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To cite this article: Thomas Binder & Eva Brandt (2008) The Design:Lab as platform in participatory design research, CoDesign, 4:2, 115-129, DOI: [10.1080/15710880802117113](https://doi.org/10.1080/15710880802117113)

To link to this article: <http://dx.doi.org/10.1080/15710880802117113>



Published online: 03 Feb 2009.



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## The Design:Lab as platform in participatory design research

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*(Received 1 March 2008; final version received 8 April 2008)*

The notion of laboratory or simply ‘lab’ has become popular in recent years in areas outside science and technology development. Learning Labs, Innovation Labs, Usability Labs, Media and Communication Labs and even Art Labs designate institutions or fora dedicated to change and experimentation. Influenced by these currents, we use the expression ‘Design:Lab’ as a shorthand description of open collaborations between many stakeholders sharing a mutual interest in design research in a particular field. Many have reacted to the term ‘laboratory’ or ‘lab’ as foreign and awkward to design, and we as well as others have frequently used other metaphors like workshop, studio or atelier in design research. In this article we will argue that the laboratory metaphor is particularly suitable and useful for the Design:Lab, and we will give examples of how we have worked with the Design:Lab as a platform for collaborative inquiries and knowledge production based on design experiments.

**Keywords:** Design:Lab; participatory design; collaborative inquiries; knowledge production; design experiments

### 1. Introduction

Research is becoming more prevalent in design as many clients approach designers with an open agenda for change, whether the change they seek is about preparing a new built environment, scouting for new product opportunities or planning branding or other corporate identity measures. As opportunities in the markets in the western world are getting more diverse, technology is more easily accessible and internal organisation becomes more flexible, the search for *what to design* is becoming an integral part of what clients ask designers to do. In design research at design schools and in universities it is becoming common to explore new approaches and new directions for design by engaging in research that aims at developing and exploring possible new design programs through concept design and prototype experiments (Binder and Redström 2006).

#### 1.1. Design research and co-design

Design research today is often user-centred combining different kinds of user studies with explorations of scenarios and prototyping of design options. Traditional human factors studies are complemented or even substituted by more anthropologically oriented studies

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of potential users in their everyday environments. Various approaches to dialogue and participation with future users are also becoming part of the repertoire of design researchers (Sanders 2006). This may be seen as a response to a more general move towards open collaboration and new modes of knowledge production also visible in science, engineering and multi-disciplinary innovation partnerships (Gibbons *et al.* 1994). The open agenda of a client organisation in design collaboration is typically followed by an interest in getting the stakeholders from the organisation involved in the research to ensure that they are able to take up the results. It is not uncommon that new design opportunities are sought across organisational and institutional boundaries. Thus, recent literature addresses the ways design research can be organised to involve designers and clients and how findings and results can be produced and represented. Many have discussed how results of ethnographic field studies can become useful starting points for design considerations and representations including but not limited to personas, use patterns and scenarios are among the suggestions that are now in wider circulation (Laurel 2003). Open tools for collecting and presenting data that allow designers and clients to take part in the analysis, such as video sketches (Buur *et al.* 2000), probing kits (Gaver and Dunne 1999) and video card games (Buur and Søndergaard 2000) are popular as they soften the borders between observation and design exploration.

Collaborative sessions for structuring the design research process, often organised as workshops, have gained considerable attention. Sessions where users and designers collaboratively engage in design activities are shown to give strong results even with a limited time frame (Westerlund 2007). Co-design sessions that include many stakeholders also have a strong impact on the client organisation in terms of alignment and commitment (Brandt 2007). The emphasis on the shared project space as a vehicle for collaboration is evident in the design collaboratorium (Bødker and Buur 2000) and in other design research conducted with external collaborators in an event-driven process (see, e.g., Brandt 2004).

