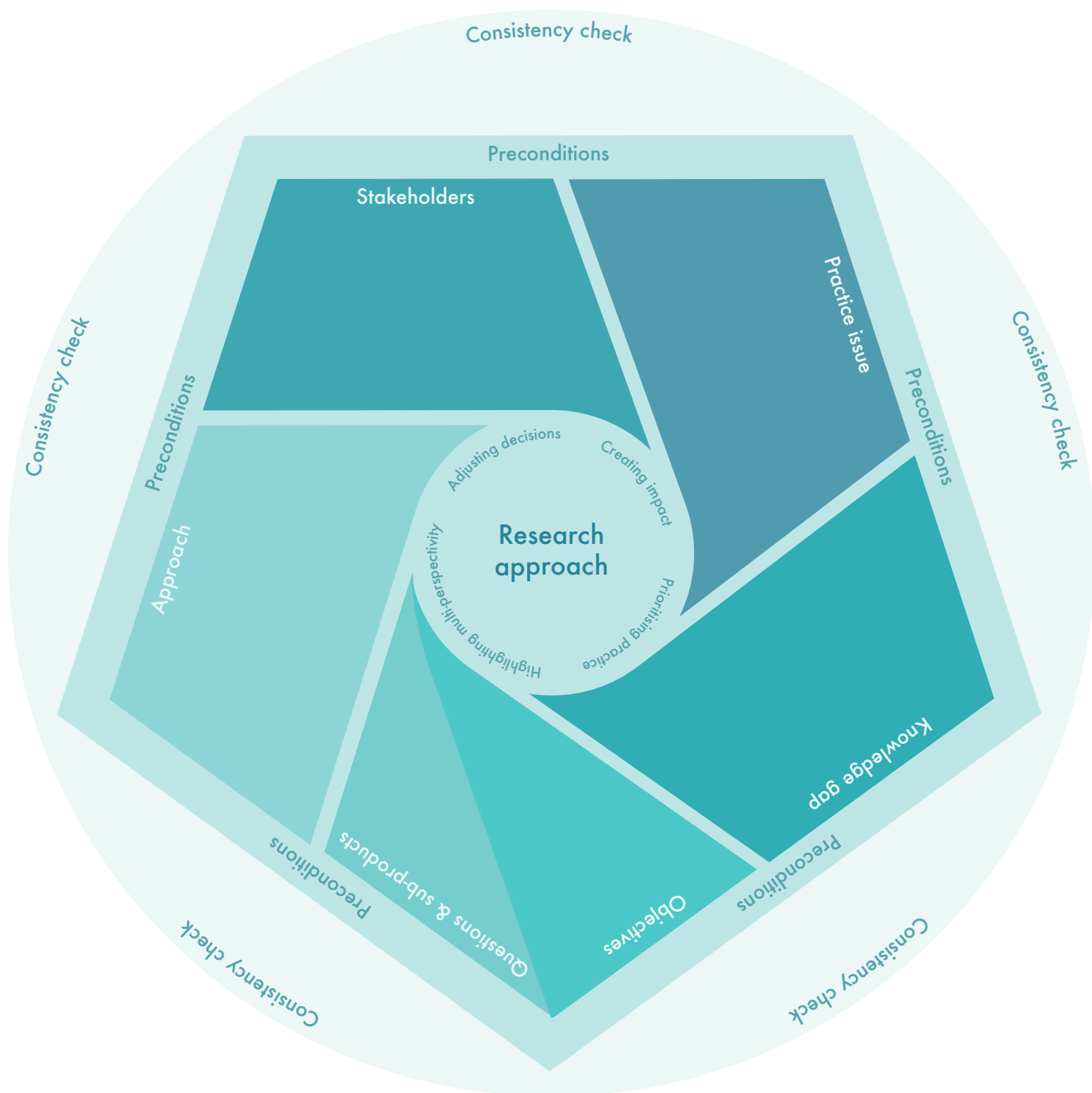# Circling Around Your Research

Methodology for researchers to support the development of a practice-based research proposal together with stakeholders in practice

Consistency check

Consistency check

Consistency check

Consistency check

Consistency check

Preconditions

Preconditions

Preconditions

Preconditions

Preconditions

Stakeholders

Practice issue

Approach

Knowledge gap

Objectives

Questions & sub-products

Adjusting decisions

Creating impact

Highlighting multi-perspectivity

Prioritising practice

Research approach

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Introduction

Aim of the methodology

This manual describes the 'Circling Around your Research' (CAYR) methodology. The CAYR methodology is a powerful instrument to form a tight-knit research team in which researchers and stakeholders in practice work together on the development of a practice-based research proposal, on the basis of equality. Practice-based research starts from a practice issue (a problem or opportunity experienced in practice) and aims to directly contribute to the improvement of the relevant field (Andriessen, 2014). This requires an appropriate research process in which the practice perspective takes centre stage. A prerequisite for this is that relevant practice partners become co-owners of the research project and, in that context, are involved from its initiation through the delivery phase (Brouns et al., 2023). An important principle in this is that scientific knowledge, practical knowledge and experiential knowledge are all exploited as equal sources of knowledge. The gap between the three sources of knowledge can be bridged by participation and interaction aimed at co-deciding on meaningful changes (Lewin, 1946). Successful collaboration in practice-based research is not a given. All partners bring their own interests to the table (Janssens, 2016; Van der Linden, Cox, & Holleman, 2010; Wehrens et al., 2011), the approach must be methodically sound, and the research project must contribute in practice (Reijmerink, 2018). The CAYR method has been developed to support this process.

The CAYR method was developed, applied and evaluated on the instructions of the 'Langdurige Zorg en Ondersteuning' (Long-term Care and Support) and the 'Gewoon Bijzonder' (Just Special) Committees of ZonMW. The methodology can be used when developing research proposals for these and other ZonMW programmes. In addition, experience teaches us that the methodology as a whole – or elements thereof – can also be used for the development of practice-based research proposals in general.

The methodology

CAYR is an intensive six-month process, going through ten steps. The process is aimed at gaining clarity on the objectives and needs of all participants and creating equality and co-ownership over the investigation. For complex practice issues in which different parties partner up for the first time and in which a common vision, clear expectations and support are important, we recommend applying CAYR as a full ten-step process.

The CAYR methodology consists of ten steps which can be taken consecutively and in a fixed order, as a complete and prescribed development process to arrive at a collectively supported research proposal in a partnership between researchers and stakeholders in practice. This manual is intended for researchers who want to apply CAYR as a full development process. Researchers who want to use individual elements of the CAYR method can use the information on the website for this purpose (Circling Around your Research (husite.nl)).

The steps highlighted in green are taken collectively, with all researchers and stakeholders in practice. The other steps are taken mainly by researchers in the partnership, after which the outcome is presented to the other partners in the partnership. This manual provides a description, working methods and/or tools for each of the ten steps in the CAYR process. Example workshops are also available for the steps highlighted in green, each being a half-day session and combining different working methods into a complete programme to collectively take a full step with all participants. These workshops can be organised online or on location.

The CAYR methodology provides an abundance of concrete and practical materials. Nevertheless, there is no standard approach to developing a research proposal. This means that the CAYR methodology users can customise the materials provided where necessary, tailoring them to their own process. For

this, too, the CAYR manual provides instructions. The manual was developed and applied within the healthcare field. That is why many examples refer to clients, healthcare providers and institutions. The same methodology can however be applied in contexts other than healthcare, with all types of end users and professionals.

The ten steps of CAYR as a complete process are:

Q	Step 1. Partnership preparation
Q	Step 2. Exploring the practice issue
Q	Step 3. Defining the knowledge gap
Q	Step 4. Exploring research objectives
Q	Step 5. Arriving at research questions and sub-products
Q	Step 6. Drafting the provisional research approach
Q	Step 7. Discussing the provisional research approach
Q	Step 8. Drafting the final research approach
Q	Step 9. Organising future collaboration for research execution
Q	Step 10. Finalising and submitting the research proposal/grant application

Figure 1: The ten steps of the CAYR process

Basic principles of circling around your research

To optimally use the CAYR methodology and applying it in a flexible and customised way, it is important to act in the spirit of the methodology. For this, it is important to know the four basic principles on which the CAYR methodology was based. These four basic principles are: prioritising practice, highlighting multi-perspectivity, adjusting decisions, and creating impact. The four principles are described consecutively below.

Prioritising practice

A research project takes place in or for a specific practice and adapts to it.

A practice-centred research process takes into account the specific context of that same practice (Van Beest, 2023). For example, the hectic nature of the Emergency Department (ED) requires a different approach compared to research involving independent, yet lonely, elderly people living at home. In the ED, research takes place in- and contributes to a high workload environment, while in the homes of the elderly, there is generally little hectic activity and research may be a welcome distraction. The research process should fit the specific practice context.

This means that all the elements of a research proposal serve the practice.

The fact that practice-based research starts with a question from practice does not mean that it always leads to results with appropriate evidential value and knowledge that is usable and can be applied in practice (Ganzevles et al., 2020). This calls for an appropriate research process, in which the practice perspective takes centre stage. Ensuring the research is practice-centred does not necessarily mean that it always takes place in and with practice, but rather that we always consider whether practice partners or end users are appropriately involved in the research project (Van Beest, 2023). For example, research activities can tie in with a programme of activities in the practice context, or a researcher can collaborate in practice, thus lessening the burden in practice rather than increasing it. This means that in a research proposal, practice is reflected not only in the formulated practice issue, but also in the research approach adopted.

This requires the involvement of stakeholders in practice in the development of the research proposal, right from the start.

Involving relevant practice partners turns out to be one of the most important factors in practice-based research when it comes to increasing impact. This requires involving practitioners in all phases of the research project; in the development of the research proposal (initiative phase), implementation, formulating recommendations, delivering results and conveying the findings of the research (Brouns et al., 2023). Developing knowledge in co-creation with those active in practice benefits the usability and applicability of knowledge in the practice context (Hessels, 2022).

Highlighting multi-perspectivity

Both scientific knowledge, practical knowledge and experiential knowledge are necessary and important in practice-based research.

Practice-based research is based on three equal sources of knowledge: scientific knowledge, practical knowledge, and experiential knowledge. The gap between the three forms of knowledge can be bridged through participation and interaction, aimed at co-deciding on meaningful change (Johnson 2018, p. 10; Lewin, 1951).

In this, it is important to always make sure to highlight the different perspectives of those involved: multi-perspectivity.

Successful partnerships are not a matter of luck. After all, all partners bring their own interests to the table. In a well-functioning partnership, there is room to talk about interests, values and norms in a safe atmosphere and to agree on these. It is essential to formulate the objectives and results of the research project with each other from the start, but also discuss what this research project does *not* cover. This makes expectations clear and prevents excessive workloads (Janssen, 2016; Van der Linden, Cox, & Holleman, 2010; Wehrens et al., 2011). *'Circling'* (which is what applying CAYR is commonly called by participants) therefore takes place with all relevant parties involved in the practice issue at hand. This way, everyone is a co-owner of the partnership and consequentially the direction of the research project.

