

Creating and observing impacts in transdisciplinary projects – Insights from the social design lab

Thorough yet feasible impact assessment concerns projects of all kinds, including transdisciplinary real-world labs. In many cases, ex-post impact analysis for accountability and reporting is the goal. However, the real-time impact observation methodology developed by the social design lab seeks to identify impacts, potentials, and changing needs during the course of the project, complemented by ex-ante and ex-post analysis. This allows for learning and prompt iteration of the research/project design.

Marlene Franck, Nadja Hempel, Sebastian Preiß, Ralph Boch

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GAIA 33/S1 (2024): 110–115

Abstract

In this article, we reflect on approaches for creating and observing impact in transdisciplinary projects. Based on the insights from the work of the social design lab (sdl), we describe the demands for impact observation in a transdisciplinary project context – enable strategic project iteration through real-time observation of achievements, challenges and potential, learn about impact patterns and record intangible forms of impact – which created the need for developing a new methodology. We therefore outline the main elements of our impact observation methodology: ex-ante impact orientation, impact observation and reflection throughout the process as well as ex-post analysis. The sdl's experience has shown that integrating impact observation into daily work is time-consuming but worthwhile. For us, impact observation is a central research tool for identifying social transformation and its potential, to account for organisations' own activities and for supporting internal learning and project management processes.

Keywords

co-design, impact particle, intermediaries, real-time impact observation, real-world laboratory, research through impact observation, social design, social transformation processes, transformation track

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<https://doi.org/10.14512/gaia.33.S1.16>

Received May 15, 2023; revised version accepted January 10, 2024 (double-blind peer review).

The social design lab in the context of real-world laboratories

The purpose of the non-profit Hans Sauer Foundation (HSS) is to promote science and research for social and/or ecological purposes. After many years in which it acted exclusively as a funding foundation, the HSS is now also an operating foundation. Through its activities, the foundation aims to promote the dissemination of scientific knowledge in society, to support a transformation towards sustainability and to reshape the relationship between science and society.

The social design lab (sdl)¹ has been established as an overarching structure for the operational work of the HSS. All sdl projects use a transdisciplinary, participatory and/or transformative approach to design, initiate and reflect on processes of social transformation. Several projects initiated or supported by the sdl qualify as real-world laboratory approaches. They are driven by a normative claim to create societal impact and support transitions towards sustainable and just futures (cf. Caniglia et al. 2020, Beecroft and Parodi 2016, Parodi 2019, Wagner and Grunwald 2015, 2019, Schneidewind et al. 2016, Bergmann et al. 2021). These projects are based on the concept of real-world experimentation with an interventional character and openness to results (cf. Caniglia et al. 2017). Moreover, the knowledge gained and the solutions developed are transferred to other real-world contexts as well as to scientific and societal discourses (Lang et al. 2012, Schöpke et al. 2018b, Singer-Brodowski et al. 2018). Participation throughout the process, from co-design to co-evaluation, is another core principle. In this way, the designed processes have a transdisciplinary approach, based on close collaboration with different actors (e. g., practitioners, scientists, and citizens), integrating different perspectives and types of knowledge into the projects (cf. Schöpke et al. 2018b, 2018a, McCrory et al. 2020, Wanner et al. 2018).

In all projects initiated or supported by the sdl, the sdl acts as an intermediary. It bridges gaps between society, scientists, ad-

1 <https://socialdesign.de>

ministrations, companies and non-governmental organizations. The sdl is neither part of an academic institution nor a pure practitioner: it is institutionally and financially anchored (and secured) as part of a non-profit foundation with the aim of promoting science and reshaping the relationship between science and society, working with actors from both science and society (Franck and Boch 2022).

A special feature of the sdl is its design-based approach. In this context, design is not understood as the development of artefacts but rather as a transformative practice that “devises courses of action aimed at changing existing situations into preferred ones” (Simon 1969). As transformative practice, the aim of design is primarily to co-create feasible solutions that can be iterated in testing. With its emphasis on creative work, facilitation of multi-actor processes, prototyping and implementing, design offers complementary methods to traditional research (Gonera and Papst 2019, Franklin 2022).

Operating in a context beyond the demands of institutional science, the sdl’s design-based research is primarily concerned with developing solutions to real-world problems and transferring insights to scientific and societal discourses. The sdl generates knowledge that is relevant to academic knowledge production, but so far has rarely engaged in the publication and transfer of generated knowledge in scientific journals.