Whereas these contributions give a good indication of both the complexity of design research and the ingenuity of design researchers, they also raise questions concerning how best to think of design research as an activity. The proposal made in this article is that we may gain from thinking of a particular genre of design research as a laboratory for change<sup>1</sup> or more specifically as a *Design:Lab*. Even though such a laboratory may make extensive use of such formats as co-design workshops, we will argue that the notion of a laboratory, more fully than the notion of a workshop, captures a relevant framing of design research where stakeholders collaboratively explore possibilities in a transparent and scalable process.

### 1.2. The Malmö Design:Lab

The idea of the Design:Lab was conceptualised together with colleagues at the Interactive Institute where we worked for a number of years in design research in close collaboration with companies and institutions. Many of us had a background in participatory design working closely with potential users to develop new approaches to design (see, e.g., Binder and Hellström 2005). We found that applying similar approaches to participation when involving company stakeholders, as we had done when involving users, engaged our partners more firmly in the project and more importantly gave our own work more strength as we could enroll the competency and experience of the companies directly in the research. In the beginning, we called this partner-engaged design (Johannsson *et al.* 2002). When working with several partners in the same project we found that bringing them

together with potential users in our context allowed us to create a highly innovative setting, provided that we could stage an agenda of change that led the partners to collaborate on equal terms. We deliberately appropriated theatrical techniques of estrangement and familiarisation to get the participants, who often knew each other professionally, to break away from well-established patterns of collaboration and also to give users a level ground in the dialogue (Johansson *et al.* 2005).

We organised a series of two to four half-day or full-day sessions as the preferred mode of collaboration. We often brought together as many as 20–30 participants in a session. From seeing the sessions as feeding into our own independent stream of inquiry we increasingly came to understand these events as the backbone of a joint research effort. Our role changed to feeding questions and probings into the sessions in such a way that the participants jointly produced the results (Johansson and Linde 2005). The results could range from a consensus around particular design artifacts, such as mock-ups or scenarios capturing essential aspects of what was collaboratively envisioned to commonly shared reflections on challenges or experiences in the field.

This sparked an interest in approaches that make the collaborative work of the participants self-documenting in ways that are open onto further inquiry. We developed collaborative formats for design games where participants produce (see Figure 1) diagrammatic representations from design materials generated from field studies or by breaking up previous designs (Brandt and Messeter 2004). Similarly, we found it useful to adopt dramaturgic approaches to collaborative scenario building that made the staging and enactment of scenarios important instruments of synthesis (Brandt and Grunnet 2000). From session to session, we as design researchers and the participants elaborated, refined and sometimes even deliberately distorted what had been produced earlier. For example, a set of concept designs created in a co-design session could be juxtaposed or exaggerated, as has been suggested by Djajadiningrat *et al.* (2000). This work was then fed back into the next session where it was open to scrutiny and also to a continuous negotiation of the mission and scope of the collaborative project.

We learned that the success of the participatory design research is dependent on all partners putting something at stake in the process. Only if the partners experience that they have put something into the collaboration for which they are accountable, and that what is taken up touches issues essential for them, will they become full participants. This commitment is necessary to ensure that what is produced is processed and reflected upon not only by the research team but also by the other participants. When this condition was met we could go through a full circle of inquiry to reach an acceptable level of closure.



Figure 1. At the Interactive Institute in Malmö, we worked with open formats for representing design ideas in co-design sessions.

The Design:Lab not only provides a productive setting for mapping new terrain (Messester *et al.* 2004); what seemed the most important outcome was the opportunity for the partners involved to try out what could be accomplished in a collaboration spanning organisational and community boundaries. To the extent that this process of collaboration can be ‘packaged’, one of its valued results is the ability to reenact and continue the inquiry beyond the particular suggestions arrived at in any particular Design:Lab.

## 2. What makes a Lab?

The Wikipedia definition of a scientific laboratory is not very elaborate but states that it is ‘a controlled environment for scientific research, experiments and measurement’, and further, that it ‘contains equipment for standardised processes and lab notebooks for keeping records of the experiments’ [<http://en.wikipedia.org/wiki/Laboratory>, May, 2007]. This may seem far removed from design research, but we will argue that reading the definition metaphorically and thinking of the role of the laboratory as an important step in a chain of translations makes the laboratory metaphor useful in design research.

