Researching Everyday Practices Through Workshops

Réka Andersson, Maria Eidenskog*, Wiktoria Glad*

Business and Administration, Linköping university; *Thematic Studies - Technology and Social Change, Linköping university, 581 83 Linköping, Sweden

reka.andersson@liu.se; maria.eidenskog@liu.se; wiktoria.glad@liu.se

Abstract

Workshops provide a flexible approach to study complex issues through socio-material practices and this paper discusses the methodological considerations involved in doing research through workshops. The paper builds on two research projects where workshops were used to study the practices of professionals' use of digital tools at a consultancy firm and the everyday life of residents in a newly built city district. While the workshops targeted different groups and had different forms, they both made use of material expressions to visualise everyday practices. We reflect on how we can make use of workshops to study professional and everyday practices and how knowledge is enacted in the different workshops. Building on a socio-material relations approach we discuss our choices in designing workshops, the analytical processes involved and the consequences these choices have on what knowledge we create in interaction with the participants.

Introduction

The use of workshops is a widespread method in professional practice for achieving organizational change, professional development, and training (Awonuga et al., 2000; Candelo et al., 2003; Wilkinson et al., 2019). Workshops are also argued to be a suitable research method with the purpose of producing empirical data about forward-oriented processes and can be used to study particularly unpredictable phenomenon characterized by interaction (Ørngreen & Levinsen, 2017). An advantage of workshops is that it comes with a wide range of design opportunities and allows for a creative context. Workshops are often used together with various forms of materials and creative tools to challenge the participants' preconceptions and to facilitate reflections and discussions. Participants' can be challenged with unfamiliar task, such as drawing (Cornwall & Jewkes, 1995) roleplay, acting or using visual art (Tanggard & Stadil, 2014).

Workhops can be conducted with different levels of participation. Cornwall and Jewkes (1995) for example differ between four types - contractual, consultative, collaborative and collegiate – where the relation between the workshop facilitator and participants can be adapted in accordance with the aim of the workshops and level of participation. Furthermore, group composition and size can be changed during workshops. Based on a literature review,

Eriksson (2013) suggests some characteristics of facilitated workshops: to create relations between the participants; the sharing of ideas and opinions with the purpose to create a shared understanding between the participants; learning from each other and sometimes create new knowledge; a process for establishing goals for a shared project; and in some cases: be a forum for decision-making, problem solving or conflict resolution. However, Chambers (2002) notes that there is a paradoxical element to participatory processes and suggests being "optimally unprepared". While planning is important, participation involves unpredictability, making a flexible approach just as valuable. "Good workshops are more like a sea voyage than putting up a building. There is less a syllabus to tick off, and more a direction to travel in and a process to experience". (Chambers, 2002, p. xiv)

The literature on workshops is primarily focused on workshop design and in line with Ørngreen & Levinsen, (2017), we argue that there is a need of discussing methodological aspects in relation to workshops. Although workshops are commonly used, there is a lack of discussions about how knowledge is created through the interlinked relationships between people, materiality, and space. We argue that workshops provide a flexible approach to study complex issues through socio-material practices. Inspired by Mol's (2002) view on knowledge as socio-materially enacted in practices, we aim to explore how we as researchers can make use of workshop to study mundane professional and everyday practices and how knowledge is enacted through workshops.

Case studies

The paper makes use of empirical material from two research projects. In one project, workshops were used to study the everyday practices of professionals' use of digital tools at a consultancy firm. As a part of a larger research project, we conducted three workshops with employees from a private company. The company is a large, international consultancy firm within the construction industry in Sweden. Each workshop consisted of 7-10 participants, with different professions and with various levels of experience. However, most participants were relatively newly employed. While some participants knew each other, most of them had never met before.

The three workshops were separately held but were designed to build on each other. During the first workshop, the researchers and participants decided on an underlying question for the workshops. The aim was to identify the conditions, challenges and good examples of co-operating with digital tools and establishing some focus-areas. In workshop two, the researchers related the focus-areas to current research and there were joint discussions on developing ideas for how to improve the company's work with digital tools. Some of these ideas were chosen for further development, using feasibility and impact factor as criteria. Finally, in workshop three, based on the researchers' synthesis of ideas and critical input, the participants worked in smaller groups with creating hands-on action-plans for developing the company's work with a specific digital tool.

