These varied activities can be organized according to their orientation in time: they can be aimed at the future or at the present. The future orientation manifests clearly in the various generative methods that can be used to help individuals express their needs and desires, for example by *co-constructing stories*.

The present orientation is focused on evidence-based and pre-structured methods, for example by introducing a hi-fi prototype to practice. Both orientations provide appropriate means of gaining information on user needs, but the orientations and the expectations of the participants are different.

You can discuss the following questions:

- What kind of methods will you use?
- Are these methods future oriented or now oriented?
- Are the methods typical of a specific research discipline?
- Are the methods particularly relevant to science, practice or both?

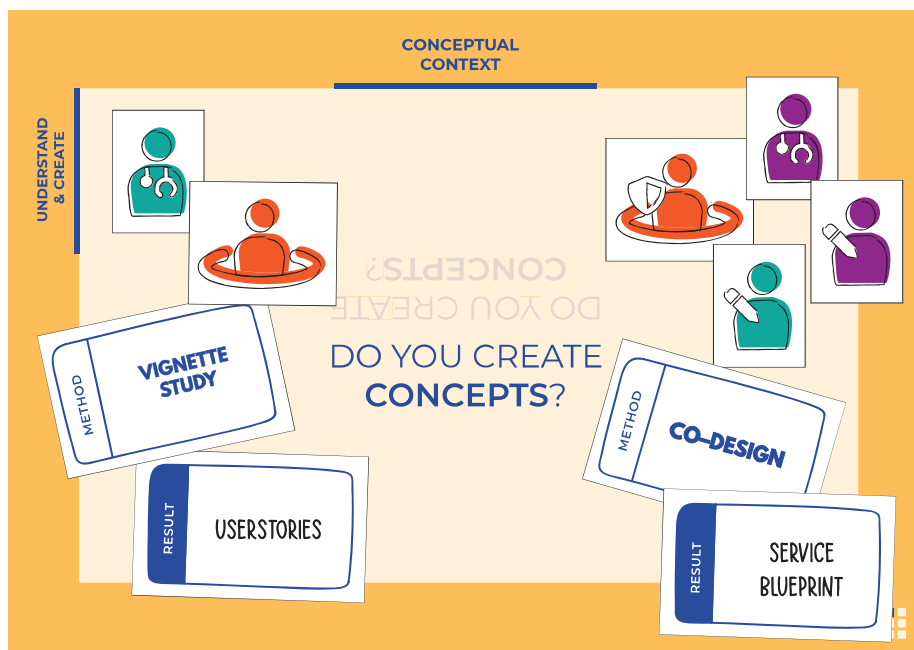


Figure 7.8: Research activities and research results, and stakeholders involved placed in the RPT

STEP 4: THINGS

Many projects work with 'things.' Three different types of things can be distinguished, namely products as solutions, research artefacts and proofs of concept (see Chapter 3). They have different purposes and require different ways of working. Therefore, it is important to discuss the kinds of things that you want to develop or use as well as your reasons.

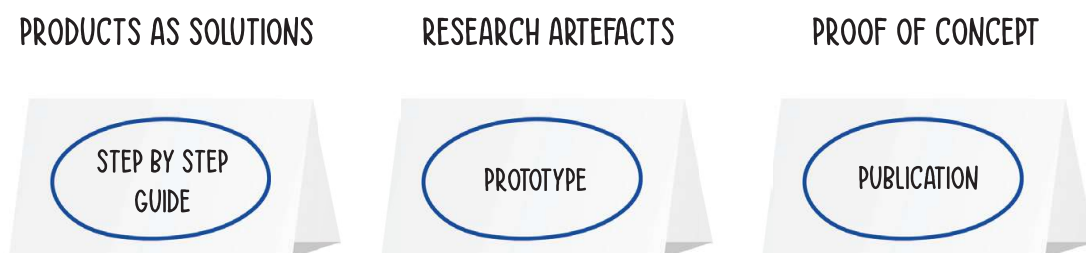


Figure 7.9: Type of 'things' you want to develop

You can discuss the following questions:

What type of 'things' will you develop or use during the project?

