Ambiguity at play: Open-ended making used in mixed material-participatory research practice

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Abstract: Design research is distinct from many other creative research practices in its capacity to not only help to identify/express deeper understandings of what is but also to provoke and provide meaningful alternatives/suggestions of what might be. This paper contextualizes design research methods pertinent to health concerns. A set of introductory exercises aimed at facilitating discussion and hands-on experience with open-ended making tactics, which provide dialogic insight and inspiration, useful to researchers working in health-related spaces is detailed.

Subjects: Communication Research Methods; Research Methods in Education; Design; Product Design

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Creativity is often linked to notions of individual creative genius with an emphasis on the final artifact or product. For the untrained, taking this perspective often means that one of the creativity’s greatest assets is missed—the process that takes place before arriving at a final artifact. Process-centric perspectives that place priority on the activities, that happen before the final outcome, both in terms of individual task and social exchange, provide powerful examples of how creative-based research can contribute to participatory-based research contexts including those in the Health sector. Process activities are generative. Framed as open-ended acts of making and experimentation (or play). They offer up new perspectives and opportunities pertinent to setting research bearings.
1. Introduction
This visual essay discusses a presentation and workshop at the Arts and Health Research Symposium: Inspiring Creative Dialogue in Spring 2016 that invited symposium participants to engage with processes used by creative practitioners as a means to open up new ways of seeing and considering shared research approaches. Artifacts from these activities, and the experience of making them, were discussed in terms of their role in instigating meaningful sites for dialog and exchange. The intent was to facilitate understanding about the role that abstract, open-ended making plays in providing dialogic insight and inspiration for design researchers—to open a dialog about how creative, craft-based approaches might be pertinent for professionals from other fields based in health-related research.

2. Order of events—Format of the workshop
To provide context, the author and workshop leader introduced examples of her own creative research practice. These were used to frame important aspects of Generative Design Research that makes use of mixed materials—participatory-based methods:

1. embodied process
2. the role of things as tools for thinking
3. leveraging through ambiguity and defamiliarization
4. dialogic storytelling tactics.

Following the talk, participants were invited to engage in a number of exemplar activities that made use of these techniques. The workshop finished with an open discussion about the experience of the participants, the outcomes produced and possible translation of these approaches to health research contexts.
3. From the talk

3.1. Designers and embodied practice
Designers regularly use acts of embodied knowing/body thinking, as a means of observing, imaging, abstracting, forming patterns, and empathizing. Dimensional thinking, modeling, playing, analogizing lead to means for transforming and synthesizing existing scenarios (Root-Bernstein & Root-Bernstein, 2013). Designer Researchers who apply participatory-based methods use all of these tools to better understand context and in turn design things that are more relevant to stakeholders they are engaging with. This type of embodied creative practice enables designers to deal with ambiguity of not always knowing where the research will take them. It is dialogic and helps them to rethink presumed courses of action (Figure 1).

3.2. Things and thinking

Meaning is the temporally emergent property of material engagement, the ongoing blending between the mental and the physical. (Malafouris, 2013)

Engaging with materials to create objects allows us to project alternatives of what might be. “Through this process, the material sign is constituted as a meaningful entity not for what it represents but for what it brings forth: the possibility of meaningful engagement” (Malafouris, 2013). For designers and many other creatives, a key part of early training is the acknowledgment and understanding that objects act as tactile interfaces as “material anchors” that can be linked to thought
processes (Hutchins, 2005). This perspective is important for traditional designers of products, the users of designed outcomes, and design researchers.

For the Designer designing objects, it places emphasis on the processes of prototyping and making not as a means of individual expression but rather as way of uncovering possibility (Figure 2).

For the Designer considering the end-user's needs, it opens up context of use and facilitates the design of things not purely as objects or functional tools but rather things as thinking tools that may act to anchor someone, hold a memory, move an individual through a difficult time (Pasztory, 2005; Turkle, 2011) (Figure 3).

For the Design as researcher who engages in co-creative, participatory design practices, artifacts begin to be understood and used in terms of their capacity to provoke conjecture and facilitate connection, linking ideas and people (Figure 4).