In the other research project, we held workshops with residents in a newly built neighborhood. These workshops were also part of a larger research project and we met with in total five different groups of residents. We started out with a pilot to try out the design of the workshop and the questions. This first occasion was both audio- and video recorded. The purpose of the workshops in this research study was to collect data about residents' relation to their homes and neighborhood and in the wider context analyse if and how aspects of social sustainability were part of their everyday lives. We were interested in questions about contentment of their house and the surroundings, their reflections on what "home" meant to them, what the residents had done to make their house more homely, if they have created relations to other residents in the same neighborhood, and if they had used the places designed for social activities. We invited residents through our personal networks. Some of the groups were more homogeneous, when we for example invited students living in the same dormitory, and some more heterogeneous, as when we invited residents of different age and housing tenure. We designed the workshop in three steps: 1) Initial questions to get to know each other and learn about the participants' relations to their homes and the neighborhood, 2) Individual drawing 3) Group discussions. After the round of initial questions, we introduced the drawing exercise and asked the participants to draw their home and their neighborhood. We finished the workshop with asking for feedback from the participants and asking their permission of bringing the drawings with us back to the university.

Socio-materiality as a theoretical lens

Working with research methods built on interaction between participants and researchers means that researchers have a direct and clear effect on the outcome of research. The interactive element of workshops is, however, not distinctive from other ways of doing knowledge work as we understand knowledge as done in interaction between actors (Barad 2007). Furthermore, we approach our research with an "ethnographic attitude" inspired by Haraway (1997). Haraway describes an ethnographic attitude as not being confined to doing fieldwork in situ but to put oneself at risk in the meeting with others and being careful and accountable when doing so. Instead of being tied to certain types of methods, an ethnographic attitude is a mode of attention and a way of relating. To challenge previous stabilities and convictions in an ethical and responsive manner is central to this way of doing research.

In our studies, we engage with an ethnographic attitude to learn about professional and everyday practices by allowing the actors to challenge our views and to make visible how we, and our methods, affect them. An ethnographic attitude is useful when working with diverse empirical material as it takes seriously the generative connections articulated with different methodologies and it makes a multi-layered approach possible (c.f. Lindén, 2016). Mol (2002) locates knowledge as activities, events, instruments, buildings etc. For her, the study of phenomena is focused on how these are enacted in practice, that is how things are made visible, audible, tangible and knowable. Practice is handling, acting and coordination of socio-

material relations that are located in time and space (Mol, 2002). Thus, to understand practice, we need to ground them in time, space and a historical context.

In our study of professionals' use of digital tools at a consultancy firm, we did not have access to the professional practices as they were distributed among many places and times, as well as seen as corporate secrets. In the case of everyday life, our intrusion on the privacy of the respondents lives where not seen as ethically motivated and would probably disrupt many of the everyday practices. Instead, we chose to work with workshops as a way to create space for interaction and collective knowledge making. Inspired by Barad (2007) we argue that there is a close connection between practice and knowing:

> Knowing is a matter of intra-acting. Knowing entails specific practices through which the world's active engagement in practice of knowing. Knowing entails differential responsiveness and accountability as part of a network of performances. Knowing is not a bounded or closed practice but an ungoing performance of the world. (Barad 2007, p 149).

If practice and knowledge making is so closely connected, how can practice be studied outside its enactment? Our answer to this is twofold. Firstly, we study the enactment of practice *in* workshops *about* other practices. We do not claim to have knowledge of how the respondents "actually" perform their work or their everyday life, but we do know something about how they enact these practices in the workshops. This still provides important understanding of the study subjects we are interested in as the workshop shows the work behind making BIM and the everyday practices become a seemingly single phenomenon. We made sure that we practices discussed were connected to specific events, context or objects to ground them as well as possible. Secondly, by zooming in on these phenomena through discussions in workshops, we foreground practices that are usually bracketed (such as everyday practices that are so common, they become invisible for the respondent) (Nicoloni, 2009). This could not have been done through observations as the practices either would not have been possible to collectively explore together with the respondent, or would have been disrupted, therefore workshops provide a possibility to draw practices to the fore and make them visible.

Studying practice is thus very much about framing and the analytical work. Inspired by Suchman (2011), we believe that we as researchers draw boundaries around practice, following our analytical aim.

> Like all object making, the delineation of a practice is always and irremediably part *of* a practice that informs what constitute productive and coherent units of analysis. It is that which makes *us* responsible and accountable for our research and its inclusions. And it is that which calls on us to be attentive to our own practice's systematic and necessary exclusions, and respectful of its constitutive overflows. (Suchman 2011, p. 29)

Where to draw the borders of the study subject is done analytically throughout the research process. In relation to practice, we have made decisions on how to design workshops to make it possible to let the respondents professional and everyday practices shine through in

different ways. Suchman (2011) as well as Barad (2007) argues that this analytical work also makes us responsible and accountable for our research and its inclusions.

> The point is not simply to put the observer or knower back *in* the world (as if the world were a container and we needed merely to acknowledge our situatedness in it) but to understand and take account of the fact that we too are part of the world's differential becoming. (Barad 2007, p 91, original emphasis).

Thus, the analytical choices are ours and in the follow sections we will discuss them in relation to the aims and outcomes of the workshops.