From the start, the research proposal is developed together with relevant stakeholders in practice: 'Circling' takes place collectively.

The CAYR methodology is based on responsive research where stakeholders in practice participate as partners. In responsive research, decision-making power is shared with the researchers, whose task it is to create the conditions for dialogue between the various stakeholders in practice (Abma & Widdershoven, 2006; Abma, Bos & Meininger, 2011). The main responsibility of the researcher is not to delegate power to participants, but to enhance the quality of the dialogical process between different groups of stakeholders in practice. In responsive research, dialogue is central. Dialogue is seen as a mutual learning process between researchers and stakeholders in practice.

Adjusting decisions

Since complex problems have no single solution, it is necessary to alternate zooming in and out in developing research and dare to again fine-tune delineations.

Practice-based research often focuses on complex social issues. Within practice-based research, we also see switching between a theoretical foundation, a conceptual exploration of possibilities and working in and with those active in practice. This is necessary to arrive at appropriate solutions that do justice to both the complex social problems in daily practice and the scientific basis that has been or should be laid (Van Beest, 2023). This calls for a slow-down, in which different sources of knowledge, objectives and perspectives are explored from different angles.

This requires stakeholders to sometimes dare to postpone or revise decisions on the research project for a while.

Divergence and convergence is necessary for the purpose of the above content and this is also necessary for the process the different participants have to go through together (Snoeren, 2021). The stakeholders within the research project will have to relate to the research idea from their own context, and will have to find a way to join in, each of them with their own background, motivations and interests. This ensures that a collective opinion or decision, for example on the objectives of a project or on an appropriate approach, sometimes has to be deferred for a while. Or that a previous delineation needs to be adjusted (again).

Creating impact

Practice-based research aims to maximise its impact in practice by contributing to it directly, before, during and after the research project.

The impact of (practice-based) research has to do with both the process of research and the results that emerge from the research project (Andriessen & Franken, 2016; Van Vliet, 2022). During a practice-based research project, a collaborative investigation is conducted into the cause of a practice issue or certain aspects within a profession, and collaboration takes place to improve the field while at the same time generating knowledge about it.

This takes into account multiple types of objectives that practice-based research can have, i.e. product development, personal development, systemic development and knowledge development.

A practice-based researcher switches between the 'worlds' of research, change, learning and design throughout the research project (Van Lieshout, 2023). These four 'worlds' correspond to the four actions in the PRIME model of Greven and Andriessen (2019): analysing, changing, learning and creating. The actions presuppose that a connection is made between people or things, causing impact. The impact of practice-based research is aimed at different types of objectives based on these action types: knowledge objectives, change objectives, professionalisation objectives and design objectives.

This means that the approach to a research project is determined not only by the research question, but also by the design, professionalisation and change objectives.

Working on the different forms of impact sometimes requires a different professional identity other than the professional identity that (practice-based) researchers are familiar with, given their background (Ruijters, 2021). After all, changing, designing and learning set other requirements compared to analysing. In light of that, to create impact, practice-based researchers need insights and tools to deal with this change of role (Van Lieshout, 2023). Some research approaches combine the objectives, e.g. action research or some forms of participatory research in which change processes are part of the research project. In design-based research, designing is an objective in the research project. Other research projects involve students based on the idea that students can not only contribute something to the project, but also learn something at the same time. Whatever form is chosen, the research approach should be designed in such a way that all the different types of established objectives can be achieved.

Intended users of the methodology

The CAYR methodology was developed to help researchers develop a practice-based research proposal in collaboration with stakeholders in practice. The methodology can be used by researchers who take on the role of project leader or lead manager, process manager, and minutes taker in that partnership(-to-be):

Project leader/lead manager

Within the CAYR methodology, it is assumed that there is a researcher who is responsible for the entire process. This is often the project leader. The project leader can use the CAYR material to design their own process.

Process manager

The methodology works best when, in addition to a project leader, there is also a researcher in the role of process manager who can facilitate the process of CAYR. The process manager will find working methods, supporting tools, sample workshops and tips for facilitating the process in the manual for CAYR as a complete process. The process manager is also a 'critical friend' who can keep the project leader on his toes throughout the process.

Minutes secretary

Finally, it is advisable to have a researcher, in the role of minutes secretary, record the results of interviews. Where applicable, the CAYR material includes tips for the minutes secretary as to how best to record and organise the output of various elements of CAYR.

Justification

Developing the CAYR methodology was made possible in part by grant provider ZonMw.
Partly in response to the Council for Public Health and Society (Raad voor Volksgezondheid en Samenleving, RVS) report 'Zonder context geen bewijs' (No evidence without context) from June 2017, grant provider ZonMw commissioned HU University of Applied Sciences Utrecht in September 2017 to develop an appropriate research approach for the long-term care and support programme. The resulting report was delivered in August 2019 ('Cirkelen rond je onderzoek', Andriessen & Ganzevles, 2019). To gain experience with the CAYR methodology, ZonMw opened a call in August 2020 for consortia-to-be that wanted to apply the CAYR methodology with the support of CAYR developers, to jointly develop a practice-based research proposal. This call was termed 'Phase I', because an application could be submitted for grant writing of a grant application for the execution phase of the research project on the basis of this call, with this being termed 'Phase II'. Four projects have been accepted. All projects submitted an application prepared for the follow-up round (LZO CAYR Phase II). Following the LZO CAYR Phase I pilot, the 'Gewoon Bijzonder' (GB; 'Just Special') programme opened a similar call in April 2021. In it, three projects were accepted, all three of which then submitted a detailed application for the follow-up round (GB CAYR Phase II). The supervision of these seven consortia by the developers of the methodology was set up as a design-oriented research project (Van Aken and Andriessen, 2011). In it, research was conducted on the success and efficacy of the CAYR methodology. During this research project, working methods and supporting tools and workshops were designed, tested and evaluated with stakeholders. All descriptions, supporting tools, working methods and workshops were tailored to the participating consortia during the research project. The results of these studies have been reported elsewhere in two research papers (Andriessen, Ganzevles, & Welbie, 2022; Andriessen, Ganzevles & Welbie 2023). In addition, based on the results of these studies, version 1.0 of the CAYR manual was written in 2022.

In the application of the CAYR methodology by the seven consortia, as described above, the developers of the CAYR methodology played an important role as process managers. As a result, the seven consortia depended on the developers for the application of the CAYR methodology, which hampered the transferability and hence wider applicability of the CAYR methodology. In light of this, the methodology was made available under the name 'CRJO light' ('CAYR light') in 2022, in the form of a 'train-the-facilitator' approach to consortia interested in submitting a grant application

following the grant call 'Passende zorg bevorderen aan de hand van actieonderzoek in de langdurige zorg en ondersteuning' (Promoting appropriate care using action research in long-term care and support) within the Long-Term Care and Support programme. The deployment of CAYR light had primarily a professionalisation objective for project leaders and facilitators of the consortia-to-be in the Appropriate Care programme. Project leaders and/or process managers from the consortia who were considering submitting a project proposal for the Appropriate Care round were offered the opportunity to participate in training on using CAYR. These training courses were offered in both the project idea phase and the detailed application phase. Following a workshop, participants were able to apply the CAYR steps themselves within their own consortium. Between training sessions, participants applied the knowledge directly, learning in practice. Feedback sessions were regularly held with the developers of the CAYR methodology. This applied not only to the consortia-to-be that participated in the CAYR light training courses, but also to the seven consortia from the earlier pilot phase that were now in the implementation phase of their ZonMw-funded studies. In this way, the CAYR methodology was further developed in an action-oriented manner, refined and also made available in other formats.

New applications of the CAYR methodology have emerged through this approach. For example, thinking in four types of research objectives as used in CAYR, has been combined with by the Impact Plan Approach of the NWO. This helps consortia to put more effort towards increasing impact when working on a research proposal, by developing a sound theory of change (Stein and Valters, 2012; Vogel, 2012). In addition, the methodology is no longer offered only as a complete process with a fixed sequence of steps, but allows for the user to use workshops, working methods and supporting tools as separate elements, to customise these and integrate these into their own process of arriving at a research proposal. The results of evaluations that took place during this action-oriented continued development have been reported elsewhere in a research paper (Andriessen, Welbie and Ganzevles 2024). In addition, this approach resulted in CAYR manual 2.0 (Andriessen, Welbie, Van Beest, Ganzevles and Zielhuis 2024) and the Circling Around Your Research website (husite.nl), on which all knowledge and materials relating to CAYR have been made open access.

How to use the manual

There is no standard approach to developing a research proposal. The readers of this manual will have to tailor our suggestions to their own process. The manual should serve as inspiration with suggestions, tips and warnings. The manual sets out the basic principles of Circling Around Your Research, the ten steps of the methodology, four workshops which can be used in four of the steps to have all stakeholders participate in those steps, and a plethora of working methods and supporting tools. The working methods and tools are part of the methodology and can be deployed at the discretion of users, as part of the full ten-step process, as component within individual steps and workshops, or even fully detached from the methodology. The manual is also accompanied by downloadable tools and knowledge clips explaining parts of the methodology. These can be found on the Circling Around Your Research website (husite.nl).

The manual contains a number of text boxes. These serve different functions:
- Don't do it this way 💣
- Experiences in our research project ✋
- Tips and tricks 👍

Set-up of Circling Around Your Research

Introduction

Developing practice-based research that really has an impact in practice is not easy. Researchers often do not have a full understanding of what is really going on in practice. Partners active in healthcare and experiential experts often have a better view on this, but conversely they usually know much less about how to methodically set up a study properly. In addition, support and commitment on location as well as the ability to respond flexibly to the situation there are necessary elements for research to have an impact in practice.

Setting up such a study requires an interplay between researchers and those involved in practice in the issue on which the study will focus. Think of professionals, people with experiential knowledge (e.g. in the role of care recipient) and/or their family members, managers, policymakers and many other stakeholders. But how do you shape that partnership? The CAYR methodology offers tools for this:

> **How things often go** 💣
>
> A grant provider makes a new call. A researcher at a knowledge institution sees that and thinks 'hey, that fits my research well'. He jots down the first page with an idea for a research question and a research approach. Then, he contacts a number of practice partners, presents them the idea asks if they would like to participate. They respond positively. The researcher continues drafting the proposal and submits it to the partners. They make a few more changes. The proposal is submitted and accepted. It takes off and after a while the first disappointment arises among the partners: 'Was this the aim?', 'What do we gain from the results?', 'Why does it take so long for us to benefit from this?'

1. A set of basic principles stakeholders can use to shape the partnership and their behaviour in it (refer to page 5 of this manual).
2. A model showing the five elements which participants can work with during the Circling process to arrive at a good practice-based research proposal with associated supporting questions.
3. A set of criteria which a good research proposal must meet.
4. A process consisting of ten steps that project leaders can go through as a consecutive process or deploy independently in a customised process to arrive at a research proposal together with stakeholders in practice.
5. A range of working methods and worksheets that can be deployed during the process.
6. An overview of the dos and don'ts for project leaders and process managers.