### 2.1. Comparing the lab to the workshop, the studio and the atelier

The workshop metaphor has been widely used to name co-design sessions and other collaborative events where participants work to explore a topic and create common suggestions. The workshop connotes a less structured event than for example the focus group meeting. It implies a result to which all participants have contributed. The notion of workshop is used in the context of experimental theatre, where the workshop is neither transparent nor exposed to an audience. It is the setting for backstage rehearsals with an emphasis on internal process. Compared to the laboratory, the workshop may be a controlled environment in the sense that it is a protected setting, and it may also resemble the laboratory by involving certain elements of experimentation. Yet the workshop metaphor does not point to measurement, standardised processes or record keeping. A design workshop points to a playful and participatory event, but a design laboratory implies something more both in terms of measures of results and in terms of recordable standards.

The studio is the home ground and the designer’s backstage where design propositions are prepared. The studio is typically the instrumented environment where the master designer can set in motion well-proven processes to obtain novel results. Outcomes are emphasised and although they may be experimental, there is no particular emphasis on record-keeping that reveals or conveys the process that brought it into being. Design research studios typically provide arguments through completed experiments rather than through log books or method descriptions. The studio indicates a commitment to standardised equipment and processes in the sense that, what defines the studio is a particular and sustainable practice of making. Such a studio approach to design research is certainly relevant. In the work we have been involved in with our colleagues around the Malmö Design:Lab we used the notion of the studio to communicate our commitment to programmatic research and design experiments. But in comparison to a laboratory, the studio metaphor does not provide obvious handles to expose participatory processes.

The atelier of the artist is another possible metaphor that, though less widely taken up, has inspired design researchers. In a European research project on inspirational learning environments for design and architecture students, the atelier was taken up as a viable template because of its openness towards the co-construction of process and results

(Ehn *et al.* 2007). In this imagery, the atelier is contrary to the studio in that an atelier is basically an empty space when experimentation starts out. The atelier is a construction site where the work conducted and eventually displayed like the work of the artist is seamlessly transformed from *studies* to *oeuvre*. What makes this conception of the atelier attractive as a metaphor for design research is the particularity of the inquiry and the entanglement of method and outcome. Following this line of thought, the atelier of design research is ultimately the localised and particular inquiry that makes its participants explore and become knowledgeable about precisely what is staged in the atelier. The atelier metaphor makes us aware that what we know and how we know cannot be separated, but unlike the notion of the laboratory it does not give us any support for thinking about how the research that was accomplished can become mobile and scaleable.

To sum up, the workshop, studio and atelier offer interesting perspectives for the kind of design research in which we have been involved. Beyond these, the Design:Lab approach takes something important from the laboratory that tends to be underexposed or neglected with these perspectives, that is, the emphasis on a transparency of process and results contained in open recipes. This lets us think about design research as *exemplary processes of inquiry* rather than as finalised results.

## 2.2. *Controlled environments*

How far can we take the laboratory metaphor? What is a controlled environment in a Design:Lab? What shall we regard as experiments? How can we measure and evaluate results? What are our standardized processes and equipment? And what kind of lab notebooks may we create for design research?

The aim of collaborative design research is to imagine what it could mean if we introduced new design in a particular context of use. If we think of the laboratory as a shared ‘facility’ for the partners, whether these are potential future users or other stakeholders, then the *controlled environment* can be seen as the setting where we let this ‘as-if world’ live and be explored under the explicit condition that we have not yet decided if this world should be translated into a more permanent reality. In this respect, the Design:Lab is a hypothetical space where we can negotiate among the participants how much of the world outside we want to take in and how far we will allow the exploration to go. In the Malmö Design:Lab, such negotiations could evolve around video documentation of the everyday doings of potential users, where they were the ones to decide what aspects of their everyday life they would bring into the lab as material for design. Similarly, a partner responsible for developing new technology would provide the material that makes it possible to imagine what kinds of technological options can be included in the imagined world of the lab. The Design:Lab environment is thus a negotiated and bounded horizon of possibilities that the lab participants have defined as their common project.