Understanding our workshop practices

The following part builds on our methodological choices and illustrates various challenges during workshops and their relevance for how and which types of knowledge is created in these contexts. Using our two research projects as our starting point, we discuss three topics that we consider central for understanding our workshop practices. First, we reflect on different aspects of how to create space for participation in workshops and their consequences for our research studies. Then we focus on the topic of how to document results from workshops and what kind of material these provide for interpretation. Finally, in the last part, we discuss how we can analyse the knowledge making processes involved in workshops.

Creating space for inter-active practices

Designing workshops include some critical choices, such as how to encourage participation (Fröst, 2004) and how to balance aspects such as content (the attained results of the workshop), process (sequence of activities) and people (Gottesdiener, 2002). These choices must sometimes be planed beforehand, but sometimes choices must be made during the execution of the workshops. Challenges in the planning and facilitating of workshops affect the outcomes. We will therefore discuss some of the challenges we faced in creating space for interaction in the workshops and what we as researchers learned from them.

Finding suitable places for the workshops

We chose the places for the workshops with care and intent for each workshop. With the professionals, the workshops were held at the company. The first workshop took place in a relatively small conference room with only one table with the aim of providing a close co-operation. We created three visible spaces in the room for discussing the three focus areas. During the workshop all participants were involved in all three areas but were not allowed to see the other groups' contributions until every group had been at every area. The idea was to create an atmosphere where participants would feel comfortable and generate and express their own perspectives, without giving any thought of other groups' views. However, the participants gave the impression of feeling nervous and supervised in the beginning, which we in hindsight think was partly due to the proximity in space. While a small room provided

an overview of all the discussed the topics and facilitated summarizing discussions, it did not give space for privacy in discussions. This can be compared to the other two workshop occasions, when a large conference room was used instead. There were several tables available for the groups to sit more separate during discussions and a larger space for organizing activities. This arrangement however made it difficult for us facilitators to take part in all discussions. We had to choose where to contribute and had a more limited overview of the group processes as several activities took place simultaneously.

The workshops with residents had different challenges, also with creating space but in a different way. We aimed to find suitable spaces for workshops close to the participants homes, a place that all would have some connection to and within the neighbourhood. We identified the shared community buildings Felleshus as such places since almost all residents were co-owners of a Felleshus in the vicinity of their homes. When we started to create the groups for the workshops, it turned out that only one group of residents had access to a Felleshus. For two of the groups, the Felleshus had not yet opened due to disagreements between the residents about how to operate this communal space. For another group, the Felleshus had been up and running earlier, but had closed due to misbehavior when it was used as a venue for parties. Residents that were students did not have access to a Felleshus and there were no plans to offer such a facility to them. They expressed their discontent with the lack of such a common space for them and their neighbours. As a consequence, most of the workshops were carried out in the homes of our residents, although it was not our initial intention. However, this setup made the homes present through the material context. Our impression was that the residents felt at ease to invite us as researchers and neighbours to their homes, and it created a relaxed atmosphere for the workshops. Being in homes or Felleshus sparked discussions not only during the workshops, but also before and after the formal workshops. The very present connection to Vallastaden we aimed to make the discussions more grounded in the built environment and how it affected the everyday life.

Situating the workshops in their context, either in the company or in Vallastaden, was a deliberate choice to make the practices we were interested in more present through its material connections.

Encouraging participation

An important aspect of workshops is to create interaction between participants (Eriksson, 2013) and enable participation (Chambers, 2012). The research project that focused on professional practices built on a collaborative approach to workshops (Cornwall & Jewkes, 1995). In other words, while we as researchers designed the setup of the workshops, participants and researchers worked together to achieve the mutually agreed aim of the workshops. Every workshop occasion included various types of activities and different group compositions. In the workshop with the professionals, which was a heterogeneous group with different professions and experience from BIM, we also decided on some guiding principles for the discussions. These included that all participant agreed to take part in creating an open

climate where everyone can contribute with their thoughts, listening to each other, and to be unpretentious. In the first workshop, the participants were divided into smaller groups and asked to generate as many ideas as possible around the given focus areas. They were also instructed to write each idea down on a separate post-it, without spending time on agreeing on or evaluating the ideas. Despite the ambition to create an open and relaxed environment, there were some obvious challenges when the participants were asked to carry out certain activities. One of these challenges was that the participants had, unexpectedly, difficulties in formulating their ideas and writing them on the post-its. Especially difficult seemed to be to express a critical perspective and describe challenges. We think that a possible reason for these difficulties could be that the professionals involved were not used to think and write about the digital technology of interest (BIM) in this manner. It also gives us some insights about the narrative surrounding BIM, as the company's strategic choice was to expand the use of BIM throughout the organization. To express critical views about BIM might be interpreted as critique towards the company strategy or the overall positive narrative about BIM in the construction industry. As we later found in our interviews, the difficulties to formulate problems with BIM required us as interviewers to ask very specific questions to encourage the professionals to bring up negative effects of BIM. We could not have learned this lesson only from the workshops, but as the workshops were done before the interviews, we were prepared that this issue might arise. In hindsight, we could also have used more practical cases and other material artifacts, such as photographs (see Hultin, 2019), to illustrate issues with BIM and thereby make it easier for the participants to express critique in relation to their everyday practices. Even so, critical information about BIM came up later in the workshops, as well as in the interviews held at a later stage in the project. As a result, the impact of this challenge was of limited importance for the research study as a whole.

