Whitepaper on Co-evaluation of Citizen Social Science

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Introduction

This publication is based on the experiences collected over the course of 30 months while implementing participatory evaluation practices in the European funded research project CoAct. This citizen social science project's primary goal was to address social concerns such as youth employment, mental healthcare, environmental justice and gender equality in the context of local citizen social science initiatives.

When people engage in scientific processes they are often personally affected by the research and its outcomes, such as patients reporting their Long Covid symptoms for health research, or residents contributing to the collection of biodiversity data in their neighbourhood. This is especially true in citizen social science, where participants actively contribute to investigating and finding solutions to challenges they face in their daily lives. This engagement, we are convinced, should be considered a possibility throughout the entirety of the research cycle, including research evaluation and impact assessment.

Particularly in such cases where people engage in research that affects their lifeworlds, they should be able to co-define the expected outcomes of the scientific process and reflect collectively how the fulfilment of these expectations could be tracked and measured. So why not describe in a participative manner how project developments could be measured against different interests, and define collaboratively what proof of success may look like? Such an evaluation and impact assessment is not left exclusively to scientists and professional evaluators, but actively includes all engaged actors of the scientific process as competent co-evaluators.

With this Whitepaper, we want to raise awareness for participatory approaches towards evaluation and impact assessment in citizen social science. The six co-evaluation principles that form the core of this paper are intended to guide the participatory approach to project evaluation and to sharpen the focus for impact assessment. While these principles have been developed in the context of citizen social science activities, we believe in their wider applicability for citizen science in other domains and participatory research in general.

What is Citizen Social Science and why does it matter?

Citizen science has been around for a long time. And so has citizen social science. The scientific practice of involving people in co-researching challenges within their own socio-political contexts and through this contributing to changes in public policy has a long tradition in the social sciences. Approaches such as community-based participatory research or participatory action research have paved the way for our contemporary understanding of participation in citizen science. However, only recently scholars began referring to this form of active engagement in social science processes as citizen social science.

Nowadays, citizen social science has emerged as a growing and often inter- and transdisciplinary field of practice. Citizen social science concerns itself with challenges from the lifeworlds of affected individuals or groups that are often underrepresented in "classic" citizen science projects. Because participants are engaged as experts on the social phenomena under study, operating within their socially constituted frame of meaning, there is the additional challenge of a "double hermeneutic" to be addressed in a participative and inclusive way. When co-evaluating citizen social science activities, it is important to pay particular attention to the fact that participants must function within multiple frames of meaning and that interests from both science and society are equally reflected.

Recommended further reading on citizen social science:

- Albert A., Mayer K., Perelló J., Balázs B., Butkevičienė E. (2021) Citizen Social Science: New and Established Approaches to Participation in Social Research. In: Vohland K. et al. (eds) The Science of Citizen Science. Springer, Cham. https://doi.org/10.1007/978-3-030-58278-4_7
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- Göbel, C., Mauermeister, S. & Henke, J. Citizen Social Science in Germany—cooperation beyond invited and uninvited participation. Humanit Soc Sci Commun 9, 193 (2022). https://doi.org/10.1057/s41599-022-01198-1
- Kieslinger B, Schuerz S, Mayer K, Schaefer T (2022) Participatory Evaluation Practices in Citizen Social Science: Insights from Three Use Cases. Fteval Journal for Research and Technology Policy Evaluation (in press)
- Mayer K, Kieslinger B, Schaefer T (2018) Open and participatory citizen social science for evidence-based decision making. In: Proceedings of the 4th Austrian citizen science conference (OECSK), Salzburg, Austria. https://doi.org/10.5281/zenodo.1479273
- Scheller D et al. (2020) CoActD2.1: Report on State of the Art of Citizen Social Science. Zenodo. https://doi.org/10.5281/zenodo.4810909

Co-evaluation, a form of participatory evaluation

Co-evaluation is a form of participatory evaluation that engages stakeholders in a conversation on expectations, objectives and impacts already at the start of the project. Co-evaluation is defined as a process that involves relevant actors of a scientific research project in an iterative evaluation practice applying participatory methodologies. Project goals and objectives, understandings of success, challenges, and unintended effects are collectively discussed and documented at the beginning of a project and regularly re-visited during the research design and execution, ideally even beyond the project's end. Assessment and intended impacts hence become transparent entities in the project design.

Why co-evaluation?