The foundation of Circling Around your Research

CAYR was developed on the basis of four basic principles (refer to page 5 of this manual for a description of these basic principles). The process runs more smoothly when all participants base their behaviour on these basic principles. The four basic principles result in values and ideals that are pursued in the application of CAUR. This requires a certain attitude from all those involved in the Circling process and sets requirements in terms of the identity of the project leader directing this process:

Values and ideals in Circling Around Your Research

In CAYR, the aim is practice-based research that can directly contribute to improving the field. Research that serves the field, not the other way around. And research in which actual improvement of the field takes place during the research project, not after completion. In those improvements, the people who ultimately benefit from them take centre stage, like clients. In the case of a research project in which healthcare clients take centre stage, the research must contribute to better healthcare for the client, viewed from the perspective of the client.

To realise that, we aim for quality between all researchers and stakeholders in practice, so that the different perspectives on the topic of the project can be brought to the table and everyone can provide input when developing the research proposal. In this, there is special attention for people with experimental knowledge. These are people who, from their own situation, have experience with the topic of the project. These can be clients within healthcare, but they could also be their parents, the youth or the elderly. In this process, everyone is respected and all views on the practice issue, the objectives to be attained, and the research project are seen as equally valid. Mutual respect and creating a sense of belonging is important in this.

Identity and attitude in Circling Around Your Research

The CAYR methodology requires a basic attitude and professional identity from everyone involved:

Project leaders

For project leaders, it is important to take control in the process in addition to a focus on content. This means paying close attention to ensuring that all participants feel involved and informing them of progress and decisions taken. At the same time, project leaders should have the courage to take decisions and, where necessary, take the lead in developing the content of the research proposal. This requires a certain 'process sensitivity' and seniority. It requires the ability to see what is needed to move the process forward and adapt accordingly. The CAYR methodology should therefore not be used as a rigid set of instructions to be followed.

Process managers

Process managers take over the control from the project leaders during meetings in which all participants work together to flesh out and work on elements of the research proposal. This enables the project leader to contribute substantively to the discussion at those times. Process managers are open, curious, engaged and defer their own judgement. They are flexible, listen to participants and meet their needs. They take on a neutral stance in terms of the content and do not let their guidance be influenced by any opinion on the content of the study.

Participants

Participants are engaged with the content of the study and find the topic important. They can endure it and bear it when choices on the exact focus and direction of the research project have not been made for a while early on in the process of developing the research proposal. Participants explore underlying values and motives in themselves and each other for contributing to the research. They are open about and curious about these and respect these in each other.

Besides being involved with the content, participants are also involved with each other. They pay attention not only to content but also to the process and mutual relationships. Connections are formed when participants meet not only professionally as part of their job and on content, but also as people. This contributes to the long-term success of the partnership.

Participants find it important to look at the research proposal from different angles. The literature on research methods often focuses only on the research question and how the

> **Circling** ✋
>
> The term 'circling' was often used by participants while applying the CAYR methodology to indicate that they did not want to take a decision yet, but want to look at the research idea from different angles. This gave them freedom to defer their decision for a while. This promotes the free exchange of ideas especially in the first four steps of the process. However, it is important to provide focus and make your decisions after step four, and not 'circle' for too long. At the same time, decisions made later on sub-questions or the research approach, for example, may well lead to changes in earlier choices. That too is a form of 'circling'.

research design follows from this question. The CAYR methodology also considers other perspectives such as characteristics of the practice issue to which the research project should contribute, the knowledge gap, preconditions, the four types of research objectives and the sub-products to be delivered. When thinking about the research project, each of these steps can be used as the starting point. There is no need for a fixed order. The process often involves jumping from one element to another, as detailing or adjusting one element has implications for the other elements. This requires updating previously completed elements. It is therefore important to keep looking at all the elements, 'circling' around the research design until a complete, fitting and consistent whole emerges. This is inspired by the idea of 'circling around a question' by Oost & Markenhof (2002), an excellent booklet that can help in developing a good research question.

The Circling Around Your Research model

The CAYR methodology consists of various elements that people developing a research proposal will have to deal with. These elements are shown visually in a model.
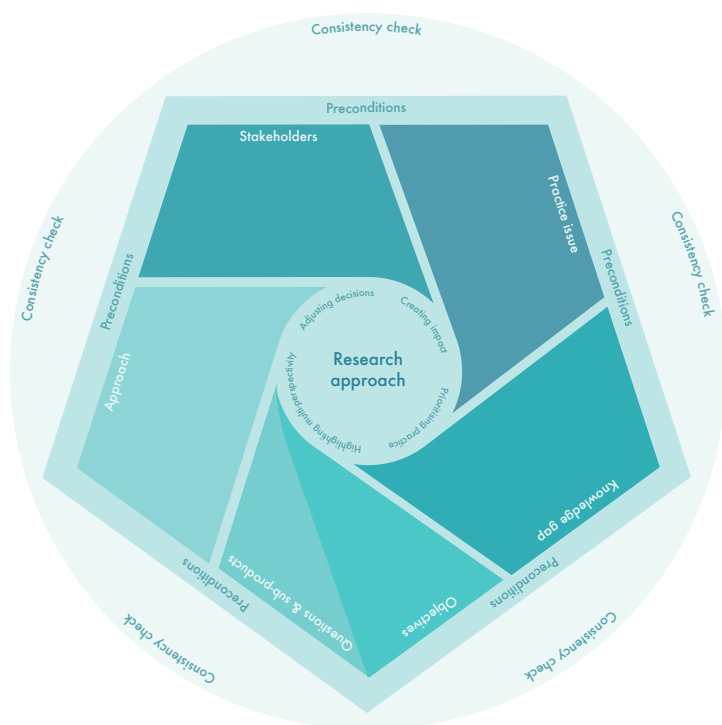

Figure 2: the elements of Circling Around Your Research

In the CAYR model, the elements have been placed around the research proposal, as you can start from any angle. You could start by considering the preconditions for the research project. Or you take the methods you would like to use as components of the approach as starting point. Maybe a draft research question has been prepared and you would like to distil the underpinning practice issue from it. Any starting point is good, provided the end result is consistent. Although Circling is important, reaching focus is a main goal in CAYR. A good research approach is focussed. After all, your time and resources are limited and the research project has to remain feasible. This is why the model is shown as a camera shutter.

Supporting questions can be linked to each of these elements which stakeholders can ask each other and themselves when working on the research proposal:

1.   Stakeholders: Who is involved in the practice issue and in what way do we want to collaborate with them in the research project?
2.   Practice issue: What is the situation to be remedied? What opportunity is there to improve practices in the field?

3.   Knowledge gap: Which knowledge is already available and which is not yet available on the (approach to) the practice issue?
4a.   Objectives: What objectives do we aim to achieve?
- What do we want to discover in the research project?
- What do we want to improve or change in the organisations/culture/system?
- What do we want to have produced at the end, concretely?
- What should we and others have learned at the end of the research project?
4b.   Questions: What will the research questions be?
- What questions do we need to answer to realise the knowledge objective?
- What questions do we need to answer to realise the change objective?
- What questions do we need to answer to realise the design objective?
- What questions do we need to answer to realise the professionalisation objective?
4c.   Sub-products: What are the (sub-)products and interim results we want to deliver?
- Which interim results contribute to realising the knowledge objective?
- Which interim results contribute to the change objective?
- Which sub-products contribute to the design objective?
- Which interim results contribute to the professionalisation objective?
5.   Approach: How do we shape the research approach so that we can achieve our different types of objectives?
- How will we develop the knowledge?
- How will we realise the change?
- How will we design and test the artifacts?
- How will we stimulate learning?
6.   1st layer: What preconditions do we need to take into account when conducting our research?
7.   2nd layer: How do we ensure that the research proposal as a whole is a consistent unit?

These questions can provide guidance for thinking systematically about the design of the intended research project during Circling. This manual offers suggestions for each model element in terms of how they can be discussed. The Circling Around Your Research worksheet links the supporting questions to the different model elements and has space for entering answers to the questions.

To arrive at solid argumentation in the research proposal text, the elements do have a fixed order, i.e. as shown in Figure 1. The full ten-step process description of CAYR reflects this order. In this, it is important to realise that research is not a cure-all for every single practice issue. If in retrospect a practice issue turns out not to be problematic, then research is unnecessary. The same applies if the knowledge needed to tackle the problem is already available. Alternatively, a research project may be desired but not feasible or realistic, or the question may be so complex that it cannot be answered. It also may be the case that a particular design is desired (such as a randomised experiment) but is not feasible in the situation at hand. This means that while talking or thinking about each element of the CAYR model, reasons may arise to decide not to do a research project at all but to do something else (e.g. initiate a change process or adapt policy in the practice context).

Circling Around Your Research criteria

The worksheet also lists ten criteria a good research approach should meet:
- A good research approach is *embedded* in the context in which the research project will take place. It is developed together with all relevant parties involved in the practice issue, so that everyone is a participant in the partnership and as such a co-owner of the research project. In this, it is important each time to highlight the different perspectives of stakeholders: multi-perspectivity.

- A good research approach is *relevant*: it is research into a practice issue that matters; that is important to the stakeholders in practice. The issue can be a problem or an opportunity. Relevant practice-based research contributes to lessening the problem or exploiting the opportunity. You can only find out whether the research project is relevant by exploring the practice issue

extensively and talking with professionals, end-users or clients who deal with it on a daily basis.

- A good research approach is *anchored*: it aligns with our knowledge on the issue from the scientific and professional literature and knowledge available on location. This feeds the research project and attempts to add a new dimension to it. You can only find out whether the research project is anchored by doing a literature review and talking with experts, professionals, end-users or clients.

- A good research approach is *targeted*: it is clear: 1) what knowledge must be developed, 2) which changes are pursued, both during and after the research project, 3) which items will be realised concretely, e.g. an app, checklist, protocol or instrument, and 4) what stakeholders (including the researchers themselves) will learn during and after the research project. You can only find out whether the approach is targeted by exploring together with the stakeholders what the needs are in terms of knowledge development, changes, products and learning.

- A good research approach is *functional*: the question has a clear research function. This concept was introduced by Oost (1999) and indicates the function of a research project in a specific context. The function is determined by the type of research outcome, and Oost & Markenhof (2002) distinguish between six possible functions: *describing, comparing, defining, evaluating, explaining* and *designing*. A research approach is functional when it contains a recognisable research question and it is clear to which of the six functions the question relates. You can find out whether the research question is functional by verifying whether the question is unambiguous and also asking others for feedback on the question.

- A good research approach is *productive*: on execution, the output is as promised. You can only find out whether this is the case by preparing a solid schedule, indicating *what* specific items are delivered *when*, and checking if the schedule is realistic.

- A good research approach is *logical*: the components fit together logically and cumulatively lead to the intended final result. Formulating sub-questions is an important aid in this. Setting sub-questions that logically follow from the research question allows you to divide your research project into parts. You can then indicate which research methods are used to answer each sub-question. You can find out whether a research approach is logical by verifying whether the sub-questions results in all the information necessary to answer the research question.

- A good research approach is *appropriate*: the design and the underlying methodology are suited to the research objectives, the research question and the sub-questions, in light of the preconditions. You can find out whether the research approach is fitting by verifying whether the approach can be used to develop the required knowledge with the required quality, and whether the approach also leads to the desired changes, professionalisation and products.