Another challenge that arose in both research projects was regarding group interactions. In the workshops with professionals, there were certain situations where some individuals were in group constellations where they had difficulties in expressing themselves. Since workshops are built on participation, it is central that the workshop facilitators make sure that all participants are given the chance to contribute, so called "interactive equity" (Chambers, 2002). This does not mean that all participants should be given equal time to talk. Instead, it is more of a matter or helping those who are more withdrawn and silent to speak and those who are more dominant and outspoken to speak less. As workshop facilitators, it was important for us to handle those group situations as fast as possible and arrange more suitable groups constellations.

At the workshops with residents in Vallastaden, there were several challenges with group interactions, both between the participants and between the participants and facilitators. The workshops were designed to follow a similar format, where we tried to create an ongoing process. On all occasions we gathered the participants around a table, big enough to fit all around it, or arranged several smaller tables into one big group. During the exercise, the participants faced the others, both facilitators and other participants. We also included a

classis Swedish "fika" with coffee, tea, cinnamon buns – or similar pastries- and cookies in the workshop, to show our appreciation for the participants spending an evening to contribute to our research project. "Fika" can also make people more relaxed to start conversation with unfamiliar people and the act of sharing drinks and food can bring people together. Firstly, we opened the workshop with some questions to "the group" about moving to the neighbourhood, about their homes and how they felt about their homes and neighbourhood. This approach with "questions and answers" created a situation similar to our experience of individual interviews, and we took the roles of "interviewer" and "interviewees", instead of creating group discussions mostly between participants. Compared to previous experiences from working with focus group interviewing, it was more difficult to get the participants to talk to each other instead of talking to us as facilitators. In focus group interviewing we provided participants with an image or vignette to spur the discussions and based on participants' interpretations of the image or vignette, they talked to the entire group. After the initial questions and answers, the participants first worked individually on their own with their drawings. Then the facilitator asked each and one of the participants to tell the group about their individual drawings, and eventually the conversation became one joint discussion. The facilitator of the workshop could ask questions to each of the participant and in that way make sure everyone had the opportunity to present their view. In the later parts of the workshop, there were more interaction between the participants. They could join in each other's despair over non-functioning garbage disposal and nod in recognition over the appreciation of the varied architecture. There were many laughter and moments of understanding between the respondents in these workshops. This interaction between the respondents was central to the discussions and thus also to the knowledge making outcomes for us as researchers. The shared experiences, or the interest in others' different experiences within the same neighborhood, created a depth to the conversations that we could not have created in interviews of single respondents or in larger groups.

Considering the described challenges with interaction, we also see that both larger and smaller group constellations have their benefits in workshops. In relation to the knowledge gained from the two research projects' workshops, we can see that smaller groups provided more space for each participant, which we think was important as they shared their view of their private life, which sometimes can be a sensitive topic. Therefore, the small group created a safer space than a larger group might have. In contrast, the larger groups in the workshops with professionals created new types of discussions as the employees from different departments in the company came together and learned from each other. The workshops were not only a learning opportunity for us, but they also became an appreciated social activity for the employees. Their exchange of experiences from within the company also gave us access to a deeper understanding of the inner workings of the company. This knowledge was crucial for us to understand the context in which BIM was situated. We see BIM as carriers of work practice conditions, since digital tools are both an outcome and a prerequisite of the practices at the workplace (Goldkuhl & Röstlinger, 2015). The entanglement of this digital tool with the,

more or less, standardized, practices in the company was made visible not only in discussions around BIM, but also in discussions about working in different departments. In smaller groups, the contact between employees from different departments would have been less and therefore a combination of larger groups with groupwork in smaller groups facilitated both many new contacts as well as possibilities to deepen discussions.

Socio-material tools and outcomes of workshops

A central methodological question for both research studies was how to document the results from workshops and what type of material we will have access to after the workshops. We use our two cases to show and discuss some of the different types of empirical materials that were created through our design choices.