- Do you see them as means or as ends within a square? Position the figure in the relevant squares, next to the 'methods' or 'results' cards.

Do you (fore)see any differences in goals or expectations?

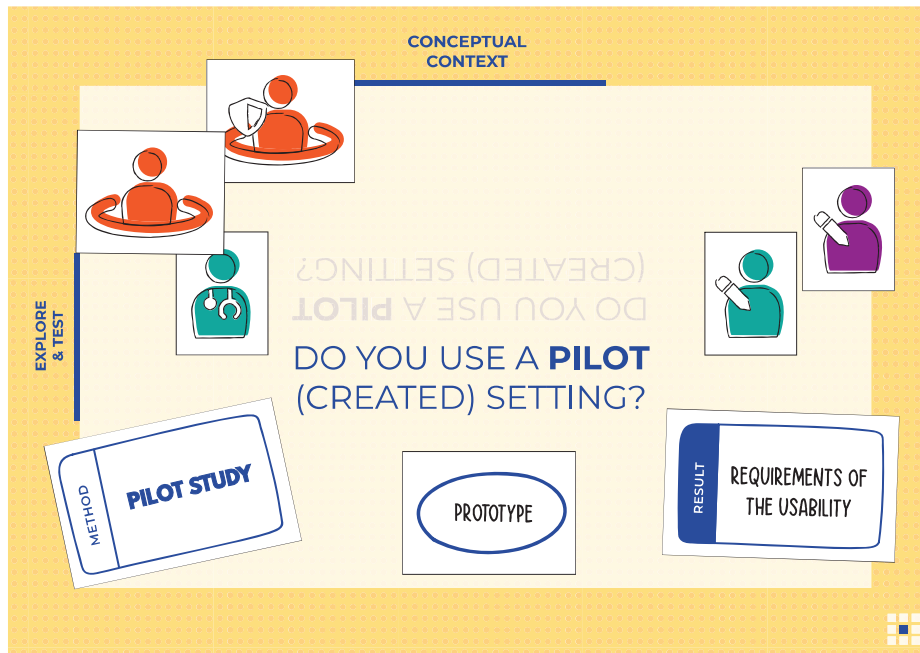


Figure 7.10: The 'things' placed in the RPT

STEP 5: PATHWAY OVER TIME

Iterating is an activity that is characteristic of innovative research projects. However, there are different ways of iterating. Chapter 3 provides examples from the 10 projects that show how different goals require different ways of iterating. The RPM helps to highlight these differences because you can map the differences in the manner in which research pathways move between the three contexts.

In the research that we presented in this book, two main ways of moving between the three contexts, which are non-linear processes, emerged: 1) the iterative development of a specific evidence-based innovation into a product (see Example 1, Figure 7.11) and 2) the iterative process of fleshing out a conceptual framework by conducting design explorations (see Example 2, Figure 7.12). The examples are described in Chapter 3. However, other pathways are also possible as long as they are helpful in your project.