### 3.3. Leveraging ambiguity

Design draws on rational thinking, but is not merely a rationalized, logical process. It is a process that includes imagination, intuition, feeling and emotion as well. (Nelson & Stolterman, 2003)

In participatory-based research, there is often an inclination to ask direct (and potentially leading) questions. Designers versed in speculative design strategies, however, often try to avoid this question and answer predicament (Dunne & Raby, 2014; Fuad-Luke, 2016). They do this by playing with the unknown, by invoking ambiguity to open up what the next thing will/might/could be. In the participatory research space, this can be translated as follows (Figure 5):
Rather than asking a participant to describe (or illustrate) a known situation or experience, a design researcher invites this person to participate in a making activity that applies a series of seemingly incongruous objects, artifacts, words, actions. Some of the content used to build the activity will relate to the subject at hand while others will be distinctly and intentionally out of place. The route forward for the participant is ambiguous and unclear. Faced with odd tools that do not fit neatly with the narrative that they would like to share, the participant begins to fill in the blanks, shifts the pattern and finds new analogies to tell stories. The participant and the design researcher move away from predictable questions and responses and begin to engage in a dialogue that is often more meaningful, honest, surprising. The application of a seemingly irrational request is in fact connected to a longstanding strategy of artistic expression and a common design tactic. Through “making strange” new ideas and ways of thinking about the subject at hand are revealed. (Danto, 1981; Seago & Dunne, 1999)

3.4. Dialogic storytelling tactics

Stories don’t always exist in written form. They aren’t always created by a single person. Their audience is not always a group of passive consumers. (Baerten, 2016)
Stories can also be located in physical artifacts and in acts of making. Embodied visual storytelling techniques open to being changed and adapted are increasingly applied by leaders in Design. They are acknowledged as relevant to design research practices that seek to address the complex everyday needs of people (Bertolotti, Daam, Piredda, & Tassinari, 2016).
Design tactics that leverage ambiguity in larger group scenarios are similar to the one-on-one situation described above. They help people to meaningfully connect disparate elements (Baerten, 2016). When faced with a gap or an unknown, people fill in the blanks for each other; the narratives they create together to occupy these spaces are discursive. New sets of physical/made objects are constructed that further “make strange.” These new outcomes can serve as “Totems” or markers that hold participant experience, they can also act as dialogic “conversation pieces” that provoke important new narratives (Bleeker, 2009; Fuad-Luke, 2016). Totems or markers collect the fluid narratives that people expose. The researcher pays close attention to what people make and say, and offers up new insights. Mixed material-participatory-based approaches open up such sites of dialog where making and social exchange work hand-in-hand (Figure 6).

3.5. The workshop: Preparation

- a box with a slot
- blank white cards
- the invitation to contribute keywords

In order to set the stage for a discussion about creativity and health, the evening prior to the workshop, participants were invited to write down keywords that responded to the following questions:

What drives your work?

Figure 7. Participant responses.
Figure 8. (A, B, C) Noticing proximity—drawing out possible new connections.
Why do you do what you do? What do you do?

The responses were collected in a wooden ballot box and provided content for the workshop activities the following day. They acted as starting points to collectively and creatively explore the themes of the symposium (Figure 7).

3.6. Activity one: Embodied mapping

3.6.1. The directive

• What drives your work? Why do you what you do?
• Construct a “linked structure” using the dowels and square wooden plaques
• Place keyword cards strategically
• Thread/tie/connect the content together
3.6.2. The response
This group was invited to consider a stack of white cards with key words collected from the evening before. Using this “content,” they were asked to construct/assemble a structure on the workshop floor. As they did so they discussed their own relation to the terms and also began to work to fill in what they perceived as gaps—adding additional content—placing the words in relation to materials (dowels, square wooden plaques, white cards, and pink yarn). Picking up, moving, and working quietly among themselves they constructed and discussed: “this should go here,” “no, not so close ...” (Figures 8–10).

3.7. Activity two: Openings

3.7.1. The directive
- Take the large piece of paper (2 m × 2 m).
- Crumple it.
- Uncrumple it.
- Insert words on the creases in between the spaces that relate to the type of work you do. Share:
Figure 11. Moving out of static/predictable discussions: reconfiguring—physically, proximities and priorities reconsidered.