## 2.3. *Experiments and record keeping*

The notion of *experiment* conjures up images of school experiences in the physics lab or quantitative testing of well-defined parameters. But if we take a broader view of experiments as something we engage in to discover consequences of actions that interest us, then this may describe what is going on in the Design:Lab. For example, when a lab participant from a furniture company takes video episodes from everyday life at the office of other participants and uses them to create a scenario of how a new (and not yet designed) kind of office furniture for video conferencing may become useful, this becomes



an experiment in the Design:Lab that all participants join in and evaluate. Or if a potential user imagines what it would mean to have all her office files available in a (not yet designed) token ring that she can bring to meetings with clients, then what she comes up with can also be seen as an evaluation for the technology provider of what this option may entail in terms of technological challenges. These are of course simple examples of design moves that will always be part of designing, but thinking of them as being staged in the open collaboration between stakeholders under commonly agreed conditions of the ‘as-if world’ of the Design:Lab, they become not only tests of particular ideas but also a mutual examination of what this ‘as-if world’ may bring.

For this to be more than momentarily interesting we need means of documentation that act like *records of the experiments* to maintain, accumulate and continuously reiterate what is learned. The laboratory metaphor can help to ensure that we do not end up with collaborative events that are fun in themselves but do not leave a lasting imprint on the inquiry. The Design:Lab gains its strength as much from the formats of representation as from the interactions between participants. The design game format (Brandt and Messeter 2004) is a good example of how interaction and representation are integrated. There are many other such formats. Their significance is that the representations generated in the Design:Lab can document a synthesis of design moves that is at the same time arguable amongst the participants and open for scrutiny by others. The resulting scenario or landscape diagram does not record the motivations for the discrete steps through which they were created but produce a coherent narrative that can be retold in new contexts or a configuration that can be applied in other settings.

#### 2.4. Scalability and portability

How does the lab metaphor afford a scaleable and portable process? At first this may seem hidden in the standard description of a laboratory that emphasises esoteric *equipment*. Yet at the core of any laboratory are the well worked out processes that ensure that what is made in one lab can be reproduced in another. Well-exercised processes are essential for enabling further translations when what is done in the lab is scaled to the ‘messy world outside’.

To understand what this implies for the Design:Lab we can draw comparisons to the conventional research laboratories of many technologically driven companies. The technical research lab ‘takes home’ new technological principles to the company and has labs to exercise and eventually master the associated techniques. The technical research lab is a translator as it overlaps as well with research labs outside and the production processes inside the company; it is able to stage processes that are not only aligned to both sides but also rehearsed and recorded by the lab managers that have to scale processes up if results shall be taken further.

In the Design:Lab such rehearsing and translating is visible as participants deliberately exercise collaboration and make experiments that expose what is envisioned to their home or work environments. The strength of translations are probed by going back and forth between co-design sessions and ‘homework’, for example, where participants take a concept design and enact it in a new context of use outside the lab. Similarly, when a Design:Lab partner such as an architectural design firm takes a diagrammatic landscape for a new office environment produced in a co-design session and uses it as a starting point to create a concept design for a specific office, ‘trying out’ is extended to include the well proven processes of the architectural firm to ensure alignment and scalability. Each Design:Lab has to ensure that an instrumented practice becomes packageable and made

amenable to travel in the networks of the partnership. The processes and documentary means that are rehearsed from event to event comprise the evolving instrumental practice of the Design:Lab.

What must be addressed to ensure portability and scalability in the Design:Lab is to reify a workable process that can produce the results displayed and to rehearse the translations that are necessary to carry results along to new contexts. To state it even more strongly: the Design:Lab must prototype a sustainable practice that can continue to make sense of what is collaboratively envisioned.