We designed the workshops with professionals as a series of workshops, building on each other. Since the participants for each workshop were not necessarily the same, this type of workshop design demanded that we as facilitators created an obvious connecting thread between the three workshops. For this purpose, we made use of presentation tools (Prezi and Power Points) in the beginning of each workshop. As such, our choices regarding what to include and how to frame earlier material was an active and apparent part of the collective knowledge making process. It further meant that the analysis of workshop materials was an ongoing process during, in between and after the workshops. As an example, we summarized the results from workshop one and structured them to use them for creating themes that were tied to relevant research before the second workshop. We as researchers were actively drawing boundaries around the topics of interest with the help of visual tools.

Central visual materials in the knowledge making process at two of the workshops with professionals were post-its. Due to their characteristic of different color and size, these materials offered the possibility of creating various visual patterns, structure, and the ability to move them around. These were also easy materials for us researchers to keep and use in flexible ways in our own analytical work. Although post-its were useful for expressing short and concise ideas through text, they had limitations in helping illustrate more complex processes. Writing down ideas in a few words was not a common practice for the professionals and thus forced them to commit to the limits of the small piece of paper. The work to bring large ideas or narratives down to a few letters required another type of creativity they were not used to need in their everyday practices. The unease some participants expressed for trying to catch a dilemma on post-its took different forms. Here comes an example from when the participants discussed good examples of using BIM in projects.

Image 1 – workshop with post-its

As the above pictures shows, the participants made here use of the whiteboard as a visual aid to illustrate the different stages of a project in relation to the discussion of good examples with BIM. Writing down ideas on post-its was clearly not necessarily sufficient when discussing the various areas and the background allowed them to move beyond the small post-its. Other groups were not so fortunate as they had a white wall as background and they had to make due with organizing post-its in other ways. This use of materiality in creative ways shows how participants felt a need for expressing complexity and relationships beyond the small pieces of paper.

The BIM workshops were further documented through ethnographic notes, pictures of the categorizations made by the participants and written down into a report after all three workshops. Together this material could tell about the different versions of BIM that was enacted in the workshops, both through our perspective but also through the materiality organized by the respondents.

Notes were also used in the workshops with residents and were useful for understanding the events that took place. As one of the researchers asked questions and steered the conversation, the other researcher took notes of interactions, both verbal and non-verbal as well as possible. Note taking has the advantage that it does not bother the participants and felt less of an intrusion in the interactions. We also filmed the first two workshops but later on felt that this had a negative impact on the flow of the conversations as the camera was too present, both as a technology we had to relate to in the physical organisation of the workshop, and as a subject of conversation. Note taking has the limitation that it is impossible to correctly write down all conversations that happen word by word, instead the research must focus on catching the topics and relaying them in the style the participants would use, as close to the ongoing conversations as possible. Afterwards we found the notes useful in recalling the events on the workshops and together the researchers could recreate conversations that felt true to the way it unfolded during the workshops.

The Swedish expression of starting with "an unwritten sheet of paper" (English: a clean slate) literally was the prerequisites in the exercise of individual drawing we asked all participants in the workshops with residents to take part in. As facilitators, we provided A3-sized white,

slightly thicker papers than standard office papers and crayons of multiple colours. The set up focused on open discussions inspired by the respondents' drawings. Some respondents felt restricted by the challenge of drawing, something they might not have done for many years. They expressed being uncomfortable with drawing and making an image that in most cases turned out to look like a map, even though we did not specifically mentioned "map", we just introduced the exercise with a more general line : "Draw "Your" neighbourhood and your home". Others enjoyed the opportunity to create something creative and others were more used to draw. The outcomes varied greatly but all respondents were able to use their drawings when they expressed their feelings and described the practices associated to life in Vallastaden. The drawings contributed to the discussions as they could compare their sketches to see differences and similarities. The drawbacks of this method in relation to interaction, is that some things the respondents might have brought up, but was not shared by the other respondents, could be left out. As interactive conversations have a tendency to be difficult to steer as a workshop facilitator, not all aspect might have been brought up in the way that it could have been in an interview situation were the interviewee and the interviewer can have more control over the situation. We partly handled this by making a round after the respondents had drawn where everyone had the ability to share their thoughts which we hoped made space for individual, and not shared, experiences.