Co-evaluation takes a transformative stance, as it includes co-creation methods that aim not only at learning about a situation, but also at overcoming hindrances, tackling issues, and finding solutions to problems such as how to measure the success of a research project in terms of stakeholder benefits, putting particular emphasis on marginalised perspectives. The objectives of the co-evaluation are negotiated transparently and are intended to benefit both science and the participants. This means that the results of the co-evaluation also provide useful starting points for further action after the end of the project.

Co-evaluation approaches & methods

Co-evaluation has a strong emphasis on collective discussions, learning, and critical reflection. During the co-evaluation process, which is conducted as a team effort, the assessment procedures and applied methods may vary greatly in their manifestation, depending on the context. They include qualitative and quantitative methods, from surveys to storytelling, being open to any empirical data gathering method, so long as they are appropriate for the respective context and involved actors. Most importantly, co-evaluation is a reflective learning process that involves participants in evaluative decision making. Instead of proposing a set of predefined methods, co-evaluation builds on a set of principles while aiming to adapt the methods to the situative contexts.

Testimonials

Isabelle Bonhoure, Open Systems, University of Barcelona, Spain: *"I was surprised how much ownership our co-researchers developed throughout the scientific process, as we encouraged them to do so! The co-evaluation sessions, where the co-researchers were actively involved, allowed us to clearly visualise this trend. These sessions also evidenced their huge expectations and the need to carefully manage them, by openly explaining the research steps, as well as the uncertainties associated with any research project."*

Teresa Wintersteller, University of Vienna, Austria: *"For our co-evaluation, we asked all our stakeholders about their expectations of the project process. And we found that they all wanted for the perspectives of our young co-researchers to be heard. This led us to create a new format where we brought young people, trainers and decision makers together for the very first time in three roundtable discussions."*

Valeria Arza, CENIT, University of San Martín, Argentina: "*Co-evaluation activities with the involved stakeholders revealed the need to reframe our perspective on citizen science actions towards a more collective focus, both in the co-design and implementation stages, involving community organisations and networks – rather than individuals – and looking for synergies with their activities. In addition, interactions with stakeholders made us realise the potential of combining citizen social science with environmental education to promote transformation towards Environmental Justice.*"

More about our understanding and definition of co-evaluation can be found here:

- Kieslinger B, Schuerz S, Mayer K, Schaefer T (2022) Participatory Evaluation Practices in Citizen Social Science: Insights from Three Use Cases. Fteval Journal for Research and Technology Policy Evaluation (in press)
- Kieslinger, Barbara, Schuerz, Stefanie, Mayer, Katja, & Schaefer, Teresa. (2021). CoActD7.2: Interim Impact Assessment Report. Zenodo. https://doi.org/10.5281/zenodo.6107394
- Schaefer, Teresa, Kieslinger, Barbara, Mayer, Katja, & Schuerz, Stefanie. (2020). CoActD7.1: Impact Assessment Plan. Zenodo. https://doi.org/10.5281/zenodo.6076181

CoAct's approach towards this whitepaper

Under the lead of a participatory research team from the Centre for Social Innovation ZSI, a co-evaluation approach was introduced and applied in three different citizen social science initiatives over a period of 30 months. It was conducted in close collaboration with the local research teams that consisted of citizens as co-researchers in the scientific process, thematic and political stakeholders, and multidisciplinary academic researchers. Based on these experiences, a set of principles were derived that have shown to be highly relevant for the implementation of co-evaluation practices in citizen social science.

In accordance with Cousins/Whitmore (1998) and Patton (2010), we consider a set of principles as useful guidance, especially for projects that are complex, involve many actors and require flexibility and adaptation. This approach stands in contrast to pre-defined evaluation processes that neither allow for the involvement of research participants in the evaluation design, nor consider collaborative decision-making structures.

After two rounds of feedback within the CoAct consortium, the principles were openly presented for public consultation. It was intended as an opportunity for experts beyond CoAct to enrich the principles with additional experiences, to expand the principles with fresh views and complementary expertise, and to encourage discussion. In total, around 50 individuals contributed to shaping the principles in its current version.