### 3. The Design:Lab as platform

The Design:Lab is neither a particular set of methods and techniques nor a particular place or event; it is a platform for a collaborative inquiry that is based on design experiments. In the Malmö Design:Lab we demonstrated how such a collaborative inquiry could bring together diverse stakeholders around product planning (Johansson 2005), early concept development (Nilsson *et al.* 2000) and architectural programming (Fröst 2004). From this work we learned that one of the most important characteristics of a Design:Lab is that the authorship to the design work lies not with the designers but with the lab partners. The Design:Lab offers a setting for creating and exploring a design space and for prototypically staging the kind of collaborative processes that the partners are able to employ in order to exploit this space for generation of viable worldly design concepts.

Other design researchers have incorporated participatory design approaches as part of broader inquiries in ways that have affinities to the Design:Lab approach. For instance, Karasti has worked with organisational change in a participatory framing, involving the collaborative use of what she calls video collages as a means to expose and reflect upon current and future work practices among nurses (Karasti 2001). Horgen *et al.* (1999) have suggested the notion of process architecture for architectural programming organised as a conversational design process involving a broad array of participatory design techniques. Within the health care sector, Björgvinsson and Hillgren demonstrated how participatory design can be semi-permanently embedded in a particular work setting as a way to facilitate workplace learning and continuous change (Björgvinsson and Hillgren 2004). Finally, as part of a research project on early retirement, Mattelmäki and Lehtonen (2006) employed participatory design experiments showing how co-designing also offers relevant means in inquiries that are not specifically oriented towards specific change processes.

Another facet of the design projects mentioned above is that they take participatory design research into fields that have not traditionally been seen as the realm of designers or design researchers. We have also found it interesting to employ the Design:Lab platform in this borderland. In the discussion below, we illustrate how we have done so in the context of work life research.

#### 3.1. Setting a controlled environment – the Factory Design:Lab

The Factory Design:Lab was oriented towards a work life project in which the project's purpose was to rethink the role of health and safety consultants from that of specialists in work life regulations to new roles as workspace designers (Broberg 2008). The design research team members (including one of the authors) worked together with consultants to create exemplars of what such new roles imply. When a health and safety consultant is called in, the consultancy typically surfaces a number of questions that make it relevant to consider both the existing practices of the workplace and to open up a new space of



opportunity for organisational change. The day-to-day managerial process is not tuned in to the kind of search and dialogue that broader change inquiry makes relevant. A Design:Lab is constituted as an opportunity to involve employees in an open search for such change opportunities. For the employees, as for management and external collaborators such as architects or engineers, the *controlled environment* of the lab and the careful *recording of experiments* offer a venue that is not readily available in the everyday.

The Factory Design:Lab was set up in a company where a batch production facility for mixing chemicals was going to be replaced by new technology for continuous mixing. New mixing machinery had already been ordered and an engineering consulting company was employed to prepare the new factory layout. A health and safety consultant was engaged to work closely with the design research team. The company also wanted to involve workers from the mixing area in the planning.

In the initial preparation, we had to negotiate what were to be the boundaries of the controlled environment of the Factory Design:Lab. Two different plans for the new factory had been drawn in considerable detail and the engineering consultants favoured the more recent of these. In the negotiation with the company, we suggested that an evaluation of the two plans could be a starting point if management and engineering consultants would agree that both suggestions were open options. It was accepted that the two plans should be presented from the start to ensure that all participants were informed about what had been done up to that point and to let the engineering consultants take the first step in opening the dialogue.

We needed to establish how the workers in the mixing facility could become partners in the Design:Lab. There were in total six operators, and management accepted that all could participate. If the operators were only invited in to comment upon the technical drawings of the engineers, then they would at best be guests in the ‘technical lab of the engineers’, and their expertise in the environment they know would remain outside. To avoid this the workers together with the health and safety consultant created a photo documentation workbook of what was problematic and what was worth keeping in the existing work environment (see Figure 2). This documentation was presented in the first joint session.