The participants' drawings took several different shapes when it came to what to include in the drawings and how to visualise different practices. Some drawings included both activities they performed in the neighbourhood (walks with dogs in image 2) and digital activities related to the neighbourhood (writing posts in the Facebook group, symbolised by the Facebook logo in image 2). Some included specific features they especially appreciated such as the colourful bridges over the brook (image 2) and animals, both wildlife (image 3) and grazing sheep in fenced pasture (image 2).
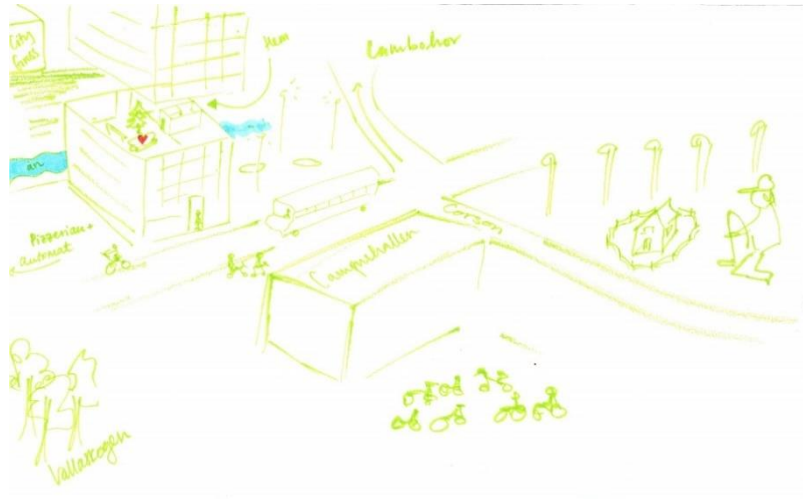

Image 2 – map from workshops

Image 3 – map from workshops

Although most drawings included what generally could be categorised as "structures" or "infrastructure" such as buildings, streets and the waterway, some drawings included nothing but these structures (image 4). In the discussion following the drawing exercise, one of the participants who only drew structures said: "Well, I said from the beginning that I draw like a 10-year-old, I take the buildings and lie them down flat." (workshop group 2). Drawing the buildings flat on the paper and from a birds-eye-view was performed by some of the participants (men?), while others drew from a front-view-perspective (image 2) or from an angle to make visible front, side and the roof of buildings (image 3). Some included details like windows and balconies, especially in the building they themselves reside in. One of the participants had noticed a what she thought was a beautiful copper roof, which she appreciated the view over from her apartment, and she included it in her drawing, but from a front-view perspective. Other details that were made present in the drawings were for example the multi-coloured wall-mounted photo-voltaic on the car park building (image 3).
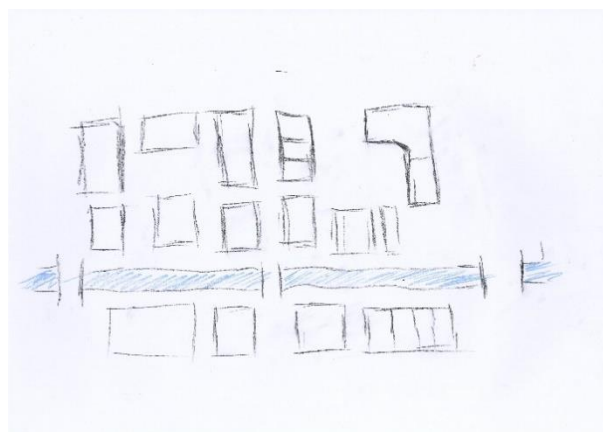

Image 4 map from workshops

Some participants included what could be categorised as "green and blue infrastructure", with trees, bushes, lawns etc symbolising the parks and green areas of the neighbourhood. Almost all drawings included the brook, in many cases drawn with blue colour even if the

rest of the drawing was single-coloured. The brook was in several cases portraited as a backbone of the neighbourhood.

The practice of drawing the neighbourhood also comes with drawbacks as some things are more difficult to draw. How does one draw community and social connections? The social aspect can be difficult to visualize in this type of situations and might therefore receive less attention. As the focus on these workshops was on the built environment this was a rather straightforward choice for us to make, but nevertheless needs to be brought to attention as it will affect what kinds of result we get.

How can we analyse the knowledge-making processes in the workshops?

Interpreting the outcomes of the workshops (our experiences and the material results such as post-its, notes, pictures and drawings) needed us to make use of different methods and theories for interpretations. Visual materials were important in both projects but due to its different character, had to be handled in different ways.

The pictures of post-its and the post-its themselves were brought together and analysed by both researchers. We look for ways that BIM came into being, how it was described, in relation to technology, buildings and organizations. We were especially interested in our experiences in relation to the post-its – what happened when the respondent made these choices and who was involved? This analytical stans was grounded in our ethnographic attitude (Haraway 1997) as we made ourselves open to other possibilities and stayed with the potential of different possibilities in understanding the material before us. Discussing, laying bare our understandings, and challenging each other's explanations created an openness for difference and new ways of categorizing. Theoretically, we asked how BIM ordered practices in the everyday work of the professionals and what consequences this had for how knowledge was created and accepted. Inspired by work in knowledge infrastructures (Edwards, 2010; Edwards et al., 2013) we analysed how some knowledge making practices were enacted as obsolete, and how others became the new norm due to digitalization. In practice, our analytical work with the empirical material was similar to the workshops that we conducted with the respondents by moving and rearranging our categorizations of the empirical material.