ITERATING ON A PRODUCT

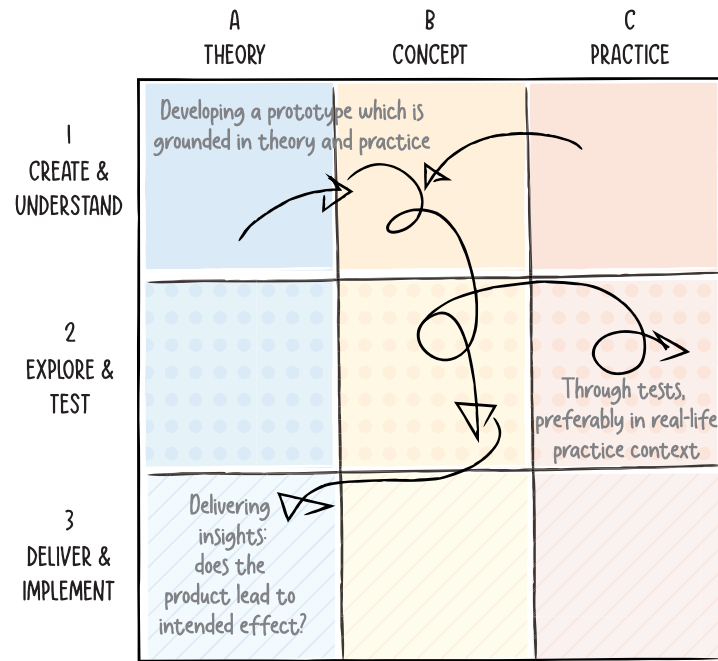


Figure 7.11: Example of the iterative development of a product

ITERATING ON A FRAMEWORK

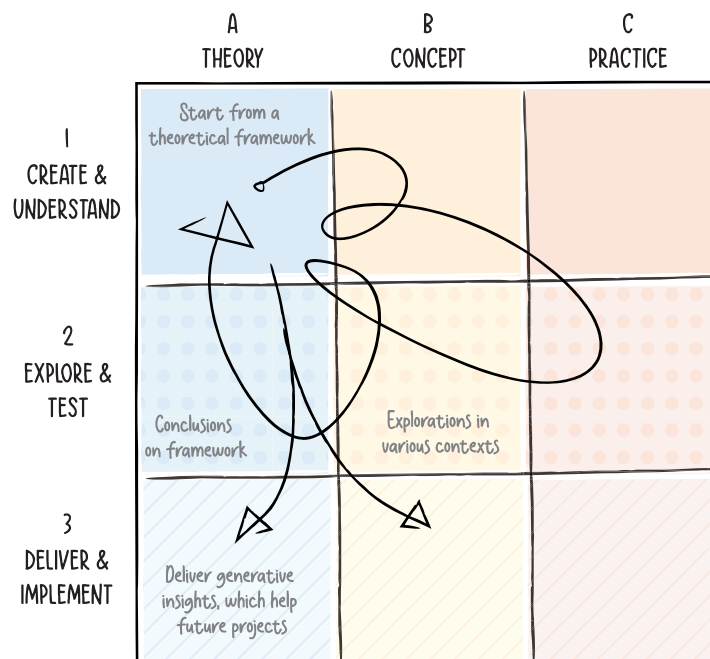


Figure 7.12: Example of the iterative development of a conceptual framework

You could discuss the following questions:

- Which pathway through the 3x3 matrix will you take? Map a path and discuss it.
- Will there be parallel paths?
- Where will the iterations take place?

During the project, research pathways, stakeholders, actors and partners may change, for example because the results of a particular research step call for a revision of the plan. You can use the Research Pathway Tool to consider your plans and to discuss the changes that are needed to arrive at the desired contributions to and benefits from the project as a whole and in relation to each individual actor.

In the following pages you will find all components of the Research Pathway Tool in a printable format. You could print out these specific pages on A4 or A3 paper size.

A pair of scissors will do the rest.

DO YOU CREATE THEORY? DO YOU CREATE THEORY?



DO YOU USE A
CONTROLLED SETTING?
DO YOU USE A
CONTROLLED SETTING?
CONTROLLED SETTING?



DO YOU DELIVER
THEORY?
DO YOU DELIVER
THEORY?



DO YOU CREATE
CONCEPTS?
DO YOU CREATE
CONCEPTS





DO YOU USE A **PILOT**
(CREATED) SETTING?
DO YOU USE A **PILOT**
(CREATED) SETTING?
DO YOU USE A **PILOT**
(CREATED) SETTING?