### 3.2. Working with records – the layout design game

The Factory Design:Lab was set up as a sequence of sessions at the factory. In each session about 12 people participated including the engineering consultants. One of the ‘as-if’ situations that allowed for experimentation in the Factory Design:Lab was a layout design game taking the two different plans of the engineers as a starting point. We designed the layout design game so that it was compatible with the engineering drawings yet more coarse and abstract, leaving aside distinct engineering questions such as the routing of pipes or the cabling of controls. Workers, engineers and management worked in mixed groups to flesh out the layout in a hybrid representation that included the location of the main activities and the positioning of auxiliary equipment that was not visible in the original technical drawings.

Participants in the game made sketch-type moves such as the colouring of problematic areas or the literal cut and paste of walls, tanks and other equipment. Concerns of management for particular critical activities were included as keywords to be cut from differently coloured sheets. By providing the layout design game as a kit of game boards and pieces (shown in Figure 3), we defined the focus and scope of the exploration in a way that was immediately tangible.



Figure 2. The operators made a workbook where they selected and commented upon photos from the plant. Green marked things worth keeping (as seen here).

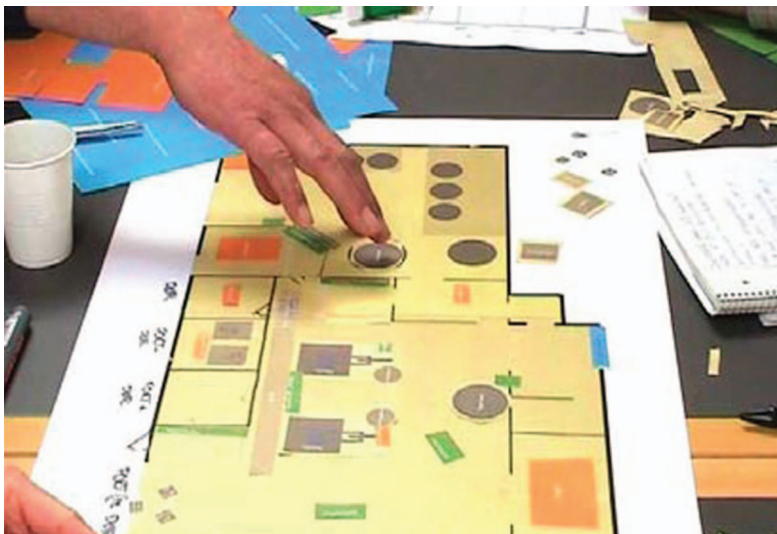


Figure 3. The Layout design game in the Factory Design:Lab.

By the end of the first session, a number of new layouts had come up. The workers had suggestions for a new layout that radically shifted the placement of both machinery and auxiliary equipment. It was agreed that for the next session, the workers should prepare an

elaborated suggestion. The engineering consultants and management also had ‘home work’ to do as some of the options brought up could not be fully explored on the spot.

When preparing the layout design game an obvious concern for us as designers was how to enable the workers to take part. Between the two sessions, the workers built on their experiences from game playing. The open and rough game format turned out to be well suited for preparing a proposal for the next joint session.

At the second session, the participants’ roles were deliberately reversed. This time the workers took the lead by presenting the new proposal. The whole group was asked to rebuild the workers’ suggestion with a critical eye both to problems and possibilities. Rebuilding the same suggestion gave the participants the opportunity to reiterate the considerations and the detailed design moves that the workers had already been through. Similar to the rehearsal of a theatre play, the participants rehearsed the suggestion, possibly adapting and developing parts of it but primarily exercising its potential. To further underline that the proposed layout was a record of what the group envisioned rather than a stand-alone design representation, the session ended by the participants cutting the resulting layout into pieces (see Figure 4). Each piece revealed particularly strong points, good solutions or problematic aspects that had to be explored further. In this way, the session kept the question open as to what the new layout should be. While keeping open minds to alternative possibilities, the participants had collaboratively produced a strong catalogue of elements to use or consider.