Likewise, we analysed the drawings by focusing on the central aspects of them in relation to the discussions on the workshops. Firstly, we looked at the images to understand them in relation to their context. We related them to the discussions in the workshops and the respondents and their homes to situate the images. Inspired by Nawrocki (2017) we worked with categorization of the elements in the images as "mental maps", looking for nodes, landmarks, paths, and borders. We found that the stream was present in all images, and it became the centre of the drawings. Following this we looked at other common themes, for example many of the respondents added animals to their images (dogs, birds, snakes, spiders and sheep) and what kind of representation they brought. Snakes for example, was a negative feeling connected to the parking garage where one respondent once met a snake. One

participant explained how the snake added a negative feeling on top of the already negative view he had about the, in his eyes, ugly parking garage. Several of the respondents drew sheep from the nearby sheepfold and explained how the sounds of the sheep and their connection to nature experiences made them feel calm. In this way, we connected categories that we found in the drawings with the discussions in the workshops. Our theoretical approach, building on Mol's (2002) understanding of the world as multiple and a focus on the ontological politics of what is made present and what is left out, together with attention to how everyday was portrayed was a constant companion in our analysis.

One common challenge in the analysis of the two types of workshops was the connection between the material outcomes (post-its, pictures, notes, and drawings) and the events and discussions in the workshops. It is impossible for the researchers to be able to remember everything that took place in the workshops but our method of moving between our notes and our analysis of the material outcomes made it easier to connect the two. Another way of doing this analysis would have been to film the workshops and watch them together with analysing the material. This would probably strengthen the connection but it also risk neglecting the feelings and understandings of the workshops from the researchers' point of view, as the film could potentially become more important than the notes and the researchers' experiences. Furthermore, in relation to the workshops with professionals, several parts of the workshops were done in small groups which would have been impossible to film at the same time due to the number of groups being more than the attending researchers.

To conduct a collaborative research study together with a large, private company has raised many ethical concerns abound our roles as researchers and discussions about the outcomes of the workshops. In the workshop with the professionals, we continuously informed all participants about the collaborative character of our study, its aim and how we were working towards it. At the same time, since there were conflicting views on the implementation of the studied technology at the company, we were keen on ensuring that we were not in favour of any particular view and did not represent company management. However, this "neutral" stand was not unproblematic either. At the last workshop, some of the participants openly brought up the question of what our mandate was for making use of the action plans that the employees were participating in for developing the work with BIM at the company. In other words, the participants wondered how the study results could be used in their everyday practices if it was not backed up by company management? It became clear to us that they had certain expectations on the workshops and how matters were handled at the company. This put us in a difficult position, as our purpose was not to mediate between the participants and company management, but we could not ignore these critical questions either. Furthermore, since the research project on professional practices is a collaborative study, we as researcher are also expected to deliver results from the workshops to the company management. We consider our final report to the company to be a useful possible channel to reflect on these concerns.

Conclusion

Thinking of knowledge as socio-material (Mol, 2002) intra-active practices (Barad, 2007), the workshop as method is an intriguing choice. Workshops provide space for interaction between participants, materiality, and researchers while the relations between actors are centered. The creative format pushes participants to approach their mundane, everyday practices with new eyes. Like with all methods, workshops come with several possibilities and choices for researchers. In this article we have discussed the reasons behind and the outcomes of our design choices to bring forward how these choices affect what kinds of knowledge is being produced in, and through, workshops. To conclude, we discuss three topics in relation to researching everyday practices through workshops: our responsibilities regarding workshop design, our assumptions about the participants and what we have learned from these workshops that can be of use in the future.

What responsibilities were intertwined with our workshop design decisions?

Researchers' choices come with responsibilities (Suchman, 2011) for respondents, for research outcomes and choice of research subject. We have in this text discussed our choices to understand the reasoning behind them and their effects on the research to understand the responsibilities they come with. We believe that it lies in our responsibility for both respondents and research outcome to make sure that there is space for all participants to express their views but also that no one is feeling left out. This was done by using smaller groups and being attentive to how is active in conversations and who's expertise that has precedence over others. When we saw a need for it, we directed questions to those who were quieter or used questions that invited their expertise or experiences in particular. There are of course many ways to ensure more equally distributed conversations without us intervening as direct, for example by designing the workshops in a stricter way were everyone has a designated slot to speak, but we preferred the more open format to facilitate creative and open discussions. The choices in how to make space for everyone thus relied on caring for participants, the research outcome as well as open and brave conversations.