6 Principles to guide co-evaluation in citizen social science
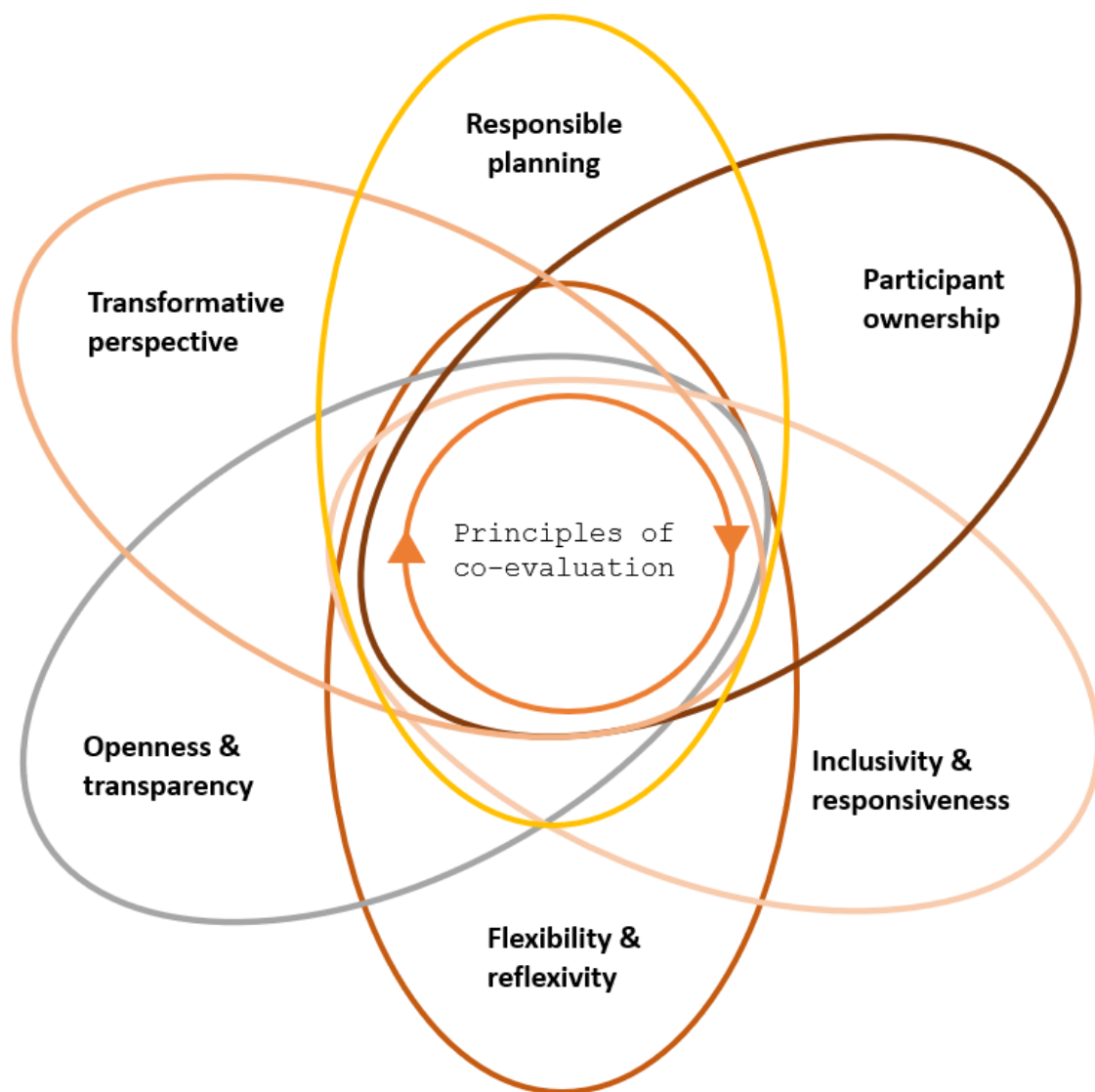
"*Co-evaluation is very context sensitive and can be implemented in many ways. We believe that there is no cookbook that anyone can deliver to cater to all the different needs in citizen social science. However, a principles-based approach towards co-evaluation can give guidance. Principles – built on evidence – can help to reflect on the complexity of citizen social science and guide an inclusive learning process that may lead to desirable changes*" (Kieslinger, Mayer, Schäfer, Schürz)

Responsible planning

Co-evaluation requires careful and appropriate timing on how to assess and value project processes and outcomes. Doing it in a participatory way adds additional complexity to the entire citizen science process. Responsible planning hence means carefully considering when in the research process to co-evaluate and how.

Recommendations:

Start as early as possible with the involvement of project participants in the co-evaluation process, but latest during the negotiation of the research questions of both the scientific endeavour and the co-evaluation, as well as the design of the methodology.

Reflect on ethical aspects of co-evaluation with your participants early on and discuss potential ethical approaches to create awareness across participants. Adapt to the lengthy process of ethical approval by institutions.