### 3.3. *Recording the everyday – the Office Design:Lab*

In another case, the Office Design:Lab collaboration was established with a municipal office. The office had recently moved to a temporary open office space to implement a new organisation of work. The office would move to a refurbished office building within one or

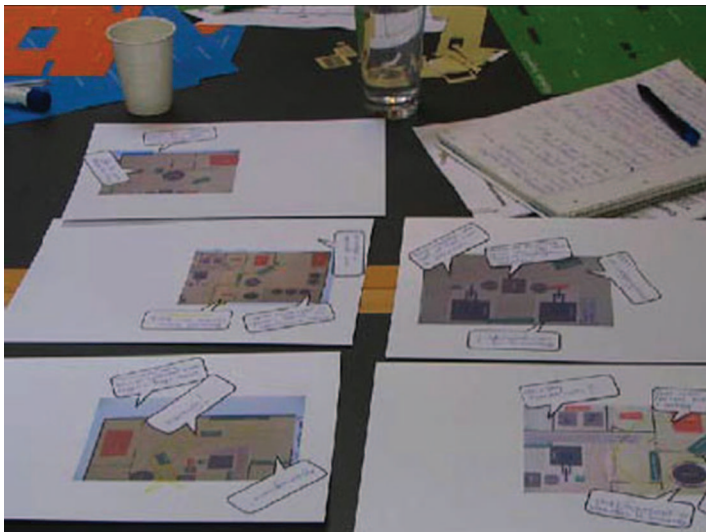


Figure 4. After the layout proposal by the operators had been recreated by the participants of the Factory Design:Lab, the suggestion was literally cut in pieces and annotated with the participants’ comments.

two years. The objective of the Office Design:Lab was to prepare the office for negotiations with the municipal facility management about the new permanent office space.

The Office Design:Lab was planned together with two internal consultants as a process held together by three joint sessions over a period of three months. About 20 office workers in total participated together with managers and internal consultants.

After a few brief and informal encounters with the office, we found it important to devise an intervention that could short-cut the conventional debate about open offices and bring both the office workers and management to consider in greater depth what is special and unique about their practice. We wanted to open an inquiry that made them see their own practice anew and make it possible to tentatively probe for what could be different. In line with the idea of probing kits, we wanted to prepare a tool that contained our first design interpretation of the environment. As it was to be seen as the first statement in a dialogue, the 'Two-by-Two self-documentation tool' was meant to produce new statements as it was used. The tool had entries such as: *How I see you*, *Paths and places*, *Rhythms* and *Stories we tell*, and was designed to be used by two people who did not normally work together. We made a booklet where each two-page spread was like a playing card with two mirroring halves. The office pairs used the entries to tell each other about their work and used photos and markers to portray what their partners described. With sheets of photos from the office to cut from and statements from the initial interviews, the design researchers flavoured the tool with what they had initially learned. The idea of dialogue was further highlighted by providing postcards that the workers could 'post' to the Office Design:Lab about moments in the office worth remembering.

The Two-by-Two tool produced a varied and complex picture of the office. Themes such as *runners with fixed bases* and *multiple roles and tasks* where phrased to capture aspects of the everyday practice. The Rhythm entry (Figures 5 and 6) particularly turned out to hit a note that made it possible for participants to talk about differences. Some people in the office had a working day where high intensity alternated with quiet moments of afterthought and preparation, whereas others lived in rhythms of high pace and longer periods of solitude in cycles of months, dictated by the political processes of the municipality. As the Office Design:Lab went on, the notions of rhythm and pace became pivotal in the exploration of activity zones and particular places in the office. This came to shape the way design games of the office layout were played and it eventually also guided small-scale experiments that were initiated in the Office Design:Lab.

The Office Design:Lab created new narratives and a new vocabulary that made participants increasingly confident in expressing what was special about the office where they worked.