Impact observation in the social design lab: Methodology and elements

Existing approaches for impact observation

For several years now, the sdl has been carrying out a project of community-oriented and participatory urban development in Stuttgart, using an sdl approach called “social space design”. The impact observation within the sdl primarily began in this project. Within this project, the preoccupation with questions of impact observation resulted less from the examination of real-world laboratories (Bögel et al. 2022 Bronson et al. 2021, Luederitz et al. 2017, Williams and Robinson 2020) and the related research and practice than from the preoccupation with impact in the fields of social and neighbourhood work. In these fields of practice, too, discourses around questions of impact have been taking place for years, in some cases intensively (Burmester et al. 2020, Treischl and Wolbring 2020, Ottmann and König 2023). For the transformation approach of the project, however, the reference to, for instance, social policy measures and programs, to individual groups or concrete individual problems seemed to be just as inappropriate as their often quantitative and ex-post orientation. This led to the question of how the project’s multidimensional approach and its focus on the qualities of change could be taken into account more adequately in impact observation. The impact and evaluation discourse around social innovations, sustainability transitions and real-world labs offers more interfaces because impacts on different, for example, spatial and socio-psychological (Bögel et al. 2022), levels are taken into ac-

count or heterogeneous development pathways are observed and evaluated (Williams und and Robinson 2020). Other approaches present a systematization and operationalization of categories to trace the effects of transdisciplinary research (Schäfer et al. 2021, see also Wiefek et al. 2024, in this issue) or focus on the integration of continuous monitoring, reflection and adaptation into project management (Van Mierlo et al. 2010).

Reasons for a self-developed methodology

The existing approaches are useful in their specific contexts, but they do not address some key aspects that are relevant for the impact observation of societal transformation projects of the sdl. These are:

- **real-time observation for process iteration:** Because the context of transformative projects is complex and knowledge is constantly being gained throughout the process, the methodology must be adaptable to changing circumstances.
- **feasibility:** As for now, the impact observation has to be carried out by the sdl team itself, because subtle changes are observed by each individual. Therefore, a methodology is needed that does not require specific software, highly specialized skills, large time resources or a single responsible person.
- **sensitive to intangible changes:** Within the operative work of the sdl small, barely perceptible changes within the project context often seem to be the drivers for transformations. Therefore, the sdl seeks for a methodology that enables to capture these small intangible forms of impact.

Since none of the existing approaches covered all the essential aspects, the sdl decided to develop its own methodology. Thus, impact observation within the sdl has three main objectives:

- enable formalized reflection and strategic project iteration through real-time observation of achievements, potentials and challenges;
- learn how processes can lead to impacts, what impact patterns can be observed and to what extent overarching conclusions can be drawn from these observations.
- create transparency and explore intangible forms of impact through sound documentation of observed impacts as a basis to legitimize real-world experimentation.

With these objectives in mind, the sdl has developed its own methodology of impact observation. It consists of three main elements: 1. ex-ante impact orientations, 2. impact observation and reflection throughout the process and 3. ex-post analysis.

In the following sections the sdl methodology is explained in detail. It is based on an understanding of impact as a change in the elements of a social system. We especially look for changes in the behaviour or attitudes of actors, in their relationships or organization forms, in the resources or infrastructures of projects, or, on a higher level, for changes in discourses and structures, to assume impacts. Impacts can be positive, intended, attributable to our work or the opposite. As we look for impacts on an (almost) daily basis, we take into account even small changes, >

TABLE 1: Methodology for impact observation with illustrations from the *Home Not Shelter!* social design lab project, 2021: 1. Ex-ante impact orientation: identifies transformation tracks aimed at achieving the project's vision. For each track, specific, qualitative short-term goals (transformation qualities) are defined through various levels and categories. 2. Observation process: gathers data on (presumed) impacts or minor changes, referred to as impact particles, which are then linked to the transformation qualities they potentially enhance. For each quality, conclusions are derived from the collected impact particles, leading to the formulation of actionable recommendations. 3. Ex-post impact analysis: not covered in this table.

