Sharp edges, blunt objects, clean slices.
Exploring design research methods

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Abstract: Design Inquiry is perhaps always needing to run with scissors, that design-centred capacity and ability to work with materials, means and methods to develop research that is context specific, abstract and conceptual. This is important for collaborative and transdisciplinary inquiry in, on and through design as well as situations in which a diversity and mix of professional design expertise and design-academic analysis are included. This paper concerns the ongoing need for clarification, articulation and implementation, as well as critique, concerning how research methods and design practices may be better connected, placed and understood. Design research that is qualitative in nature needs to consider methods and means, that is epistemological challenges and opportunities, if it is to move beyond framing, using and reflecting on knowledge making as more than a blunt version of inquiry. We include a performative activity to enact a shared methodological experience of Running with Scissors.

Keywords: Qualitative inquiry, research methodologies, research methods, design techniques, design tools

1. Provocation

How are we to run with the scissors of methodological possibility in design research and to perform clean slices in the selection and articulation of mixed methods, diverse teams and multiply mediated outcomes and outreach? What place is there in making and assessing design based knowledge when we do not adequately look at the multiple aspects and components in their actual and potential shaping? What dialogical, discursive, tool-based and communicative means might we sharpen (let them glint into our eyes as it were) to prepare us for how to run with them, actively and productively, critically and prospectively?

We discuss these issues, locate related research and offer a design performative research activity that follows the metaphor of running with scissors as a social methods act (Savage, 2013). We draw on existing research from qualitative inquiry from the social sciences (e.g. Weinstein-Shr, 1990; Oldfather & West, 1994; Kincheloe, 2001; Markham, 2013, Denzin, 2017) including the speculative (Lury & Wakeford, 2012, Wilkie et al., 2017). We connect this to publications, claims and analyses from design research and suggest ways in which these assertions, demarcations and deliberations

may be understood. To that end we next provide a schematic or a recipe in the form of an Invocation. This is a shared and non-definitive meaning making activity for designer-researchers. It is a calling together of designer-researchers to performatively engage (e.g. Sommerfeldt, et al., 2014) with what they know and HOW they know it. This activity is to be supported ideally by an introductory lecture on the topic of methods and means in design inquiry as well as a set of underpinning, diverse research readings and links to design tools and techniques.

The aim of the activity is to accentuate a heterotopic, mixed method, multiple means of exploring how knowledge is made via design and through the application of which research methods in which word views to achieve what types of analysis and understanding. In short, the activity is a 'recipe' for enactment of participative reflexive design research. It includes known work and our own experience in researching within and between design and the human sciences. It entails co-creation, co-production, co-interpretation and co-evaluation in which design practice, expertise and tools are central (Sanders & Stappers, 2014).

We close with a 'Revocation', less a calling back to order and more a calling back into view from a variety of perspectives. This Position piece therefore functions as a script for a performative design methods event.

2. Contexts

Designers and designer-researcher (and even researchers of design) often find it difficult to articulate the dynamic relations of procedures, processes and practices of making with methodological locations, selection and positioning, together with the identification and implementation of relevant and apposite qualitative research methods (Koskinen, et al., 2011). The problem is one of illustrating and exemplifying, that is giving 'accounts' of making, processes and clarifying how we know what we know because of what we have done to know it. Design inquiry has shifted from disciplinary, top-down approaches to contextual, prosessural and abductive means to knowing through and about making. Designers' expertise and insights are central in exploring the materialities of making and the means of materialising knowledge through design activities.

This positioning paper addresses these gaps akin to Stappers and Giaccardi's (2017) charting of research and design tools, techniques and methods. Their mapping is highly useful but partially so. The mapping of research through design is characteristic of a popular discourse and framing about methods in which 'research' is seen as distinct from 'design' and where there dichotomies are made between 'research into design', 'research for design', and 'research by design'.

In addition, designers' accounts of their research methods still largely portray their activities as linear and highly structured procedures, with compartmentalized foundations. These accounts often talk of the 'insight phase' distinguished from the 'design phase', where 'researching' is separated from 'designing'. According to this view, methods are understood only as the 'tools' that designers use to learn about the user or the context of design. Research is expected to be conducted using methods in an orderly and ordered manner following a plan to deliver an outcome that can be evaluated.

In the *Routledge Handbook of Interdisciplinary Research Methods*, the authors (Lury et al. 2018) suggest a way of thinking about methods and techniques in form of action verbs. Approaching methods as '-ings' focuses attention on the pre-posing of problems. Consequently, methods are understood as ways to activate spatio-temporal variations, including 'declensions and inflections' of the present. This echoes our own educational, design and research concerns (Mainsah & Morrison, 2013) about running together with ideas, practices and articulations in research through *design*.

WALK, DON'T RUN WITH SCISSORS!

Please follow the instructions closely. The activity is designed for 12, 8 or 4 persons.