### 3.4. *Scaling up and moving on*

The Office Design:Lab was eventually taken over by the internal health and safety organisation of the municipality. Since then, several new Design:Labs have been initiated. The office workers taking part in the first Office Design:Lab have become a sort of informal reference group for these new initiatives, at the same time as they together with office management have continued to make adjustments to both the office setting and the organisation of work. They report that the Office Design:Lab created a baseline for how the office sees itself, and that documentation for the Office Design:Lab continues to form a catalogue of issues to consider and negotiate. For the internal health and safety consultants at the municipality, the Office Design:Lab became the starting point for a strengthened collaboration with the human resource staff and the internal architectural





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Figure 6. The last Office Design:Lab session, participants discussed the office from the point of view of the rhythm and pace of activities. This led to small full-scale experiments, where zones and places in the office were made more visible.

engineering consultants in committed dialogues with factory workers along the lines laid out in the Factory Design:Lab.

Both the Office Design:Lab and the Factory Design:Lab have been used as exemplars in a course for health and safety consultants working in other settings. The course participants were encouraged to use the Design:Lab platform in their home environments, and preliminary evaluation of the activities initiated by the participants indicates that the platform is applicable both in small-scale and larger-scale consultancy. The evaluation also points to a considerable flexibility of the approach, both in terms of duration and specific modes of design experiments. Formats for documenting work practices and for designing game-like explorations of new configurations of the workplace seem to have strong resemblance with the formats used in the initial Design:Labs, indicating that these formats have generic qualities that are well suited to ‘travel’ from one setting to another.

#### 4. Conclusions

The main point of this article has been to present and position an approach to design research that builds on participatory inquiry and collaborative design with an emphasis on inquiry and knowledge production. This approach, called the Design:Lab, that we have pursued over a number of years is an attempt to constitute a platform for design research that is on the one hand committed to an involvement with the change processes that come with envisioning new possibilities, and on the other hand does not overload the research with a responsibility for full-blown change of established practices. We have sought a route more humble and slightly more detached than action research (Foote Whyte 1991) but more committed and deliberately participatory than design research working solely from proposing concept designs or exposing user practices.

We have used the metaphor of the laboratory to define this position as one of both controlled experimentation and of mobility and scalability enabled by careful



documentary records. Without neglecting the relevance of other metaphors such as the workshop, studio or atelier, we have argued for a contemporary interpretation of the laboratory, not as a specific site, but rather as a mode of inquiry giving emphasis to a transparency of process and results contained in open recipes. This interpretation owes its debts to studies of laboratory life (Latour and Woolgar 1979) as it insists that the Design:Lab must prototype a sustainable practice that can continue to make sense of what is collaboratively envisioned. Though this influence from Science and Technology Studies is not explicated in the article, we believe that the arguments made and the illumination of the Design:Lab platform conducted through reference to particular project experiences will for the interested reader also turn out to be compatible with the mundane laboratory practices revealed in studies of scientific practices.

The tradition of participatory design on which the Design:Lab platform is based owes much of its strength to its sensitivity to the complex realities of change. We hope that we have posed a convincing argument for how this sensitivity may be appropriated in design research, which will concern itself with how envisioning of possible futures can go hand in hand with rehearsing of new practices that can turn these possibilities into reality.

### Acknowledgements

For the development of the idea of the Design:Lab we are heavily indebted to our former colleagues at the Interactive Institute in Malmö, Sweden, who have also been using the concept in different contexts. Thomas Binder took part in the Workspace Design project together with colleagues from the Technical University of Denmark, the Technological Institute, Crecea, and the Municipality of Copenhagen. Though the presentation here is solely our responsibility, the work reported is based on collaborative efforts.

### Note

1. The Change Laboratory developed by Yrjö Engeström and others in the Center for Activity Theory and Developmental Work Research, University of Helsinki (see, e.g., Engeström 2007) shares some similarities to a design:lab but is set in a broader context of developmental work research analysis and intervention for change in practices and organisations through cycles of expansive learning transformations of social praxis.

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