Respect the time constraints of participants and offer multiple opportunities for their engagement in co-evaluation, both in terms of timing and methods. Align co-evaluation with other planned project activities and try to make it an integral part of the whole citizen science process. Overall, factor in additional time for the co-evaluation process from the start.

Enable participants to engage according to their needs and interests. Provide different engagement formats with respect to available time and resources and communicate clearly and in a simple manner what you want participants to report on. When working with young participants, make sure the engagement options are truly engaging ("fun") to keep participants involved.

Critically consider the timeframe of your project and make sure that the insights generated during the co-evaluation are communicated on a regular basis and are reflected in the overall management of the project.

Participant ownership

Co-evaluation aims for co-ownership. Ownership of the co-evaluation process should not be left to project managers or an external entity. Instead, citizen science participants take certain actions and responsibilities for project activities and outcomes and hence for their assessment. Be aware that ownership in evaluation tends to be taken gradually and may lead to a shift from individual expectations of participants towards a more collective and strengthened view on expected project outcomes.

Recommendations:

Provide participants with the option to gradually take responsibility in the evaluation process. Similarly, offer project leaders the option to gradually pass responsibility to others. Create reflexive niches for participants where ownership can evolve and be distributed gradually.

Make sure to prioritise expectation management, especially when citizen scientists take greater ownership, as participant expectations in terms of impact assessment may go beyond the project's scope. Discuss potential boundaries openly in the project.

If possible, identify and support advocates of co-evaluation from within the participants' community. They can become co-evaluation champions who drive the process as community members and pass on their knowledge to others.

Familiarise actors from specific interest groups and Civil Society Organisations (CSOs) with the evaluation process, and possibly engage them as well, to make sure that participant ownership can be continued even after the research intervention. This should be addressed early on.

Inclusivity & responsiveness

Co-evaluation is oriented to the needs of participants in an inclusive and balanced way. Co-evaluation should offer inclusive structures for participants to safely express themselves and potentially empower marginalised perspectives. Co-evaluation enables an increase in responsiveness of the research process.

Recommendations:
Promote open and flexible activities for co-evaluation that build on previous discussions and take insights from group reflections to action. Create a safe space for collaboration by enacting a culture of empathy, trust, and mutual respect.

Ensure a process in which input for evaluation is balanced and all voices are heard. Allow for anonymous and private feedback options as not everyone may feel comfortable with giving feedback openly. It is also important that representation should be guaranteed for all involved participants.

Be aware of power relations that may exist between stakeholders or emerge during the process. Emphasise non-hierarchical relations and foster interactions among participants.

Consider that facilitation of this open and reflective process is crucial. Moderators or facilitators play a key role and should be assigned carefully. Good communication and moderation skills, empathy and impartiality are important characteristics to make sure that all participants and their views are taken up in joined reflections. Depending on the context you may consider bringing in an external moderator or alternate the moderation role from within the participants.

Flexibility & reflexivity

Co-evaluation design is recognised as a flexible process, where participants negotiate evaluation instruments, expected results and thus decide which problems to address with citizen (social) science. The mix of formats, timing, and methods of co-evaluation should reflect the project aims and be adapted to the contextual setting. Plans for the improvement of the project, for evaluation approaches, and impact measures are openly discussed and regularly revisited in a reflexive process.

Recommendations:

Roles of participants may change during the process and co-evaluation needs to react to these changes. It is important to move away from pre-assigned roles for participants and embrace the development some participants may go through during the process.

Flexibility also refers to what is evaluated – keep an eye on unexpected/unintended outcomes of your actions, both in the research process and in evaluation.

Flexibility has its limits and is constrained by factors such as time, workload, and scientific rigour. The co-evaluation process needs to be carefully balanced and adaptively managed while considering scientific quality and ethics.

Reflexivity should be applied throughout the whole co-evaluation process. Regular reflection points should be established to consider whether co-evaluation objectives, methods, formats and timing are still appropriate.

Openness & transparency

Co-evaluation is embedded in the open science paradigm. Co-evaluation processes and procedures should be documented and made accessible to all participants, or even the wider public, whenever possible and ethically desirable. This increases their visibility and creates further opportunities for collaboration. Transparency also applies to the co-evaluation process itself, the documentation and sharing of co-evaluation results.

Recommendations:

Data privacy and how to deal with sensitive data may be a challenge in co-evaluation. Transparent and dynamic informed consent procedures for any type of engagement are important and a recommendable way to reach an informed collective. Be aware that the forms and protocols for informed consent and similar procedures need to be adapted for clearance from ethic committees, which may vary across organisations and countries.