1. FRAME

1 Cut the two A3 sheets of paper as indicated. Label each frame 'A' and 'B'. Put frames to the side and keep the remainder.

2 x A3   Remainder   Frames
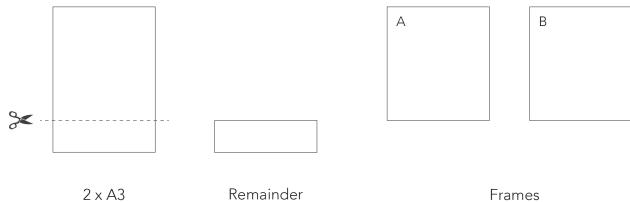
2. DEFINE

2.1 Cut the remaining piece of paper into 4 strips. Write the following titles on each piece: 'Research methodologies', 'Design techniques', 'Research methods' and 'Design tools'. Write down the definition of each title.
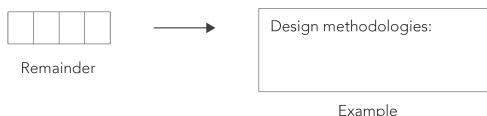
2.2 Discuss briefly how you understand them. Don't be concerned if 'Design tools' is a bit fuzzy at this stage.

Remainder

Design methodologies:

Example

3. SHARE

3.1 Take frame A and annotate it as shown.
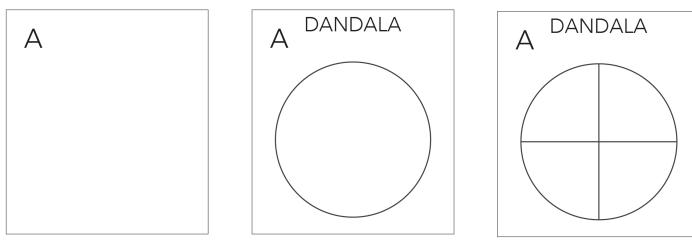
3.2 Find the centre of the paper and draw a circle with a diameter of 24 cm.

3.3 Label the frame 'Dandala'.

3.4 Draw two lines, dividing the circle into 4 quarters, as shown.

Frame

A   A DANDALA   A DANDALA

4. LABEL

4.1 Label the 4 quarters as shown: (write titles outside the circle).

   1. Research methodologies
   2. Design techniques
   3. Research methods
   4. Design tools
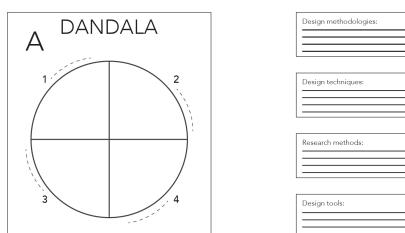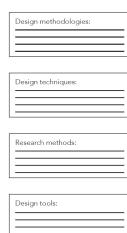
4.2 Refer to the previously written definitions on the 4 slips of paper, and read out loud the definition for each quarter.

A DANDALA

Frame   Definitions

Design methodologies:

Design techniques:

Research methods:

Design tools:

5. CUT

5.1 Cut along the dotted lines as shown. Do not include the written labels.
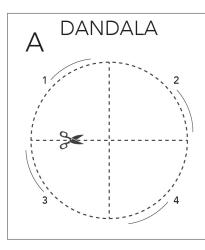
5.2 Label each of the separate quarters 'A'.
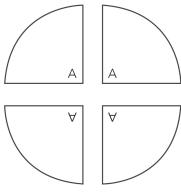
5.3 Put the frame to the side and turn it upside down.

A DANDALA

Frame   Quarters   Reverse side of frame
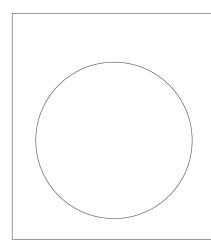
6. NOTE

6.1 Form 4 groups. Each group adds notes/drawings as to what they understand their label to refers to, while answering two questions:

1. What do you do when carrying out your designing and researching?
2. How do you know what you know by the way you do it?

6.2 Discuss and annotate. Place your quarter face down on the table when completed.
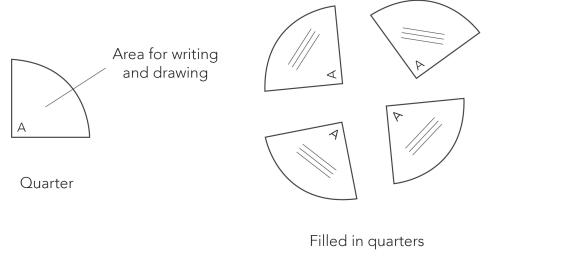
7. SHUFFLE

7.1 Write a 'B' on the blank side of the quarters. Shuffle and blow the pieces of paper around the table to rearrange them as a group, not looking at side 'A'.

7.2 Form a new group and choose one of the quarters randomly (not one you had as your quarter in the previous step). Consider and discuss what is noted on side A.