**DO YOU DELIVER A
PROTOTYPE?
DO YOU DELIVER A
PROTOTYPE?**





DO YOU CREATE
UNDERSTANDING OF
REAL-LIFE PRACTICE?

DO YOU USE A
REAL-LIFE SETTING?
DO YOU USE A
REAL-LIFE SETTING?





**DO YOU REALIZE
CHANGES IN PRACTICE?**

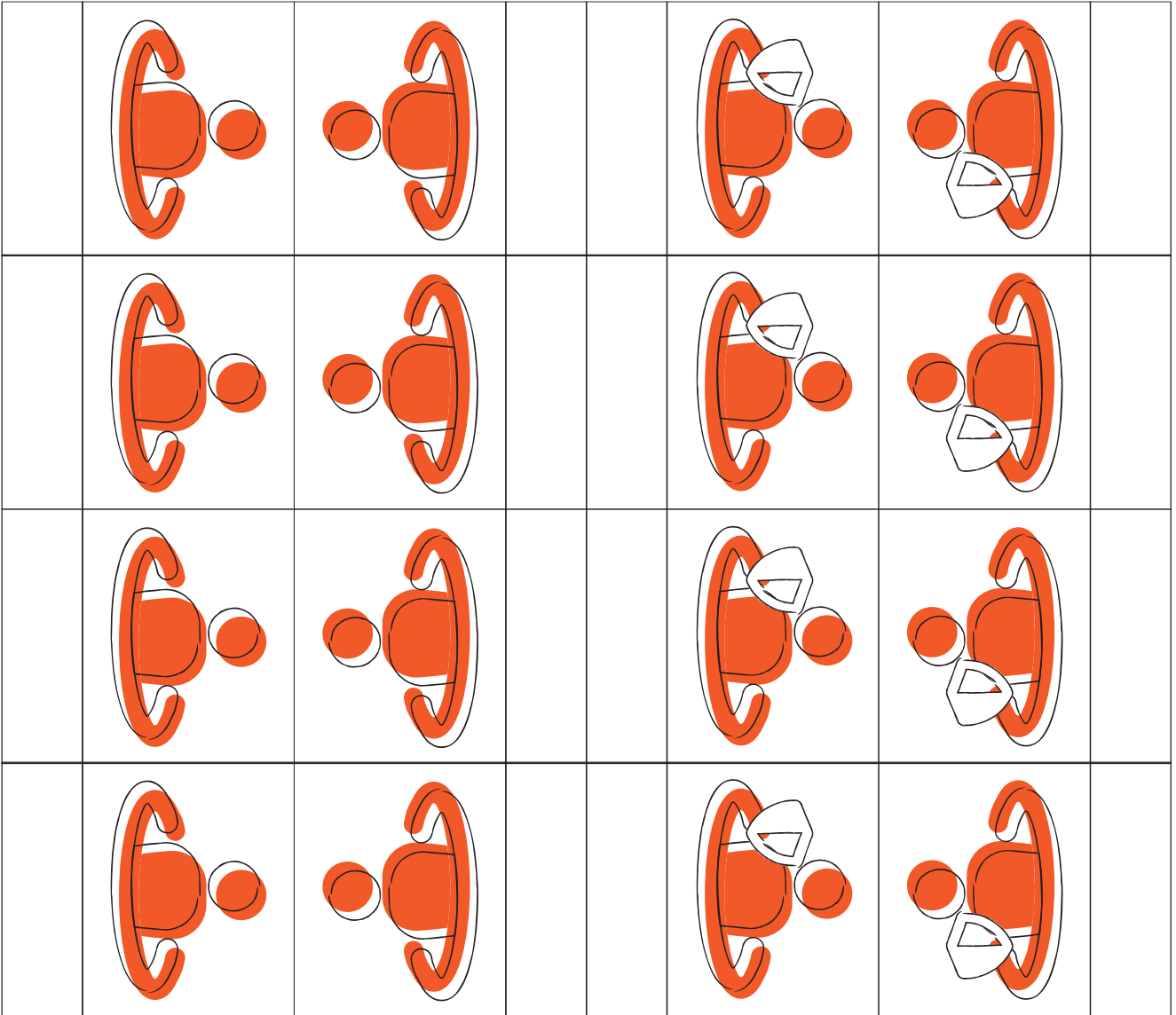
**DO YOU REALIZE
CHANGES IN PRACTICE?**

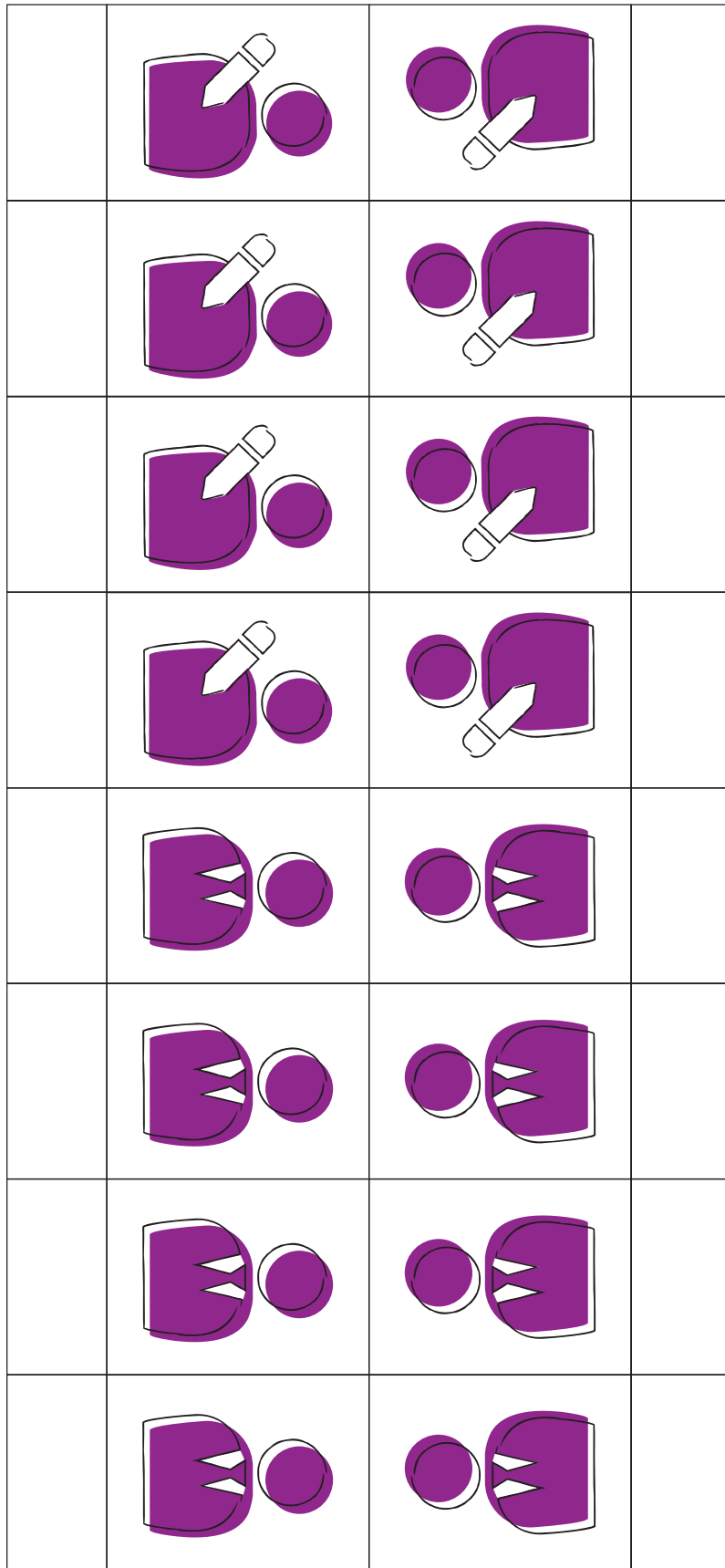


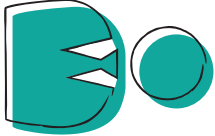
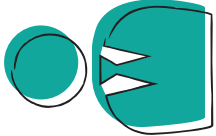
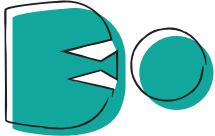
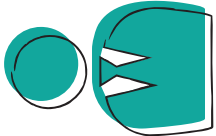