- A good research approach is *feasible*: it can be executed with due observance of the given timeframe, financial resources, expertise, manpower, involvement of stakeholders, available data, and so on. And it is feasible because it is ethically sound. You can only find out whether the research project is feasible by drawing up a sound budget, mapping the expertise of the team, checking availability and willingness of professionals and end-users or clients, examining the data already collected, investigating which issues similar research projects encountered, and testing – or having another party test – the approach against ethical criteria.

- A good research approach is *consistent*. All components are in alignment: the research objectives are in alignment with practice issue, the research question is in alignment with the knowledge objective, the sub-questions are in alignment with the research question, and the approach is in alignment with the objectives and the research question. Aligning all components is an important task in developing a research approach.

Circling Around Your Research steps

When a CAYR user wishes to deploy the methodology to shape the full process the consortia-to-be uses to shape the mutual partnership and the research proposal, they can make use of the full ten-step process description with all corresponding materials, tools and fully-described workshops and the corresponding roadmaps. The ten-step process is shown in Figure 1. Some steps are taken by the project leader in collaboration with the researchers in the consortium, other steps are taken by all researchers and stakeholders in practice collectively. The prescribed workshops can be used to facilitate collaboration on the basis of equality between all researchers and stakeholders in practice, with each workshop taking three to four hours, online or on location. Nevertheless, project leaders can also choose to only use some elements from the workshops and incorporate these into a process they themselves shape. Steps 2, 4, 7 and 9 are the moments at which all members of the consortium (or a delegation thereof) collaborate on the research proposal.

Working methods in Circling Around Your Research

We have developed and tested a number of working methods for the four workshops, which can be used in both physical settings and online. Most working methods belong to a specific workshop, but there are working methods that can be used in all workshops. These latter methods are those for the start (check-in), interim energisers, working methods for the finalisation (check-out) and the evaluation. Managing energy levels is particularly important in online workshops. Schedule sufficient breaks and use energisers where applicable. The descriptions of the objective and some preconditions to the working methods for check-in, check-out and energisers have been included in Appendix 1, together with a number of examples.

The working methods are described for each step. In addition to the steps and instructions, the description also highlights the starting points, principles, and mechanisms assumed to apply. This can help in customising the working method to your own context. The objective of the working method and the intended timeframe are also indicated. Finally, we have added a number of tips and tricks per working method, from our own experiences.

> ### Use a whiteboard online 👍
>
> The working methods often involve data collection on post-it notes. You can do this online via websites like Mural or Miro. However, we noticed that it can be tricky to have participants work on these virtual whiteboards independently. That requires IT skills not everyone has in store. That is why we recommend having a minutes secretary well-versed in these applications present at online meetings. Where applicable, these working methods include instructions on how the data collected can be recorded and organised.

Do's and don'ts for project leaders and process managers

Our research into the operation of CAYR results in a number of dos and don'ts in directing and facilitating a CAYR process.

Carefully compose the project group

- Check which stakeholders are relevant to the practice issue.
- Select one or multiple participants per stakeholder group. Also take their experience in research, their skills in thinking across boundaries and taking on multiple perspectives, and the support they enjoy into account. Ensure different forms of expertise and perspectives are incorporated.
- In this, also consider whether they support the final objective in respect of the practice issue, even if this is abstractly defined still like 'properly enabling elderly people to live at home longer' or 'more attention for meaning in healthcare'.
- Also consider municipalities and healthcare insurance companies, even though the experience in one pilot was that these are not easily willing to allocate a lot of time to this.
- Hold a preliminary meeting with each participant and discuss their expectations and role. Take stock of options and skills for online work, if applicable. Discuss their prior knowledge in the field of the central practice issue and ensure that the starting level is the same.

- Have people with experiential knowledge meet in advance. Organise a joint informal meeting with all participants in advance, where applicable.

Offer the project group a clear work structure

- Ensure a clear and structured programme for the process and for the workshops, with clear working methods in which it is made explicit how each component contributes to research proposal development. This helps create a sense of safety and prevents participants feeling unsure in the process. The rule of thumb in this is: the more uncertainty there is on a process outcome, the more certainty must be given in the process steps.
- Don't overfill the workshops and schedule a break every 45 minutes. Create rest. Make sure the workshop has a clear beginning and end.
- During the workshops, give concrete and clear instructions and indicate the aim, like: exploring each other's perspectives, taking a decision, and so on.

Customise workshops

- Tailor the workshop to the circumstances. Shorten them when participants cannot take on as much work. Avoid the use of break-out rooms when IT skills are low.
- Determine the contents of a workshop in part of the basis of the outcomes of the previous workshop, and on what is needed in the CAYR process.
- Also verify during the workshop whether the programme needs to the adjusted. Take more time for a component if this proves fruitful. Skip less important components if you're short on time.

Trust and put your confidence in the participants

- During the workshop, acknowledge the participants through an inviting attitude, by showing that you have heard them, by asking them to explain their contribution, by valuing their contributions. In this way, you instil trust in the participants and show that everyone can be themselves.
- It also helps in this if project leaders dare to be vulnerable by e.g. talking about their own personal struggles with the practice issue.

Promote multi-perspectivity in the workshops

- In each assignment, give everyone the opportunity to first think for themselves and write something down; then give everyone a turn to speak so that everyone is heard. When doing so, have one speaker pass the baton to the other.
- Promote respectful dialogue and prevent discussions. Stimulate participants listening to each other, asking each other questions, building on each other's ideas, connecting and affirming each other.
- Collectively, examine the values and standards that underpin the contributions of the participants. What causes a person to contribute this and find this important?
- Make sure that all perspectives are brought to the table each time.
- Also check whether participants have a shared past that may influence the partnership. Some participants might have collaborated on a research question previously, and they may have built up patterns in that collaboration that may hamper open discussions. It is important for the process managers to address this dynamic when they recognise it in the group.

Continue involving participants in-between workshops

- Summarise the workshop output and disseminate it. This prevents participants having to take notes themselves and the responses to these summaries result in new topics for discussion.
- Use a growth document to cumulatively record the output of workshops. Use the format of the research question for this.
- Each workshop, reflect in summary on the previous workshop and on the activities since then, inviting responses.

- Do not forget to continue to involve participants even during the writing process (CAYR methodology step 9).

Have an outsider critically review the methodology chosen

- Many stakeholders are represented in a project group, but at times there may not be sufficient methodical knowledge available to properly shape the research approach. In that case, have another researcher review the methodology of the draft proposal.

Work on the proposal text already during the process

- Incorporate information gathered into the format for the research approach directly, to prevent all the writing work from having to be done after workshop D.

Step 1: Partnership preparation

Introduction

Successfully going through the CAYR steps requires good preparation. The following aspects are discussed in this chapter: starting with an idea, organising a core team, selecting the right participants, organising the contribution of all stakeholders, and the decision-making and planning of the process.

Starting with an idea

Even CAYR starts with a first idea. Someone takes the initiative on the basis of a project idea. That can be a researcher, a practice professional or an experiential expert. For CAYR to be successful however, it is important not to flesh out this idea too much so that there is room for different perspectives (Duiveman, 2018). Formulate it as a *theme* like 'Attention in healthcare', 'Meaning' or 'Quality improvement through better collaboration'. Or formulate it like an issue like 'Healthcare is splintered' or 'Care professionals spend a lot of time on administrative work'. After all, CAYR aims to reach a precise definition of the issue together with stakeholders.

It is good to think up a catchy label for the theme or the issue. This helps in communicating the issue and may serve as project name. Later on, we see that this label is also the starting point for the practice issue exploration in step 2.

> ### Can you start with a solution? 👍
>
> We have found that it can be difficult to start CAYR from a solution, e.g. a new technology that has arisen or a new treatment method. This is because each solution is already based on a particular view on the underlying issue. It may be the case that this problem definition is not shared by the other stakeholders, with them holding different opinions on the practice issue. The ZonMw assessment committee may also be sceptical about the solution proposed. So, always pay a great deal of attention to exploring the thoughts on the problem on which the solution is based, and demonstrate that the solution is appropriate.

Organising a core team

The initiator should ask one or two people for support in going through the steps. If the initiator is a researcher, these can be fellow researchers, someone from the organisation in practice, or an experiential expert. If the initiator is not a researcher, it is wise to seek the support of a researcher. In this core team, those involved keep each other on their toes during the process and can allocate tasks among themselves.

Selecting participants

Developing practice-based research that really has an impact in practice is no simple task. Researchers often do not have the full picture when it comes to what is really going on in practice. Partners active in practice and experiential experts often have a better view on this, but conversely they usually know much less about how to methodically set up a study properly. In addition, support and commitment on location as well as the ability to respond flexibly to the situation there are necessary elements for research to have an impact in practice. Setting up such a study requires an interplay between researchers and stakeholders in practice. When considering stakeholders in practice, think of end-users (such as citizens, clients, students, etc.), professionals, management, policymakers and many others involved in practice in a practice issue.

Assemble the project group carefully. Assess which stakeholders are relevant to the practice issue. Perform a stakeholder analysis to this end, and involve people who know the practice inside out in the set-up and execution of that analysis as well. Select one or multiple participants for each stakeholder group. When doing so, it is important to involve people who have experience in research, can think across borders, can take on multiple perspectives and/or enjoy (broad) support – or conversely not.

Specify why a specific choice is made. Also invite people to join in who have the authority to take decisions in the context in which the future study will be performed. This can also take place at a later time if, at the beginning of the process, it is not yet clear in which context the study will be performed. Pharos has good tips on reaching target groups in the healthcare context.

Incorporate different forms of expertise and perspectives. Very explicitly discuss the final objective assigned to the practice issue with each potential participant in advance, and have them explain – in their own words – how and why they support this final objective. In this, also consider stakeholders who are part of the system the practice context forms but a component of, e.g. municipalities and/or governments, healthcare insurers, interest groups or (SME) companies.

Map opportunities and skills for online work, if applicable. For each (potential) participant, map the prior knowledge in the field of the practice issue, so that you can ensure that everyone is each time, in each exchange, enabled to contribute to the research proposal development.

Have people with experiential knowledge meet in advance, so they can support each other in the research proposal development process. If applicable, also organise a joint informal meeting with all participants. This improves the working atmosphere.

Creating equality and a sense of belonging often leads to a positive working atmosphere. Ensure that it does not lead to people no longer daring to speak up. Explicitly and regularly invite people to play devil's advocate, so that they can use their experience and knowledge to take into account the known bottlenecks and resistance in practice.

Customise the workshops. Tailor the workshop to the circumstances. Shorten them when participants cannot take on as much work. Avoid the use of break-out rooms when IT skills are low.

Organising the contribution of stakeholders

Stakeholders can participate in CAYR in various ways. The core question in this is which role they are assigned. The participation matrix[1] can be used for this purpose. In this, the following roles are identified: observer, contributor, adviser, partner, director.

