Framework for Policy and Governance on Research through Design

Seeding document for panel session RTD2019 Conference 'Method & Critique", Thursday 21/3/2019 at Het Nieuwe Instituut, Rotterdam, The Netherlands.

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Research through Design (RtD) is an emerging field of research, in which design activities are part of the method of doing research. Design as a field has overlaps and intersections with other fields of inquiry, as shown in the figure below. As a result, there is a range of methods and practices in RtD, building to larger or smaller degrees on the traditions in these fields.

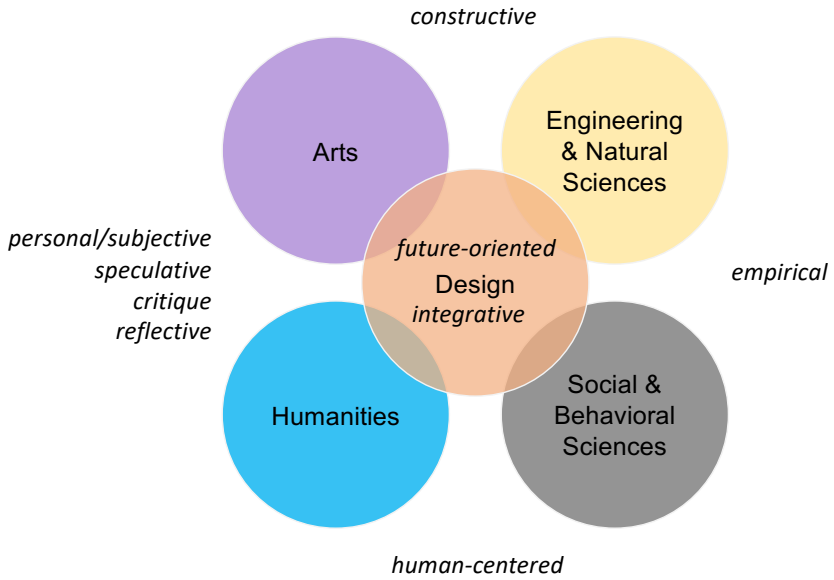

Figure 1

Design research positioned between, and in overlap with, existing fields of inquiry. At the overlaps it shares methods and values with adjacent fields.

The terms in italics list qualities of research methods, and how these connect to the other fields.

Distinctive for RtD is that it integrates multiple perspectives on the phenomenon it studies, and that it makes a move to the future, often through the creation of new things which can be used to measure, intervene, or question a possible future state of the phenomenon. The design literature refers to these 'new things' as '(research) prototypes' or 'artefacts.'
Further frequent characteristics of RtD are also found in other fields of inquiry. For instance, constructing prototypes as a way of exploring a problem side is shared with engineering. Creating speculative visions of the future to inform, stimulate, and provoke discussion of societal issues also occurs in the arts. Gaining insight through critique and reflection, acting with subjective and personal approaches is shared with work in the humanities and arts. Validating ideas through measurement and empirical testing is shared with the natural and social/behavioral sciences. Human needs and values are an explicit focus in the arts, humanities, and social/behavioral sciences.

The table below lists characteristics of *Research through Design,* and related themes of discussion in the academic RtD literature.

	Charac-teristics	Research through Design	Themes discussed in RtD literature[1]
WHY	**Aims & Values**	• Designers often bring a human-centered focus, focusing on improving a condition[2], often addressing societal challenges. Often the work features rich interactions with stakeholders and 'people', and addresses their experiences. • Designers approach a phenomenon as a whole, integrating multiple perspectives (from different fields). Complexity and ambiguity are embraced. There are multiple beneficiaries/audiences of the research, including societal debate. • Research through design is often conducted with an eye for both application (local solutions) and generalization (scientific insights for use elsewhere).[3]	• Knowledge is created at several levels between abstract theory and concrete instance, such as guidelines and patterns. What are the forms, especially on the levels inbetween, how are they communicated, and argued. Dissemination at these levels to different audiences requires new means.
HOW	**Processes & Methods**	• Design brings specific ways of sensemaking and knowledge generation, which are often not found in the other disciplines. These include learning from reflection on and reflection in action and reframing the perspective on the phenomenon as insight progresses[4]. In design, the formulation of problem and solution codevelop during the process[5]. • Other activities are the use of critique (shared with arts and humanities), and a focus on potentialities, including speculating about, and constructing new possibilities in the form of prototypes and interventions. One key competence of design is to integrate considerations from different perspectives in acts of materialization and visualization. • Design's methods build on iteration, discovery, and serendipity as reliable steps toward the aims, even though its outcomes cannot be predicted.	• How to plan and structure a process of discovery and emergence, where the framing of problem and solution keeps changing. • How to bring coherence to a series of large and small explorations. • How to involve different actors in collaboration, both regarding the design and the research aspects.
WHAT	**Artefacts & Prototypes**	• Prototypes and other artefacts (e.g., sketches) are made for several purposes: to make the abstract tangible, to create an as yet non-existent reality, to learn from making, as a means of intervention, measurement, or communication. The aesthetics of artefacts (both in high degree of sophistication or intended ambiguity and openness) can be of critical value to the research.	• Dealing with the tension between application (improving a local problem) and generalization (knowledge). • How is knowledge carried by prototypes, and how can it be communicated.

[1] Stappers, P., & Giaccardi, E. (2017). Research through Design. *The Encyclopedia of Human-Computer Interaction, 2nd ed.; Idea Group Reference: Hershey, PA, USA*, 1-94. reviewed 20 years of academic literature on RtD, identifying 4 main themes of debate: the type of knowledge, the role of prototypes/artefacts, the methods and process, and the ways of dissemination.

[2] Simon, H. A. (1996). *The sciences of the artificial*. MIT press.defined design as 'changing existing states into preferred states'

[3] Stokes (1997) Stokes, D. E. (2011). *Pasteur's quadrant: Basic science and technological innovation*. Brookings Institution Press. Stokes resolved the post-war paradigm of apparent opposition between fundamental and applied research by transforming the single continuum into two dimensions. He argued the possibility of research to simultaneously produce applications and generalized insights with the case of Louis Pasteur.

[4] Schön, Donald A. (1983) *The reflective practitioner: How professionals think in action*. Basic Books.

[5] Dorst, K., & Cross, N. (2001). Creativity in the design process: co-evolution of problem–solution. *Design studies*, *22*(5), 425-437.