7.3 Which of the 4 labels do you think the notes are referring to? Write down the label on side B of the quarter. Add any additional notes/drawings or questions.
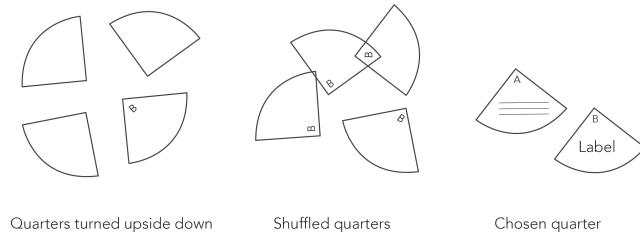
8. PLACE

8.1 Place the empty frame at the centre of the table with side 'A' facing up.

8.2 Place the quarters labelled 'A' in the frame to match the frame labels.

8.3 As a group, discuss what you have placed where and why.

8.4 Gather the quarters.
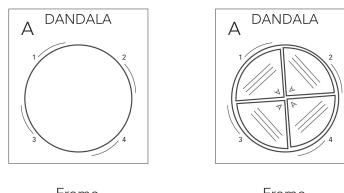
9. FLIP

9.1 Turn the empty frame over and turn the quarters over to show side 'B'.

9.2 Label the frame circle 1-4 as on the other side and place quarters into the frame.

9.3 Discuss what fits where and why/not
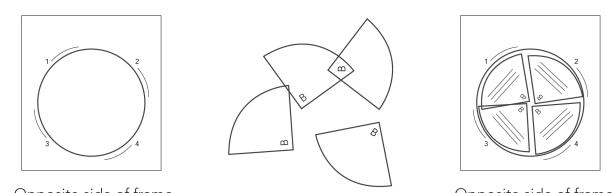
10. REFLECT

10.1 Take the second large square labeled 'B' that you cut in the beginning. Draw a circle and write 'Design' and 'Research' at the top and bottom of the sheet.

10.2 As a group, discuss the relations between the 4 categories and your views, needs and questions. Note these inside the circle close to the two terms.

10.3 Note outside the circle any additional meta level questions/points.

10.4 Two people discuss and sum up the content (one presents 'design' and one presents 'research').
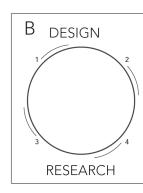
Figure 1. WALK DON'T RUN WITH SCISSORS! A perfomative qualitative research and design practice epistemological activity

Drawing on these insights we propose that looking at methods of inquiry in design as contextual actions offers a way of apprehending and framing the myriad of ways in which techniques and tools, actions and contexts are intertwined in generating knowledge (Sanders et al. 2010). Such a view facilitates understanding of the doing of methods that are the accomplishment of a practice. This involves the interconnection of person, place, craft, matter, and process. We argue, then, that better connections between design methods and critique may be achieved if more attention is given epistemologically to how we may conceptualise and enact design research as a making-analytical practice.

3. Invocation

In response, we present a four way, dynamic matrix or mandala whose properties and fluencies are exemplified by practice and informed by theory (Figure 1). We have developed it over a decade, including artifacts and processes from design research projects and master's and PhD learning activities from a leading Nordic design university, the Oslo School of Architecture and Design (AHO). We suggest such a multi-dimensional scaffolding may enhance richer and reflexive mapping and understanding between methods and critique.

The matrix/mandala is a perfomative qualitative research and design practice epistemological activity. In entails four intertwined epistemological constituents: Research Methodologies, Research Methods, Design Techniques and Design Tools.

We ask that you carefully read through the entire Activity. Imagine you have been through this event, collaboratively and quietly on your own too. And you'll need scissors… for cutting and to run with, metaphorically speaking! The activity may be run in small or medium sized groups. Time is needed for individual and shared reflection and this may depend on need and context. Our template is therefore a guide not a prescription. Ideally, users should have time to reconsider what they have experienced and to relate it to their own research project or study, and its making and analytical mix and oral and written presentations.

4. Revocation

As elsewhere in design universities, we face difficulties in making research methods and design techniques more apparent. For our master's and doctoral students, especially those moving into become designer-researchers, it is difficult to distinguish between the two blades of their scissors as it were. Research methods are hard to articulate when what constitutes design based data is not a common practice and where acts of designing embed, but may occlude, specific expertise in and through practice.

So not only is there tacit knowledge, there are tacit knowledge practices. In addition there is a gap in the articulation of a communicative ecology of expertise between designers and researchers, and within designer-researchers themselves. This is more likely a challenge that we will continue to need to meet as we engage in increasingly complex global and societal issues that involve multiple stakeholders and complex project structures and diverse needs and outcomes.

We need to run with sharper scissors? How are we to run if we don't know how to walk…? In thinking about the dance of metaphors in qualitative inquiry (Janesick, 1994), we recall that one of our partners had a grandmother who always put her scissors in a draw when a storm was approaching so as to prevent lightning strikes. Maybe we can run with them in our pockets, ahead of the storm?

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