The first option is to have a stakeholder participate in the project group. This is the group that participates in all workshops and collectively shapes the project proposal. Members of the project group can also help in pitching the project concept or proposal to a grant provider. There is a maximum to the number of project group participants, however. The optimal composition is seven or eight participants, but we have coached a consortium with a project group of twelve participants. Much work took place in sub-groups in that latter case.

The second option is to work with a management group. The management group works at more of a distance than the project group and meets at the start, midway point, and at the end. The management group can be used to direct and take decisions on issues that the project group cannot reach a consensus on. This role can be taken on by e.g. an Academic Workshop (an 'Academische Werkplaats').

The third option is to work with a feedback group. This group observes the process but does not participate in workshops themselves. Meetings of the feedback group can be organised between workshops. The feedback group can then be used to assess the workshop output and provide input for the next workshop. Participants of a feedback group can include the broader representation of those involved (e.g. other parents, counsellors) present in the workshop and/or an addition to those parties (e.g. a chairman or member of the client council or family council).

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1   https://www.umcutrecht.nl/nl/participatiematrix

A fourth option is to work with focus groups. These can be used to gather information which the core team can then incorporate in the workshops. Finally, stakeholders outside of the project group can also be interviewed to seek their perspectives. These options are listed in Table 1.

The project we coached always combined two or three of these options. In this way, many people could be involved in the project. One of the projects used a core team consisting of a researcher and a healthcare professional, and a project team consisting of the core team, a researcher, three healthcare professionals and three representatives of experiential experts. Another project used a core team of two researchers, a project team that included the core team and a client, a family member, two healthcare professionals, and a policy officer. In addition, there was a feedback group consisting of the project team together with the lead manager and the chairman of a client council. The feedback group met between workshops. A third example had a core team consisting of two researchers, one of them being the lead manager, a project team consisting of the core team plus a researcher, three healthcare professionals and one family member. Due to major interest of family members in participating, these took turns so that a different family member could participate each workshop.

Table 1: forms of participation in CAYR

Option	Size	Role in CAYR
Core team	2-3	Director
Project group	7-9	Partner
Management group	3-6	Director
Feedback group	4-12	Adviser
Focus group	4-6	Contributor
Interviews	n/a	Contributor, informer

ZonMw has an extensive website with tips and tools for the participation of experiential experts in research projects[2]. In this, attention should be paid to selection criteria and financial remuneration.

Decision-making

CAYR has been set up as a process in which participants create opportunities during the first two workshops (divergence) so that choices can be made at the end of step 4 (convergence). This process is shown visually in Figure 3. After step 4, more and more choices are made, ultimately leading to a focused research proposal. The members of the project group, acting in the role of partners, have an important position in making these choices. It may however be the case that a project group cannot reach a consensus on the direction to be taken. That is why it is important to make agreements governing the process in good time, outlining who makes critical decisions in such cases, and who is *authorised* to do so on the basis of these agreements. One option is delegating this power to the management group. In one of the processes we coached, the choice was made to assign decision-making power on the research approach to the project leader, and the decision-making power on the intervention to be developed to the head of treatment.
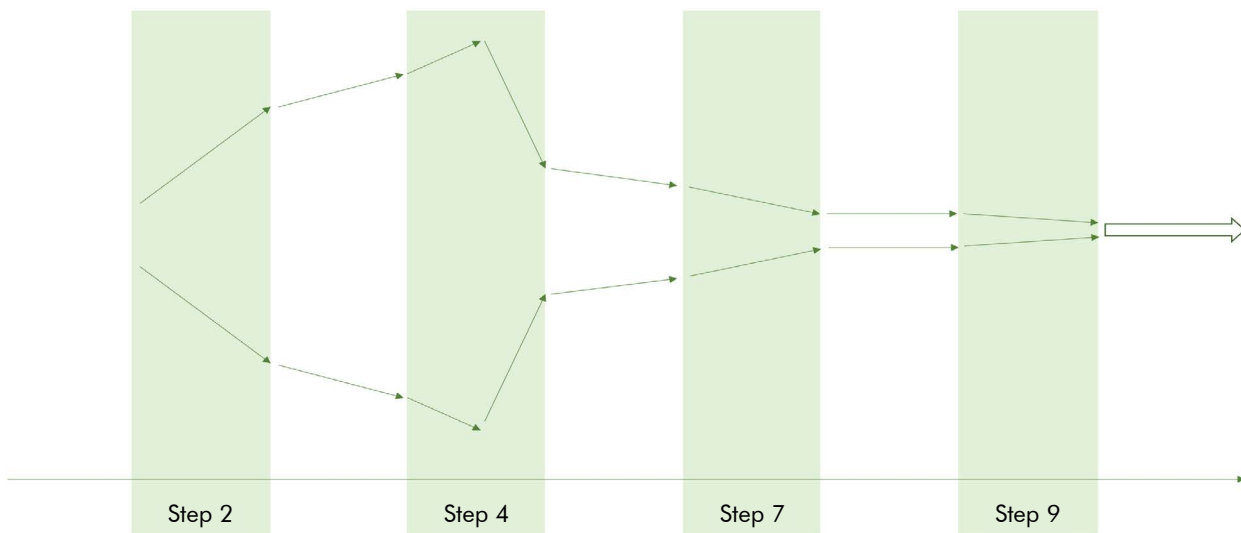
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2   https://www.zonmw.nl/nl/over-zonmw/participatie/

Figure 3: divergence and convergence in CAYR.

Planning

Finally, we spend attention to the CAYR process planning at this preparation stage. The total lead time naturally depends on the call deadline. When planning the workshops, the following is of importance.

- Set the date for all workshops early on in the process and check whether the participants are available at the dates selected.
- Allow for sufficient time following step 9 to finish writing the proposal and to go through the decision-making processes in the organisations involved.
- Also allow for some time in-between workshops. The core group uses this time to perform a short literature review (step 3), draft the first concept for the research project and gather information (step 5 and 6) and detail the proposal (step 8).

In the projects we coached, we had the luxury of a 40-week lead time. This gave the advantage of ample time between workshops to finalise or detail matters. A downside to this is that there is a lot of time between workshops, due to which project team participants had to each time get back into the swing of things. In light of this, a shorter lead time is advisable. A lead time of four to five months is feasible. Should that still prove too lengthy, a selection of the working methods can me made or one or multiple workshops can be dispensed with. However, we have not investigated the effects of doing so.

Step 2: Exploring the practice issue

Preparation

In advance, inform the participants on the objective and organisation of the CAYR process and the contents of the first workshop. If the option of getting acquainted further in the workshop (A.3) with contemplative dialogue is chosen, participants are also given a preparatory assignment in advance.

Workshop organisation

The structure of workshop A is as follows:

	Component	Time	Objective	Working method
A.1	Welcome	15 min	• Getting settled together • Clarity on the workshop: aim and intended outcome	
A.2	**Check-in**	20 min	• Getting to know each other	Check in
A.3	**Getting acquainted further**	50 min	• Getting acquainted further • First look at perspectives brought to the table	A.3.1 Contemplative dialogue A.3.2 Motivations
	Break	10 min		
A.4	**Exploring the practice issue**	50 min	• Mapping different perspectives on the practice issue	A.4.1 Card methodology
	Break	10 min		
A.5	**Restating the practice issue**	30 min	• Creating commonality in the view on the practice issue	A.5.1 Contemplative dialogue A.5.2 Let's write
A.6	**Check-out**	10 min	• Conclusion • Preview of the next step	Check-out: use three words to describe the meeting

A.1 and A.2: Welcome and check-in

The project leader welcomes the participants and describes the aim and intended outcome of the workshop: the aim is to get to know each other and gather the different perspectives on the practice issue. A check-in follows the welcome, with a question appropriate at that stage.

A.3: Getting acquainted further

We have developed two working method variants to get to know each other better. Both are aimed at getting to know each other not only in terms of the content but as people. Personal experiences with the project theme, other personal experiences and feelings can be discussed here. The variant you choose depends on your personal preference, although it is best to choose the working method that aligns with the practice issue.

Variant A.3.1: Contemplative dialogue

Refer to the website for a description.

Variant A.3.2: Motivations

Refer to the website for a description.

A.4: Exploring the practice issue

To collectively explore the theme and the practice issue it obfuscates, we use the so-called 'card methodology' ('kaartjesmethodiek') developed by Lisette Munneke and described in Van der Velde, Munneke, Jansen, & Dikkers (2020). Using this methodology, participants think up as many solutions to a practice issue as they can, as a first step. Then, you collectively attempt to distil the possible causes of the problem from the solutions. This results in an overview of all possible causes that may influence the creation of the practice issue, from different perspectives.

Refer to the website for a description of the card method.

This working method can be done well in a physical meeting by putting post-it notes on a wall or whiteboard. Some adjustments are needed in online meetings. Here, a virtual whiteboard can be used with virtual post-it notes organised as shown in Figure 5. The minutes secretary listens to the solutions raised and places these in the outermost ring. Following this, they can be clustered. This can be done collectively by the group, or by the process manager and the minutes secretary. Collectively, we then look at the underlying causes for each cluster of solutions, asking ourselves 'what does this tie into?'. The clusters are then collectively labelled (the 'aspect').
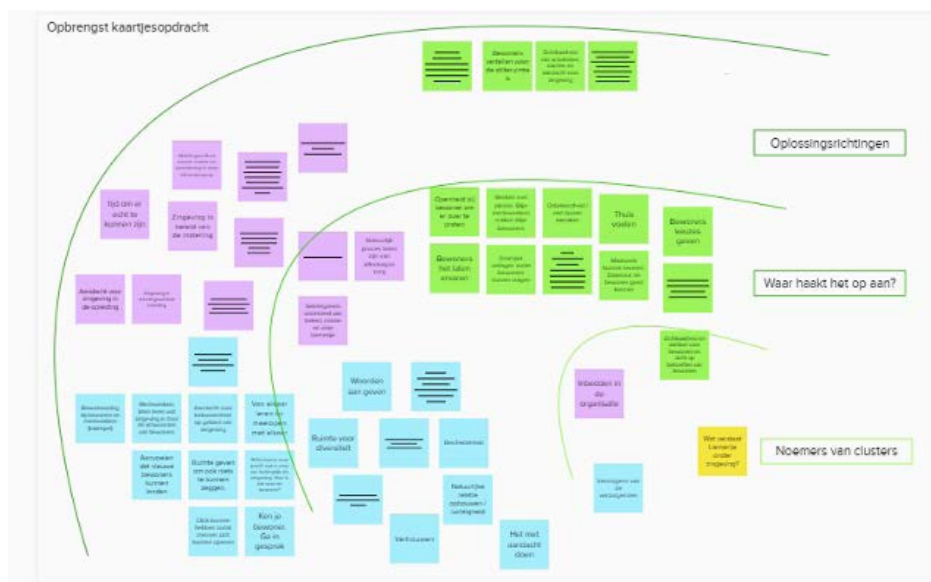

Figure 4: Organising post-it notes in an online meeting

A.5: Restating the practice issue

After A.4, the participants gained an idea of the practice issue from the different views on it available as perspectives in the group. In the final stage of workshop A, we are going to attempt to capture these ideas. We invite participants to state their view on the practice issue in one or two sentences. We have developed two variants for this. The first variant uses the contemplative dialogue. If this variant was already used in A.3 to get acquainted further, it is best to apply the second variant.