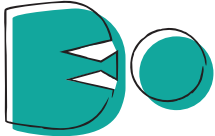
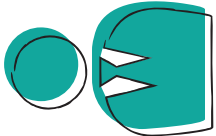
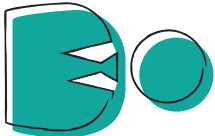
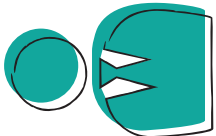

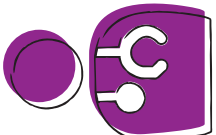

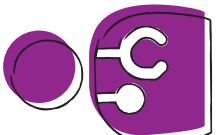

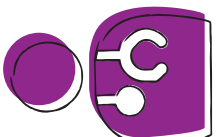


UNDERSTAND
& CREATE






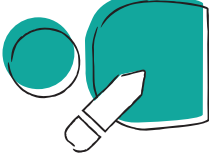


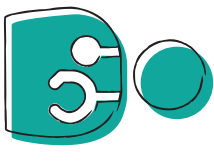
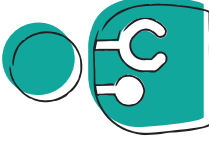
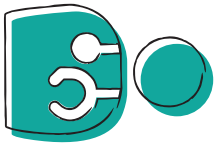
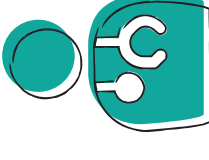



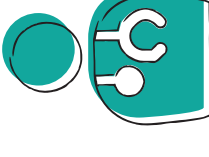
PRACTICAL
CONTEXT

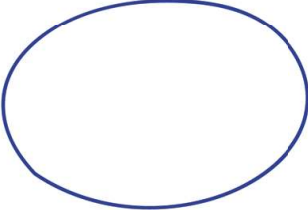
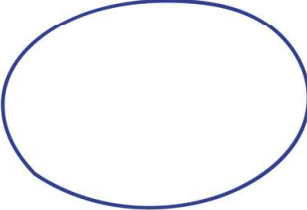
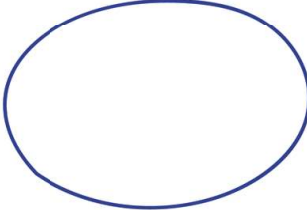
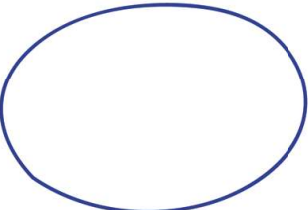
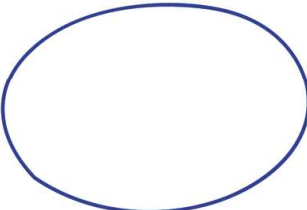
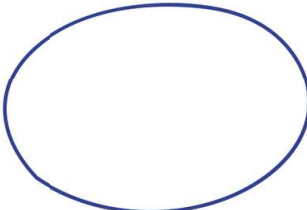
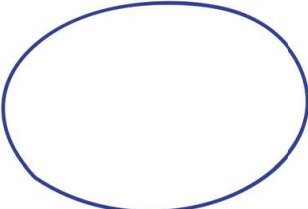
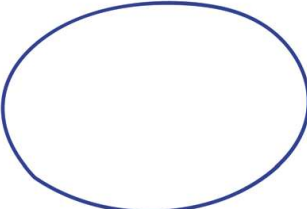
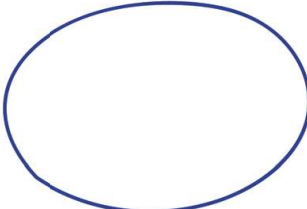



DO YOU CREATE
UNDERSTANDING OF
REAL-LIFE PRACTICE?