VISION	TRANSFORMATION TRACK	LEVEL	CATEGORY	TRANSFORMATION QUALITY	NO. OF COLLECTED IMPACT PARTICLES	CONCLUSION FOR OBSERVATION CYCLE 1, 15.10.2021
The social space of the district is inclusive and can be co-designed by citizens.	equal participation in social space	individual	behaviour	Marginalized groups are part of activities in social space.	13	Refugees are actively involved in the program and spend time in the space created. Positive experiences are made by individuals (people feel welcome; good atmosphere; contact point), which leads to the program being shared in the private sphere and friends being brought to the space.
		individual	behaviour	Local actors create appealing gateways for marginalized groups.	0	no observations
	communities of practice	material	infrastructures	Spaces are created that are used collectively by diverse target groups.	8	Different communities and age groups use the space that was created together as part of the project. Older people, adults with children and young people drop by or take part in activities. Marginalized groups and individuals from the refugee accommodation are also often present. Difficulties and conflicts have arisen in relation to cleanliness.
		individual	competences	Knowledge is exchanged and new skills are learned.	2	Two experts visit the project. They exchange practical knowledge about freely accessible activities in the urban space.
		social	relationships	New relationships have been created.	0	no observations
	communities of practice	structural	governance	Communities of practice are supported by the city authorities.	2	Ideational support is communicated by a municipal employee in the press.

which is in contrast with other impact observation methods, which tend to look on chains of impact ex post.

Ex ante: Impact orientation and alignment

At the beginning of an sdl project, impact goals are developed. Joint formulation takes place within the sdl team together with project partners, other stakeholders and civil society representatives, to create a shared understanding and alignment. The ex-ante impact orientation consists of three elements: an overall vision, transformation tracks and corresponding transformation qualities (table 1). All of them are usually developed within a one-day workshop.

The *vision* is formulated as a future state of the project context in which the transformation process would have been successful. The vision is not achievable by the sole effort of the project team, is formulated rather utopian and creates openness to different solutions.

Transformation tracks are strategic corridors which the project team defines as crucial for reaching the desired societal transformation. They are connected to the operative project, scope and capabilities of the project team and form the framework for the practical implementation of the vision. For a project usually two to three transformation tracks with different focal points are defined, which complement each other. For each transformation track qualitative short-term objectives, the so-called *transformation qualities* are formulated. These are more specific than the transformation tracks and can be directly worked towards within the project. They act in a way as qualitative indicators that help the sdl team to categorize its data. In contrast to a milestone they are never fully reached and always need to be cultivated further. To create awareness of systemic interlinkages, different levels (individual, social, material, structural level) and categories (e.g., behaviour, competences, relationships, governance) are considered during the formulation of the transformation qualities (table 1).

All elements of the ex-ante analysis are regularly reviewed and adjusted. While the vision and the transformation tracks remain fairly constant over several project cycles, the transformation qualities are regularly adapted, supplemented or replaced as needed or on fulfilment.

In the process: Impact observation and reflection

The elements of the ex-ante analysis are used to frame the observations, which for the largest part are taking place during everyday work. While during the early stages of the development of the methodology everyone involved in the project was encouraged to participate in data collection, practice has often shown that due to time and budget constraints, it is primarily sdl team members who contribute to the impact observation in the process. Relying on a data collection process inspired by the method of participant observation, the sdl team collects information on (presumed) impacts or small changes (impact particles) that could potentially lead to impacts. Similar to the concept of “weak signals” discussed in strategic planning and future research, these impact particles are vague, incomplete, and strongly situated (Mendonça et al. 2012, Holopainen et al. 2012). However, in the dynamic and uncertain context of transformative projects, they

team is aware that the perception of change is subjective. For each transformation quality, all corresponding impact particles are gathered. Based on the clustered impact particles and complemented by insights from the discussion between the sdl team members, a conclusion for each transformation quality is formulated (table 1).

Based on these conclusions and the whole reflection process, recommendations for action and adjustments to the strategy are developed. A recommendation for action could be for example: “Communicate achievements to build relationships and networks around the project.” The recommendations for action lead to instructions and to-dos for the sdl team members, making the impact observation a central method for project management. Recommendations for action are also passed on to other project partners and stakeholders at irregular intervals.

Ex post: Impact analyses and refinement

After completing a long-term project cycle, or a whole project, an ex-post analysis is conducted. During a half-day workshop, the conclusions of each transformation quality are reviewed, discussed and completed by the sdl team. Perspectives from outside of the sdl team are integrated by inviting stakeholders to the

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offer the opportunity to recognize potentials for change that might be overlooked by traditional methods.