Variant A.5.1: Contemplative dialogue

Refer to the website for a description.

Variant A.5.2: Let's write

This variant focuses on exploring similarities and differences between participants. This working method is also appropriate if you have already done the contemplative dialogue for A.3. The working method is described on the website.

A.6: Check-out

The check-out of each workshop consists of a short evaluation of the workshop and a preview for the participants of the follow-up steps to be taken by the core team. This can be done e.g. by asking participants to use three words to describe the meeting.

What is a practice issue? ✋

In this manual, we use the team 'practice issue' to refer to the problem or opportunity in practice that the research project focuses on. This means that a practice issue can be a description of a problem or an opportunity. A 'problem' is a situation experienced as undesirable by stakeholders. An 'opportunity' is an option seen to improve the field. When a practice problem takes centre stage, it is important to also formulate it as a problem, i.e. an undesirable situation. E.g.: 'Diagnostics in … does not provide sufficient support for … in reaching an appropriate treatment method'. In the issue as formulated, a specific situation is mentioned for a specific target group and what part of it leaves (a lot) to be desired. So, a practice issue is not:
- a desired outcome or intent;
- an objective;
- a solution; or
- a question.

You can find more information on the practice issue in Appendix 2.

Step 3: Defining the knowledge gap

Between step 2 and 4, the core team sets out to work on three items: 1) writing a progress document listing the results of step 2, 2) mapping the available knowledge by performing a short literature review among other things, 3) formulating the practice issue.

Preparing the progress document

It is wise to have a document throughout the entire CAYR process in which the results of all steps are recorded. This document has three important functions. Firstly, the progressive insight that arises during circling is recorded in it. It is the central location for all input retrieved. Secondly, it is used to update the project group and, if any, the management group, feedback group and focus groups on the substantial progress of the process and any choices made. The third function is that it is the central location for all input retrieved and, as such, the most important resource in writing the final application. In light of this, it is advisable at this stage to organise the progress document in the way the application is structured.

> **Practice issue examples** ✋
>
> *'The life history of clients with serious mental illnesses is currently insufficiently explored, but doing so may have several benefits.'*
>
> *'In day-to-day practice, it turns out to be difficult for healthcare professionals to integrate paying attention to the dimension of meaning in their work. Attention to meaning and spirituality is not an obvious component of work processes. Moreover, healthcare professionals often feel insufficiently competent in this aspect.'*

Mapping available knowledge

The literature review that takes place during research proposal development will be done mainly by the researchers in collaboration. The CAYR methodology assumes that the researchers involved already have the expertise required on the themes relevant to the practice issue. If this turns out not to be the case, it may be so that the right researchers are not at the table; it is then advisable to critically assess whether other researchers should be involved. In addition to deploying their own expertise, the researchers can of course question other members of the partnership regarding their relevant expertise and knowledge of the practice issue and solutions, if any.

At this research proposal development stage, it is not possible to perform an extensive literature review (e.g. a systematic literature review). However, a scoping review (Kastner et al., 2012) or the snowball method can be performed. It is always wise to first also consult a number of experts outside of the partnership, who may refer to important publications and literature trends.

Creating an overview of existing and missing knowledge is a four-step process:
1. Establishing the knowledge necessary: what do we need to know to start working on the practice issue?
2. Establishing the available knowledge, globally: what knowledge is already available from the scientific and professional literature and the stakeholders in practice? What is the quality of this knowledge?
3. What is the gap between the available knowledge and the knowledge necessary? This is the 'knowledge gap'.
4. What part of this gap will the research project fill? This is the first step in setting the knowledge objective of the research project.

We briefly go through the steps. The first step in determining the knowledge necessary was already dealt with in part when exploring the practice issue. Experts and stakeholders in practice play an important role in this. The second step involves a literature review, among other things. The CAYR

website lists supporting questions for mapping the state-of-the-art. In addition to a literature review, experts, professionals and other stakeholders in practice such as end-users and clients also hold much knowledge on the practice issue. That knowledge may at times already be so rich that the main objective of a research project may be the explication and validation of that knowledge. Step three, determining the knowledge gap, takes place in close consultation with stakeholders in practice. In this step, there is a great risk of the researcher being guided excessively by his own insights or interests, as a result of which the ultimate research question may be too far removed from practice. The fourth step, concretising the knowledge objective, is necessary because a research project is virtually never able to fill the entire knowledge gap identified in step 3. Delineation is a necessity. This also ties in with the preconditions. More information about forms of literature review can be found here.

Formulating the practice issue

On the basis of the results of step 2 and the mapping of the available knowledge, the core team formulates the first version of the practice issue. The practice issue supporting questions on the website can aid in this process. The issue is formulated in such a way that the perspectives of stakeholders are integrated and their continued involvement remains appealing to them.

Step 4: Exploring the research objectives

Preparation

In preparation for step four, the participants can be sent the progress document. In addition, it may prove useful to inform them on the types of objectives to be explored in this workshop. Within CAYR, we use four types of objectives you can attain by performing research. You could send the participants the page on the website discussing objectives, in advance. The core team prepares a short presentation on the output of steps two and three.

Workshop organisation

The structure of workshop B is as follows:

	Component	Time	Objective	Working method
B.1	Welcome	5 min	• Getting settled together • Clarity on the workshop: aim and intended outcome	
B.2	**Check-in**	5 min	• Meeting on a personal level once more, having everyone's voice heard	Check-in
B.3	**Looking back on workshop A and interim steps**	20 min	• Callback to workshop A for participants and informing them on the progress since then • Giving the opportunity for feedback on the progress document	B.3 Reflection
B.4	**Views on research**	20 min	• Exchanging views on the type of research ahead for the participants	B.4 Views on research
B.5	**Exploring the objectives (part 1)**	30 min	• Mapping different perspectives on the research objectives	B.5. Objective circumplex
	Break	10 min		
B.5	**Exploring the objectives (part 2)**	60 min	• Clustering and prioritising objectives	B.5. Objective circumplex
	Breal	10 min		
B.6	**Check-out**	10 min	• Conclusion • Preview of the next step	

B.1 and B.2: Welcome and check-in

The project leader welcomes the participants and describes the aim and intended outcome of the workshop: the aim is to collectively determine what we want to achieve through the research project. The 'check-in' working method follows this.

B.3: Reflection

The aim of this component is to inform participants of the steps the core team has taken following workshop A and what the results of these are. This component also helps participants as a refresher on the outcomes of workshop A. The project leader gives a short presentation on this. Participants are asked to think about the following three questions while listening:

1. What clarifying questions do I have?
2. What additions, if any, do I have?
3. What restatement of the practice issue, if any, do I have?

After the presentation, the process manager consolidates these three aspects over three rounds. The

snowball method can be used for this. The 'snowball method' in this case means that the facilitator goes around the room gathering input from all participants, but explicitly only asking for contributions not already discussed.

B.4: Views on research

The next major component of workshop B has the aim of bringing to light implicit views participants may have on the research project. The views on research working method attempts to achieve this by asking the participants what makes them happy in the research project, and what they'd find a shame. Association cards are used to also bring oft-subconscious views and associations to light.

B.5: Objective circumplex

The great thing about practice-based research is that it can have four objectives. In CAYR, we distinguish between 1) a knowledge objective, 2) a development objective, 3) a professionalisation objective, and 4) a change objective. We use the objective circumplex to define which objectives we want to pursue in the research project.

- A research project always has the objective of developing new knowledge. This is what we call the 'knowledge objective'.
- A research project also has a 'development objective' when it aims at developing a concrete product over the course of the project, e.g. a protocol, manual, tool, training course, checklist, diagnostics instrument, application or treatment.
- A research project has a 'professionalisation objective' if it is aimed at having stakeholders learn something during the project, to have them view reality differently, or to influence their attitude. This can involve healthcare professionals, clients, family members, researchers, or other stakeholders.
- A research project has a 'change objective' if it aims to stimulate changes in the way of working, culture or organisation over the course of the project.

These four research objectives can be placed along two axes, creating an objective circumplex (see Figure 6). The vertical axis connects the two objectives that you could term the research *output*, i.e. knowledge and products. The horizontal axis connect the two targets that can be seen as the research *outcome*, what the research project should cause, i.e. professionalisation and change. Working with the objective circumplex is described on the website.
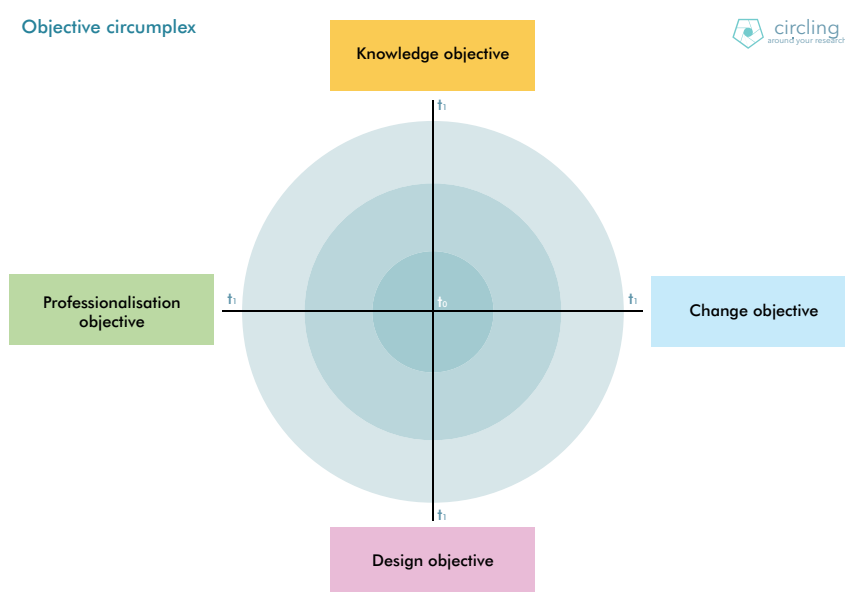