Our responsibilities do not end at the design and execution of workshops but also include the way results are presented, interpreted and to some extent used. Even though our research did not handle issues of sensitive nature we felt a responsibility to make sure our respondents were not identifiable, both to ensure a freer discussion but also to not cause harm to the respondents afterwards. In this aspect, it was important for us to make our choices, design and plan for the presentation of the results explicit for the respondents in all workshops. Likewise, in our communication with the collaborative company in relation to the professionals, we felt a responsibility for how the results might be used. We had recurring discussions with our contact at the company and found it at times difficult to share results that made our critical analysis of the studied technology present, while not being too negative about a technology they wanted to develop further. We also felt a responsibility for the

employees who asked for the practical results from the research project on their company. Even though this was beyond our scope of the research project as well as outside our power, we still felt with the respondents who have taken part in various similar interventions that had no effect on the way work was structured. We plan to handle this issue by writing a report to the company with as clear suggestions for improvement as possible, while still being explicit about our critical analysis.

Which were our assumptions about the participants willingness and abilities to use the material we provided?

In retrospect, we can conclude that some of the choices we made for how to organise and run the workshops were made to make the workshops accessible and appealing to the participants. We chose premises in the vicinity of their workplaces or homes, picked time of the day to fit the schedule of the professionals and residents, respectively. We cared for the participants' comfort and needs when we provided Swedish fika and something to eat during the workshops. However, some choices were made with implicit assumptions about the participants abilities and willingness to work with the tasks and material provided by us. A post-it could only fit a certain content, as they are designed for brief and almost "taken out of context" messages. The idea with a post-it is usually as a tool to create reminders to oneself. A white A3-sized paper, as in the workshops with residents, probably signals something else. For some participants it was intimidating to be presented with this paper, and crayons, and asked to draw "your home and neighbourhood". Some hesitated and excused their lack of ability to draw. After conducting the workshops we could notice a pattern of women generally showing more confidence in the drawing exercise and they presented more details in their drawings. This made us think about how we can tailor the exercise to be more inclusive for a broader range of participants.

What have we learnt about workshops that will influence our research with workshops in the future?

The two research studies in this paper have expanded our experiences of workshops and have given us several new insights for future research regarding this method. A characteristic element of workshops described in previous research is the introduction of unfamiliar tasks to challenge participants (Cornwall & Jewkes, 1995; Tanggard & Stadil, 2014). As shown in our paper, the workshops we held included different activities that were perceived as challenging by the participants. In line with earlier research, however, we argue that it is exactly these types of new and "demanding" activities that helped the participants to reflect about their everyday practices and reach insights beyond their regular patterns of reasoning. Our results from the workshops on professional practices can also be put in contrast to some of our interviews later in the study, where there sometimes was a tendency to have a more one-sided approach to the topic of interest. However, since the workshops were held before the interviews, we were prepared for these types of difficulties and were attentive to overly simplistic explanations.

Our primary reason for using workshops in our studies was its usefulness to study complex issues through socio-material practices. We consider these practices to have been fruitful in giving us new insights about the studied professional and everyday practices, but we have also learned that these practices bring their own limitations. For example, the post-its that were used to reflect on various topics in relation to a digital technology, were not sufficient on their own to reflect on more complex processes. In a similar manner, drawing one's neighbourhood-imposed limitations to including social aspects into the illustrations. Therefore, we suggest that it is useful to make use of several research methods to study complex problems – different types of research methods provide different empirical materials, although they point to the same important aspects.

A final aspect of workshops that we have experienced through our studies is its characteristic of bringing unintended consequences. In the workshops with professionals, the inclusion of employees from different departments and professions in the studied company resulted in the participants getting in contact with people they would otherwise would not meet. It also made visible the absence of a common ground between the various parts of the company and the need of better networking possibilities. This was also the case in the workshops with residents: people who were neighbours had never met before but could extend their networks in the neighbourhood and found it rewarding to learn about different ways of solving problems that came with being a new resident in this area.

How is knowledge enacted through workshops?

Knowledge in workshops is enacted through a complex web of choices regarding the research aim, workshop design, the carrying out of workshops, analytical work, and the presentation of materials. As we have shown in this text, choices come with consequences and responsibilities, and it is vital that these are made visible to understand how knowledge is enacted through workshops. Seeing knowledge making as socio-material practices and as inter-acting (Barad, 2007), workshops have been a way to study everyday practices by bringing the mundane to the fore. The enactment of knowledge in workshops are however only part of the outcome of this research method. The choices in research design have allowed new relationships to be formed and opened up for new possibilities, as for example the space for residents to ventilate within the same neighbourhood and for professionals to get an insight into different parts of the company.

This paper contributes to discussions on workshops as research method and how knowledge is created through the interlinked relationships between people, materiality, and space. These discussions need to be further developed and include a broader range of research projects with various types of workshop activities to make researchers responsible for, and aware of, the consequences of their choices on knowledge production.

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