To foster feasibility, impact particles are noted by the observing team members in a questionnaire shortly after the observation. These notes are always taken in a standardized template, which mainly addresses three topics:

- *context*: a brief outline of the context, in which a change was observed (e. g., events);
- *occurring change*: description of the change that is occurring or a direct consequence of actions;
- *long-term effects*: assumptions about the long-term consequences of the change that is occurring and how it may affect other project areas or actors.

The actors involved and the date of the observation are included to help identify temporal developments and impact chains. If possible, all information about occurring change is directly assigned to the transformation track and transformation qualities to which they are presumably contributing.

In frequent cycles from two to four weeks the collected impact particles are presented, discussed and checked for data quality within the sdl team. Although bias in data collection is reduced through discussion of each particle in the sdl team, self-reflection exercises and occasional external feedback, the sdl

workshop, sending out questionnaires or conducting interviews. Based on the conclusions, impact narratives are jointly formulated to raise awareness of the projects achievements. These narratives describe impact patterns and impact chains that became visible throughout a longer period, connecting different transformation qualities. In contrast to the summaries of each transformation quality, the impact narratives are anecdotal in nature. In this process, knowledge is gained about the interlinkages and patterns of change within the social system. Apart from internal reflection, the narratives are used as the basis for external communication.

Critical reflection on the self-developed methodology

The methodology described above helps to observe impact in the sdl projects, yet this approach is not without flaws. Detailed note-taking of impact observation is time consuming, creating a trade-off between addressing real-world problems and gaining insights about impact. However, as the impact observation is producing knowledge for social transformation processes and helps the sdl to better process and pass on experiences, this effort is considered worthwhile.

To foster feasibility, data collection for the impact observation of the sdl is carried out by sdl team members. Integrating and analysing perspectives from stakeholders has proven to be even more time-consuming. This leads not only to personal bias, but also to limited consideration of impacts that manifest further away from the project context or without direct influence of the sdl.

Standardized procedures, closed questionnaires and previously considered analysis categories inhibit the discovery of new insights and weaken the qualitative approach. Therefore, regular reviews and adjustments to the elements of the ex-ante impact orientation and the templates are integrated in the process to cope with these shortcomings.

Conclusion

Integrating impact observation into daily work is time-consuming but worthwhile. The sdl's experience has shown that impact orientation, observation and analysis in an open, real-world laboratory setting supports efforts to strengthen impacts of transformative projects. Regular reflection cycles help not overlooking small but important refinements in the daily routine. The immediate changes made based on the impact observation range from strengthening the involvement of a particular person to creating an additional workshop to facilitate knowledge transfer among involved actors. Although the sdl team gives the recommendations for action mostly to themselves, it is surprising how often they identify entirely new formats as important to achieve the desired impact. For the sdl, impact observation became a project management tool, as well as a research tool, to identify social transformation and its potential, and to lay a foundation for knowledge transfer. However, the proposed methodology strives rather for supporting internal learning than for external reporting. In contrast to the usual ex-post impact measurement, the real-time impact observation proposed here can be used as a central project management method. Impact observation thereby forms a central component during all project phases and thus enables iterative project management that can react to changing needs, priorities and opportunities. Therefore, we recommend using the methodology for transformative projects that aim to utilize impact observation as a strategic management and learning tool to direct their efforts towards maximizing their impact. Nevertheless further refinements are needed.

The next step in improving the methodology is to develop a more sophisticated approach to the ex-post phase to better account for impact patterns. Diversifying data inputs is another area for refinement. To further develop and implement real-time and practice-based impact observations, it must be better anchored and supported in the research and funding system. At the same time, when applying for funding, organizations should explicitly demand resources for impact observation. After all, experience from the sdl indicates: impact observation is only carried out where resources are explicitly allocated.

Acknowledgement: We would like to thank two anonymous reviewers for their helpful comments.

Funding: This work received no external funding.

Competing interests: The authors declare no competing interests.

Author contribution: All authors have contributed jointly to this work. MF takes responsibility as corresponding author.

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ISSN (Print) 0940-5550, ISSN (Online) 2625-5413

Printed on Vivis 100 (cover) and Steinbeis Select, both certified with The Blue Angel.