Figure 5: Objective circumplex

When developing a research proposal for the introduction of a new technology ('X') in healthcare, a project group considered the objectives of the research project. This resulted in 47 possible objectives. These objectives were then placed on the axes of the objective circumplex, clustered, and ordered. Finally, checkmarks indicate which objectives participants deemed most important. The result is shown in Figure 7. As this figure is not legible, we provide a short explanation below.
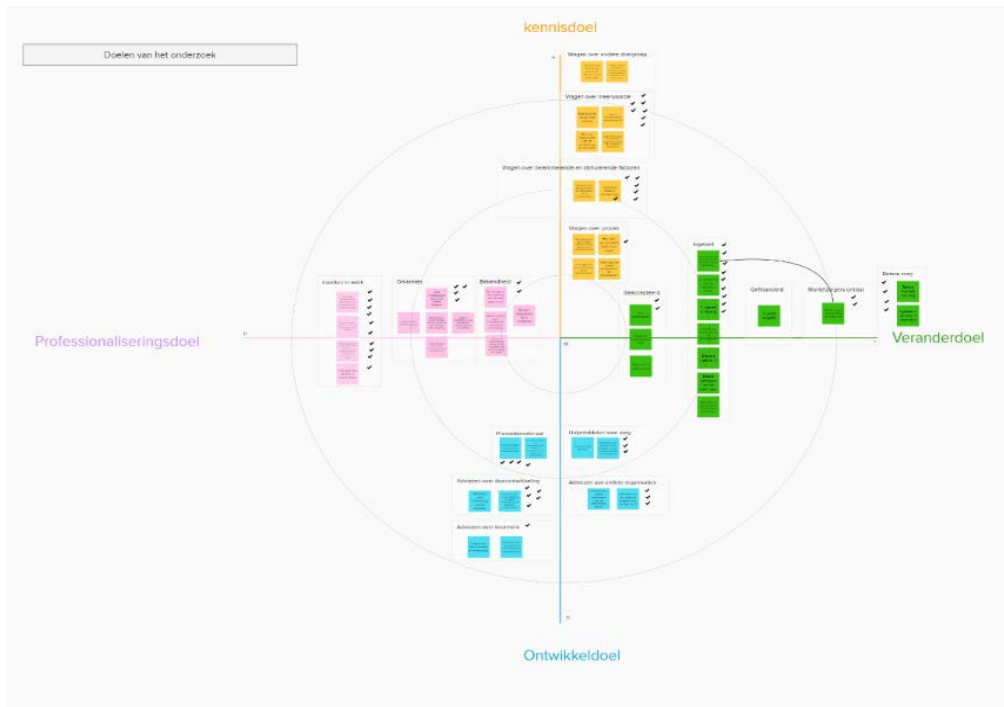

Figure 6: Objective circumplex example

Under 'knowledge objective', four clusters of questions have been placed in a logical order: 1) questions about the process of applying technology X, 2) questions about impeding and promoting factors for the introduction of X, 3) questions about the value X adds, and 4) questions about other target groups for X. Above 'development goal', five clusters of possible products are given: 1) promotional materials, 2) healthcare tools, 3) advice on the further development of X, 4) advice to other healthcare organisations, and 5) advice on the development of a quality mark for X. Three objective clusters are shown to the right of 'professionalisation objective', logically organised. Firstly, the research projects aims to achieve more awareness of technology X among clients, informal caregivers, and healthcare professionals. Subsequently, the aim is to have them embrace this technology. Finally, the research project strives for the actual application by healthcare professionals in their day-to-day work. Five clusters of objectives are shown to the left of 'change objective', logically organised. First, there is the aim of technology X being accepted in the organisation, followed secondly by X being embedded in the working process. This is followed by financing being arranged. This must in turn lead to the unburdening of informal caregivers and ultimately improving healthcare. This example clearly shows that a theory emerges along the horizontal axis about the way in which the research project will contribute to practice. This is also termed the 'theory of change'[3] of a research project.

B.6: Check-out

The check-out of each workshop consists of a short evaluation of the workshop and a preview for the participants of the follow-up steps to be taken by the core team.

Step 5: Arriving at research questions and sub-products

In step five, the core team starts working on: 1) supplementing the progress document, 2) considering the research questions, and 3) considering the sub-products and interim results.

Supplementing the progress document

The core team adds the results of step four to the progress document. The insight into the research objectives acquired may lead to changes in the formulation of the practice issue and may again tie in with new themes, necessitating a short literature review. The prioritised knowledge objectives can already be translated by the core team into possible research questions. In addition, the prioritised objectives often give an idea of the research design necessary to achieve the objectives.

Considering the research questions

At this stage, it is wise to consider – as core team – the next steps: formulating the research questions. These can then be presented to the project group in step seven.

Information or data collection is often necessary so the four types of objectives that can be set for practice-based research can be achieved. Formulating research questions is helpful to get an overview of what information needs to be gathered. The knowledge objective is often easy to translate into a research question. If the knowledge objective of a research project is to gain insight into the effectiveness of a specific treatment method, this can be translated into: 'what is the effectiveness of treatment X?'.

However, new information is often necessary to realise other types of research objectives. If the research objective of a research project is to develop an app that clients can use to keep a diary, relevant questions include: 'what are the functional requirements for the app?' or 'what preconditions must be taken into account in app development?'. If the change objective of a research project is aimed at changes within a department, relevant questions include: 'why has this change not been realised thus far?' or 'what do employees think of the change?'. If a professionalisation objective has been formulated for a research project, relevant questions include: 'what prior knowledge do learners have?' or 'what preconditions is the learning subject to?'.

A set of main- and sub-objectives can be made by going through all objectives formulated within a research approach. Research questions are important elements that provide direction within a research project. A well-formulated research question is a necessary precondition for solid research. Five quality criteria are listed below (Oost & Markenhof, 2002). A well-formulated research question is:

- Relevant for the practice issue
- Anchored, matching the knowledge gap

> **Taking the lead as project leader** ✋
>
> In the pilots, we saw that project leaders had to take on a different role after step four, but also that they often struggled to do so. Figure 4 shows that it is important to start converging and making decisions after step 2. The core team has to play a management role in this. In workshops A and B, the project group communicated viewpoints and preferences which the core team must now translate into research questions and a research approach. This can prove difficult, because the core team has explicitly not taken on a management role in the first two workshops. The reason to start managing matters now is that not all members of the project group have the research expertise needed to develop proper research questions and proposals. They need some help in this process. Their role shifts in the assessment of core team proposals using their own points of view and preferences. The core team has to let go of the idea of not running a tight ship. Management is helpful at this stage, provided the project team is informed of the reasons underpinning the choices made and is given the opportunity to assess and amend these.

- Precise; the concepts used in the question and the assumed relationship between them are precisely defined
- Consistent; is about consistency between all elements
- Functional; clearly states the function of the research project

A good research question immediately makes clear which research function the question refers to. For this, refer to the list of [research question examples](#).

Considering sub-products and interim results

Working with sub-products is often common in technical or design research. Participants consider what the research project output should be, concretely (design objective), both at the end of the project as well as in the interim. Formulating and organising sub-products can aid in structuring the research project and developing an approach. Sub-products specify which specific interim results are necessary to achieve the objectives of the research project. If you want to design a concrete solution in your research project (e.g. an app), the sub-products in the project may be a document with the programme of requirements, one or multiple prototypes, a test report, and the definitive version. The specification of sub-products is well-suited to research projects in which the design objective, the professionalisation objective and/or the change objective are important, as they can be used to indicate the manner in which the objectives will be realised. Because the realisation of a specific sub-product often requires new knowledge, specifying sub-products often leads to new sub-questions for the research project.

Step 6: Developing the preliminary research approach

Detailing the approach for a practice-based research project is not just about the approach to research as a whole, but also about the approach used to answer the research questions. When a research objective has been formulated, the design approach should be considered. A professionalisation objective requires a didactic approach, and a change object a change approach (see Figure 8).
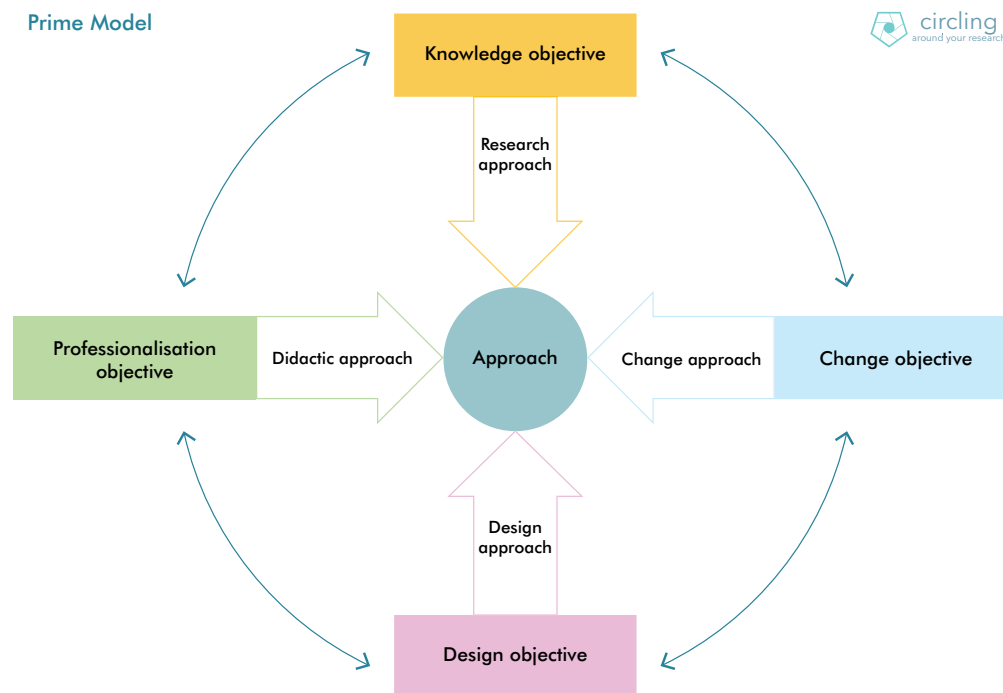

Figure 7: Four different approaches in practice-based research

The research approach sets out the manner in which the research questions will be answered. This is about determining the research design and the research methods for data collection and data analysis. The design approach sets out the manner in which the concrete products will be designed. This can be simple (e.g. writing an advisory report or a manual) or complicated (e.g. a protocol or physical tool). The didactic approach sets out how stakeholders will learn during the research project (e.g. via formal training courses, peer feedback, or by participating in research as a fellow researcher, like in action research).

The change approach sets out how changes in the organisation will be realised. Various strategies exist in this respect. E.g. De Caluwe & Vermaak (1999) distinguish between five change strategies and assign each one its own colour: *blueprint* thinking is the rational planning strategy, *yellowprint* thinking is the interest strategy based on things like power and coalitions, *redprint* is the people-centred strategy focused on things like reward and punishment, *greenprint* is the growth-oriented strategy focused on things like learning and motivation, and *whiteprint* is the energy-oriented strategy based on things like self-organisation and creativity. Principally, the change strategy must fit the practice issue and the context. The change strategy is also commonly termed the 'implementation plan'. The ZonMv website provides a lot of information on this.

The Research Pathway Model (RPM) is a possible tool to develop the research approach. This is a process model that specifies the different steps that can be taken in a research project. It aids in creating a better shared understanding of the research project. More information can be found on the CAYR website.

It follows from step four that the development of an intervention is one of the possible research objectives. It is wise then to outline what that intervention will be and to demonstrate that existing knowledge was used in this. In step seven, the project group can contribute ideas on shaping the intervention; this yields the best results when working on the basis of a first draft.

Step 7: Discussing the preliminary research approach

Preparation

In preparation for step seven, participants can be sent the latest version of the progress document. In addition, it may prove useful at this stage to send them the first ideas regarding the research question and the research approach, with several variants if applicable. The core team prepares a short presentation on the output of all steps taken so far and the preliminary research questions, research approach, and the intended intervention if applicable.