Openly share a simple description of the co-evaluation process itself and what aspects of evaluation participants may be involved in. Likewise, document and share your co-evaluation results as openly and transparently as possible, while adhering to private data protection.

Transparent co-evaluation results are an important basis for reflection. Apply FAIR (Findable, Accessible, Interoperable, Reusable) data principles as far as possible. Similarly, the CARE (Collective Benefit, Authority to Control, Responsibility, Ethics) Principles for Indigenous Data Governance offer important guidelines for working with communities.

Create awareness amongst your participants about best practices related to personal data management, such as data minimisation or data anonymisation.

Explore appropriate (alternative) formats of knowledge sharing and publication accessible to a wide audience. Consider also how findings, data, and methods can be made accessible for replication and reuse to diverse target groups.

Transformative perspective

Co-evaluation aims for actionable results. It moves away from the traditional concept of evaluation as a neutral observation towards a collaborative effort of documenting and interpreting project achievements for social change. It puts a specific focus on the collective identification of lessons learned and potential transformational opportunities or new practices both for participants (personal transformation) and society at large (social transformation).

Recommendations:
Move away from traditional evaluation practices that assess project activities along predefined criteria in a top-down and pre-structured way and think about co-elevation as a critical site for social transformation. This may include the application of alternative methods of co-creation, experiential learning and critical reflection.

Apply participatory methods both to assess and support the project. Co-evaluation should bring evidence to support actionable solutions for social concerns and lead to individual and community empowerment.

It is important to trigger the process of translating results into practice as early as possible. Consider engaging the expertise of actors from Civil Society Organisations and establish connections early in the project. For a potential uptake of project results at socio-political level, it is likewise important to engage any decision makers and policy makers early on in the process.

Why co-evaluation?

One of the core strengths of co-evaluation is its complex and multifaceted approach to understanding change, within and beyond the research process. Looking both at processes and results, it asks questions such as: What needs to change? How do we create this change? How can we learn? What are the benefits and challenges? But also: What has changed in relation to diverse interests and how can this change be made sustainable?

Co-evaluation increases our understanding of the social effectiveness and transformative power of citizen (social) science. It provides rich insights into social contexts and may lead to more valuable outcomes and impacts for all stakeholder groups involved, as well as their wider communities.

These deep insights gained through co-evaluation implicate considerable benefits, but they also come with challenges. Co-evaluation is very costly, both in terms of time and resources, and often needs additional capacity building activities in order to be implemented. Many of the employed methods profit from or even rely on face-to-face interactions, which may pose a barrier to participation for some co-researchers, while it benefits others. Therefore, a key challenge is responsible process management, including the facilitation of robust inclusive facilitation and community building.

Alignment with a simple set of principles allows for the necessary flexibility in the highly variable course of Citizen Science projects, and supports the balance between scientific quality and social accountability. Co-evaluation can be used here in a complementary way, for example to qualitatively enrich the evaluation according to predefined indicators. The principles catalogue presented in this white paper is intended to support Citizen Science practitioners to find practical solutions to overcome these challenges in situ. Based on these principles, implementers and policymakers can create the necessary frameworks to learn from Citizen Science through co-evaluation.

Proposed actions

For implementers of co-evaluation

1. Co-evaluation should be an integral part of a citizen social science project from the very beginning and co-designed into the action(s). It should not be seen as an "add-on" or external to specific citizen science activities.
2. Co-evaluation is best supported by adaptive project management, as it may require pivoting and adaptations during the research process.
3. It is recommended that the core team guiding the citizen science project should include a person primarily responsible for co-evaluation.
4. Co-actors involved in the project should be sensitised to the concept of co-evaluation and should have the opportunity and space to build capacity on co-evaluation even before jointly launching any project.
5. Co-evaluation focuses on actionable results and contributes actively to social transformation and change.

For research policy makers & research funders

1. Co-evaluation requires flexibility in the design and management (also financial) of citizen social science projects. Research funding programmes should allow for this flexibility.
2. In order to actively engage co-researchers in the evaluation process, pre- and post-phase financing (e.g. for joint proposal making and follow-up activities and hand-over phases) are important.
3. Co-evaluation requires bigger time budgets for communication and engagement management than more traditional forms of evaluation, which should be reflected in research evaluations.
4. Programmes should be open for the allocation of new roles as they may emerge during the participatory process.
5. Co-evaluation requires flexible KPIs (Key Performance Indicators) that need to be co-created and negotiated in a participatory way.

References and further reading

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CoAct: https://coactproject.eu/

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