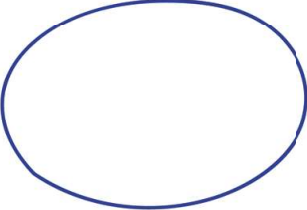
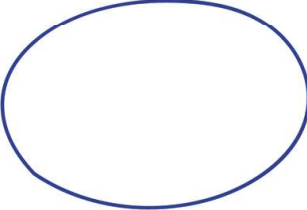
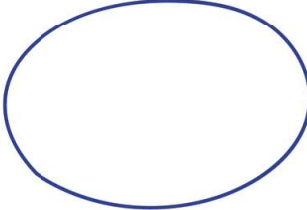
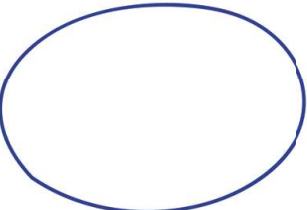
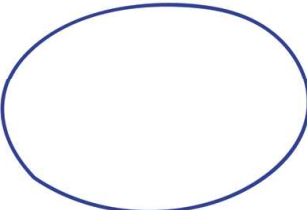
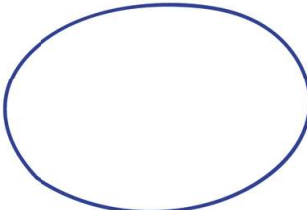
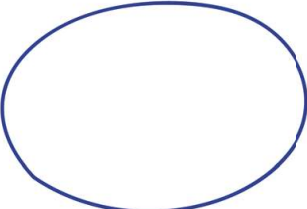
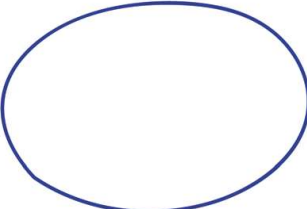
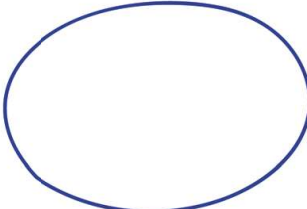
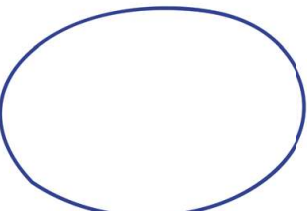

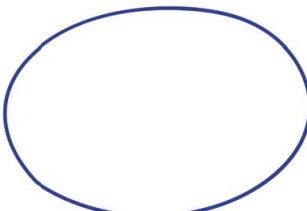




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METHOD

**LITERATURE
REVIEW**

METHOD

**DESIGN OF A
RESEARCH
ARTEFACT**

METHOD

CO-DESIGN

METHOD

**INTERACTIVE
WORKSHOP**

METHOD

INTERVIEW

METHOD

FOCUSGROUP

METHOD

LIVING LAB

METHOD

EXPLORATIONS

METHOD

**PARTICIPATORY
OBSERVATIONS**

METHOD

SURVEY

METHOD

CONTEXT MAPPING

METHOD

**CONGRESS
PRESENTATION**

METHOD

PERSONA

METHOD

PILOT

METHOD

VIGNETTE STUDY

METHOD

**WRITING A
RESEARCH
PROPOSAL**

| | | |
|----------------------|----------------------|----------------------|
| <p>RESULT</p> | <p>RESULT</p> | <p>RESULT</p> |
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