Workshop organisation

The structure of workshop C is as follows:

	Component	Time	Objective	Working method
C.1	Welcome	5 min	• Getting settled together • Clarity on the workshop: aim and intended outcome	
C.2	Check-in	5 min	• Meeting on a personal level once more, having everyone's voice heard	Check-in
C.3	Looking back on workshop B and interim steps	20 min	• Callback to workshop B for participants and informing them on the progress since then • Giving the opportunity for feedback on the progress document	C.3 Reflection
C.4	Explaining the preliminary research/intervention approach	30 min	• Informing participants on the preliminary research approach	C.4 Round of questions
	Pauze	10 min		
C.5	Discussing the preliminary research/intervention approach	60 min	• Collect feedback on the preliminary design of the study	C.5.1 Happy, or questions? C.5.2 Circling around the approach
	Pauze	10 min		
C.6	Retrieve additional information from the project group	20 min		C.6 Work in progress
C.7	Check-out	10 min	• Conclusion • Preview of the next step	

C.1 and C.2: Welcome and check-in

The project leader welcomes the participants and describes the aim and intended outcome of the workshop. The aim is to collectively determine what the research project will look like and to determine the outlines of the intervention to be developed. The 'check-in' working method follows this, based on a question.

C.3: Reflection

The aim of this component is to inform participants of the steps the core team has taken following

workshop B and what the results of these are. This component also helps participants as a refresher on the outcomes of workshop B. The project leader gives a short presentation on this. Participants are asked to think about the following two questions while listening, noting them down if applicable:

1.   What clarifying questions do I have?
2.   What additions, if any, do I have?

After the presentation, the process manager consolidates these two aspects. The snowball method can be used for this. The facilitator goes around the room gathering input from all participants, but explicitly only asking for contributions not already discussed.

C.4: Round of questions

The core team presents the first preliminary ideas on the research approach. When doing so, the project team emphasises that it is a first draft still allowing for a lot of input. The facilitator asks participants to note down clarifying questions while listening. Then, the facilitator goes around the room, noting participants' questions. The core team answers these where possible.

C.5: Discussing the preliminary research approach

We have developed two working method variants for discussing the preliminary research approach. The first variant, 'Happiness and questions', gives a general overview of the opinions participants hold on the approach. The second variant, 'Circling around the approach', discusses the approach by means of a number of criteria and gives more information on bottlenecks and improvements. For both working methods, it is best if the core team presents the proposed approach once more concisely, e.g. by summarising it in a figure that fits on a single PowerPoint slide.

Variant C.5.1: Questions, or happy?

In this working method, the facilitator asks participants to note down two things following the presentation of the core team (7 minutes):

- This makes me happy or gives me energy
- I have questions about this

The facilitator goes around the room gathering input. The minutes secretary notes the answers on a whiteboard. The group then discusses the most important themes that emerge.

Variant C.5.1: Circling around the approach

In this working method, the facilitator asks participants to think about the following five questions after the presentation of the core team:

1. Can we attain our chosen objectives via this approach?
2. Does the approach fit within the frameworks and requirements: time, money, grant provider criteria, and so on?
3. What practical conditions have to be arranged for this to succeed?
4. What needs further investigation and detailing at this stage?
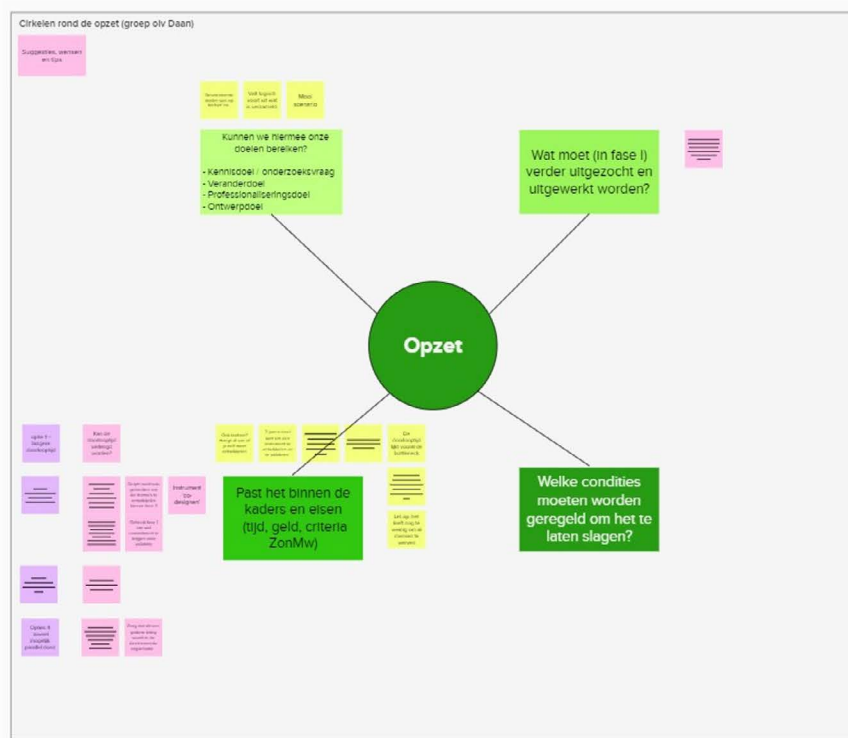5. Do you have any suggestions?

Figure 8: Circling around the approach

This working method is described on the website. The results of this working method can be recorded as shown in Figure 9 if applicable.

C.6: Work in progress

The final major component of step seven is the option for the core team of asking the project group to address one or multiple unanswered questions. The core team formulates one or two questions in need of answers so that it can continue the research proposal development. The project team is then divided into two sub-groups to work on one of the questions. The participants re-convene after having worked on the question for approximately 15 minutes, with both groups reporting the answers found. The minutes secretary records the answers. The manner in which the sub-groups work on the questions is not restricted. A number of working methods can be found here.

C.7: Check-out

The check-out of each workshop consists of a short evaluation of the workshop and a preview for the participants of the follow-up steps to be taken by the core team.

Dealing with despair ✋

We have experienced during the pilots that this CAYR stage can be seen by project leaders as a phase in which there is a lot to do and it's hard to see the wood for the trees. A lot of information has generally been gathered in steps 1 through 5 and incorporating all that data in the progress document and a first research proposal can be difficult. The step of going from divergence to convergence is often accompanied by a feeling of despair. Worry not, it's part of the process. This project phase is also referred to as the phase of 'informed pessimism' (Connor, 2006). This stage follows from uninformed optimism, but is luckily virtually always followed by a stage of hopeful realism. A few tips in this are:
- Don't do everything yourself, but let others contribute ideas
- Organise the information retrieved
- Discuss things with someone who is not involved in the process, but is experienced in writing research questions. Record yourself and rewind.

Step 8: Drafting the final research approach

At this stage in the process, the core team generally has enough information to start writing the research approach and completing the grant application format.

Step 9: Organising collaboration for research execution

Preparation

Participants can be sent the first draft of the subsidy application in preparation for step nine. The core team prepares a short presentation of the results thus far.

Workshop organisation

The structure of workshop D is as follows:

	Component	Time	Objective	Working method
D.1	Welcome	5 min	• Getting settled together • Clarity on the workshop: aim and intended outcome	
D.2	Check-in	5 min	• Having everyone's voice heard once more	Check-in
D.3	Looking back on workshop C and interim steps	35 min	• Callback to workshop C for participants and informing them on the progress • Giving the opportunity for feedback on the draft proposal	D.3 Reflection
D.4	Taking stock of roles and tasks	15 min	Taking stock of who wants to play what role in the research project, and what is necessary to enable this	D.4 To-do list
	Break	10 min		
D.5	Mapping roles, tasks and dependencies	30 min	• Mapping who wants to play what role in the research project, and mapping dependencies	D.5 Weaving a safety net
D.6	Gathering additional input from the project group	20 min	• Gathering additional input from the group	D.6 Work in progress
D.7	Evaluation	20 min		D.7. Association cards
D.8	Celebrating milestone		• Conclusion • Celebrating milestone	

D.1 and D.2: Welcome and check-in

The project leader welcomes the participants and describes the aim and intended outcome of the workshop. The aim of step nine is to gather the final input that allows the core team to complete the application. The aim is also to gain clarity on the roles, tasks and mutual dependencies and expectations in the research project. A third aim is to evaluate the CAYR process together and celebrate its completion.

D.3: Reflection

The aim of this component of the workshop is to inform participants of the steps the core team has taken following the previous workshop, what the results of these are, and what the preliminary proposal will look like. This component also helps participants as a refresher on the outcomes of the previous workshop. The project leader gives a short presentation on this. Participants are asked to think about the following two questions while listening:

1. What clarifying questions do I have?
2. What additions, if any, do I have?

After the presentation, the process manager consolidates these two aspects. The snowball method can be used for this. The facilitator goes around the room gathering input from all participants, but explicitly only asking the participants for contributions not already discussed.

D.4: To-do list

This working method aims to discover which role the project team participants can and want to play in the research project. Based on the proposal presented, each participant draws up a to-do list.

- One page per person: note down which roles you can take on in the research project and which perspective you represent in doing so.
- Then draw and complete three columns:
    - My roles
    - My tasks/contributions in that role
    - Who and what do I need to successfully perform that role?

D.5: Weaving a safety net

The aim of this method is to take stock of the envisaged roles and duties and to identify the mutual dependencies of participants in the research project. In the physical meeting, these dependencies are visualised by throwing a ball of wool back and forth. In that way, the participants 'weave' a net for the research project. This working method is described on the website. The minutes secretary takes notes of the points and necessary elements raised. Naturally, no ball of wool is involved in the online meeting.

D.6: Work in progress

The final major component of this workshop is the opportunity for the core team to ask the project group to address one or multiple unanswered questions. The core team formulates one or two questions in need of answers so that it can continue the research proposal development. The project team is then divided into two sub-groups to work on one of the questions. The participants re-convene after having worked on the question for approximately 15 minutes, with both groups reporting the answers found. The minutes secretary records the answers.

> **Evaluation in style** ✋
>
> In a CAYR process focused on the use of life stories in healthcare, we searched for a way of evaluation that tied in with the theme. In light of this, we asked participants to complete a ten-minute writing exercise, answering the following five questions:
> - Our history: what moment in CAYR left an impression on you?
> - Talents/vulnerabilities: what are you proud of?
> - Values and standards: what did you like or find important?
> - Upsetting/losses: what was most difficult?
> - Connecting with others: name a person who played an important role for you in this process.

D.7: Association cards

Association cards are laid out on a table. Each participant chooses a card and explains their experience with CAYR, based on the card chosen. Participants are free to choose their approach: a learning experience, advice (keeping – adding – improving – dropping), a feeling, and so on.

D.8: Celebrating the milestone

It is important to conclude this process by celebrating this milestone. Of course, this can be done in various ways.

Step 10: Finalising and submitting the research proposal/grant application

The final step in the Circling Around Your Research process is formulating the application, having it signed by the partners, and submitting it. Starting work on this in good time is of great importance, as is sending the partners a schedule for this so that they know their deadline for signature collection.

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