Figure 12. Adding necessary content to the site—spaces and lines guiding the participants output.
(A) Types of memories
  • things experienced
  • things said
  • things seen
  • things thoughts

(B) Types of voice
  • experienced
  • exposed
  • said
  • thought of

Figure 13. (A, B) Engagement individual and collective.
3.7.2. The response
Faced with a large piece of paper and the directive “Crumple it” the group hesitated. How best to do this all together? After a brief pause one member of the group moved forward willing to engage, drawing the others in—to also take the leap—to do a seemingly nonsensical thing. Everyone became engaged—pushing and shoving the large sheet of paper into a massive ball and then pulling it apart again—smoothing it out ready to write on. Key words and short phrases were written down by each participant in their own way from their corner of the large table—the spaces and lines provided by the act of crumpling the paper gently played a role in the placement of words (proximity, patterns found) (Figures 11 and 12).

3.8. Activity three: Working with others

3.8.1. The directive

• Consider our expectations connected to: witnessing, validating, engaging
• Take the words/yarn/circles/sticks/cards
• place it
• wear it
• document it

Figure 14. Discussion and documentation.
3.8.2. The response
All members of the group approached the materials that were added to a boiled wool sweater with open unreserved engagement. Actions were individually and collective. There was an ongoing discussion of experiences of witnessing, validation, engagement, and documentation using an instamatic camera of the sculptural form as it evolved (Figures 13–15).

3.9. Activity four: Situated

3.9.1. The directive
• What do you do?
• Where is this located?
• What are the routes you have taken to make a difference?
• Using the materials provided (A large map of Vancouver, socks, embroidery hoops, thread, needles, pens, post it notes) locate and construct as you share and discuss your own work in the urban context.
Figure 17. Working with objects found and words on paper.

Figure 18. (A, B) Gestures.
3.9.2. The response
The group reaction was mixed. Some people appeared to be hesitant but willing to try out the experience. These individuals tentatively picked up socks, stretched them over embroidery hoops, stitched, manipulated, and added to as they tried to make sense of the ‘instructions.’ Others in the group found the option of post-it notes, pens, and words an easier way to engage—writing words down onto the provided map. And finally a few, not comfortable with the request to make, chose to sit back and engage in conversation only (Figures 16–18).

4. Conclusion
In a formal participatory-make setting, the gestures, language, expressions, stories would all be collected and then laid out for the design researcher(s) to consider, further sort, and reconfigure in order to generate another set of questions, abstract exercises, and speculative artifacts—all to instigate further inquiry. This iterative approach gathers content through a process of purposeful wandering. What often seems an oblique process to the uninitiated can be employed to facilitate the construction of new possibilities, prototypes, designs, or approaches that address a specified context and, most relevantly, needs identified in relation to a given space of inquiry. In this iterative, dialogic approach to research, methodological decisions about how to best affect change are not pushed by the research but rather are revealed by users/participants. In design, this is referred to as Generative Design Research, an approach that applies techniques that make use of and validates co-creators’ inputs and their creative capacity. This perspective moves the researcher away from the expert role characteristic of traditional design practice and places the knowledge, insight and authority firmly in a shared, users’ territory (Sanders & Stappers, 2008).

Components of the research practice detailed above, which relies on the agency of making and creativity of people and are potentially useful to other (non-design) researchers, to keep in mind:

(1) Everyday artifacts that are familiar often work to make people feel comfortable with the unknown. They provide a sense of security.

(2) Everyday artifacts that are then recontextualized open up new narratives. Playing with everyday artifacts in an unpredictive, not usual way enables people to tell new, or unspoken stories.

(3) Inserting ambiguity into an activity leads people to negotiate their terms of reference. Storytelling and dialog nearly always arise naturally as a way of navigating through the exercise.

(4) Content and context are sorted out and exposed via acts of making and embodied kinesthetic actions.

(5) Making (that draws on tactile, spatial, visual reasoning) and the social (language that is aural, written) work together in sophisticated interplay.

Successfully applying mixed material-participatory strategies requires the researcher to establish trust with participants and an openness on the part of researcher to respond to the people they are working with. This often means changing things up if need be. Combined, all of these tactics help to open up new sets of observations and insights that might be applied in other fields of research, including health research. Participant feedback during the workshop activities and the facilitated discussion that followed validate this thesis. Applying small doses of ambiguity into participatory workshops by introducing making activities enables researchers to get people to move out of familiar, predictable, habitual responses. This fosters the emergence of meaningful and shared suggestions of “what might be” and rich situation-specific research solutions.

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Note
1. Involves moving back and forth between 2D and 3D, mapping, scaling, and altering the proportions of an object, and conceptualizing dimensions outside of familiar experiences of space and time.

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