

Not Your Usual Kind of Design

How Design Introduces Organizations to New Ways of Working, Thinking, and Planning

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«To design is to manage risks,» observes Richard Buchanan. Is the age of organizational uncertainty also the age of design? The aim of the International Symposium on Design in the Organization was to bring together people concerned with today's design challenges involving products, services, and organizations. They identified common issues and explored questions central to these objectives making use of design research methods and a design process. The design process began on day one with four brief keynotes and four brief panel conversations that introduced four different fields of design research in the organization: design education & design research; design in government; user research and user experience; and finally the designer as organizer and entrepreneur. In two breakout sessions led by the members of the Design & Management research group, participants, keynote speakers, and panelists reflected on the keynotes and panels to develop questions for the workshop session the next day. This approach led to five very different workshops on day two, each demonstrating a different design method and approach:

Workshop 1: How Does Design Cope with User Experience Data, Information, and Evidence?¹

In human-centered design, data gathering through user research is an essential part of a design inquiry. The key terms in this context are data, information, and evidence. But what actually constitutes data? When and how does data represent or become information? And what counts as valid evidence? These are questions looked into by a service designer from the healthcare field, a social scientist, an early career designer, a social anthropologist, and one of Prof. Dr. Kaja Tooming-Buchanan's masters students from the Lucerne School of Art and Design.

Since user research takes personal experience as its starting point, the group turned to John Dewey's concept of experience to inform their inquiry. Dewey distinguishes three different qualities of «an» experience: an emotional quality, which Dewey links to aesthetics; an intellectual quality, which he identified with signs and symbols; and practical experience or «overt doings».²

For Dewey, emotional experience cannot be seen in isolation because a user's experience includes various interactions with people, the environment, and with objects. A common question is how to measure experiences, and here the measurement of emotions continues to present an insoluble problem. At present it is only possible to collect data on the physical sensations related to emotions, like heartbeats or brainwaves. But there are many unknowns between the measurement of a heartbeat or a brainwave and understanding of the precise emotion attached to it. Furthermore, this kind of analysis requires measurement of the impact of an action. Empirical observation of feelings is still impossible because feelings are subjective, individual, and immaterial. But what would happen if it were possible to measure emotions and feelings?

Our discussion concluded with a provocative statement from one participant: «If we can measure the impact of emotion on data, we might be able to filter this impact out of the data set. This might lead to different, enhanced, reliable data and would influence all aspects of society.»

For the time being this seems impossible. But what if it were a possibility? Why would we want to extract the emotional aspects from data, from the facts? And if we had the tools to do so, would the outcomes be more factual, evidence-based, and reliable? What are the social implications of this possibility, for better or for worse? How do we perceive the risks? In other words: would a world in which data can be separated and isolated from emotional and aesthetic considerations produce better products and services? Would it provide more humane living conditions? These questions remained open.

Workshop 2: Gaps in the Internal and External Perception of Design & Designers³

We know what designers did when this school was founded 140 years ago but it is far from clear what designers might do 140 years from now. This collaborative workshop employed brainstorming and user-research methods to examine changes in the role of the designer and the implications this has for practitioners. This group included a design student, a design researcher and activist, and a designer with her own studio who lectures in the Design Management International program at the Lucerne University of Applied Sciences and Arts. Led by Catalina Jossen Cardozo, an SNF Bridge Recipient at the Lucerne School of Art and Design, this group challenged the role of the designer in the organizational context. What expectations and demands do organizations have when it comes to the skills, knowledge, and capabilities of today's

designers? What are designers' responsibilities to organizations? How has the role of the designer changed since designers first became involved in business and organization, and what can we expect in the future? How do designers see themselves and how do these two perspectives line up?

A first brainstorming session produced more than sixty questions that the team then organized and grouped to identify topics and themes. First findings revealed that designers usually have a hard time explaining their role to others in a precise and concise way; that there is limited recognition and knowledge of extended design practices where designers consult on innovative processes and methods; and that often the designer's role is not effectively communicated to the broader community. In a second step, the team wanted to find out how their own picture of the designer corresponded to external perspectives on the profession. Each of the seven group members approached random people in the street to collect answers to one specific question raised in the workshop. The comparison between internal and external perception revealed a huge gap. Almost none of the more sophisticated descriptions that emerged in the workshop were mentioned by people on the street. Most people tended to associate design with «products» more than anything. They also had a limited view of the role of the designer and reduced this to making things beautiful in connection with physical objects and spaces. In organizational terms this puts designers on a tactical level. But according to John Kolko, the popularity of «design thinking» and calls for «innovation» have encouraged many organizations to ask designers to participate in their strategic conversations – from strategic product roadmapping and revenue generation to possible partnerships.⁴ For designers this presents an opportunity to work on the strategic level, filling a strategic role in planning. Here they do not apply their ability to think and analyze to the tactical problems of production and consumption.

The question now is, what will it take to establish such an extended design practice – one that works outside the commonly accepted field of design – and close the gap between the public and professional perceptions of design? Will designers achieve this by setting an example of best practice, by building up a track record of extended design projects, or both? Will design research be able to support these efforts when most funding opportunities assume that design operates on the tactical and not the strategic level?

Workshop 3: Inquiring into Risks, Ethics, & Principles Using Concept Maps⁵

This workshop explored three terms that are essential to human-centered design: *risks, ethics and*

principles. More specifically, this workshop group, consisting of two students from the Design Management International and the Master of Arts in Design program, a design activist, and two lecturers from the Glasgow School of Art and the Lucerne School of Art & Design, inquired into the risks, ethics, and principles associated with design. It emerged that risks in design concern questions of «what», as in «What are the risks of designing and its outcomes?» While questions related to ethics in design address «the how»: «How shall we take a decision in order to achieve ethical or responsible outcomes?» Principles, by contrast, are linked to philosophical foundations, theories, and assumptions that become the driving force for «why» we design in the first place: «For the good of whom do we design at all?» or «Why do we take an action to achieve something?»

As a methodological approach for investigating the scope of these terms or notions, this group employed concept mapping. Using this method, participants explored the chain of associations and plurality of meanings that each term triggers in the individual. Some of these individual associations and meanings were potentially contentious, but judgment was withheld to allow the concept map to develop richness and depth. Likewise, in this first round (also referred to as the first vintage; a first harvest of meanings and associations) interpretation was not desired. What might be good or bad, right or wrong, was of no interest at this stage. What the team sought to achieve was a clarification of the key concepts attached to each term. The inquiry took place incrementally: each term was addressed and worked on independently of the other two terms. The group chose to start with the «what», i.e. by looking into design. Only after completing this concept map did it move on to examine the «how» of ethics. Once ethics had been sufficiently explored, the group developed the third concept map around principles to arrive at reasons, intents, causes, and other connotations of why we engage in design activities.

This methodological exercise produced concept maps (fig. 1) showing the initial term circled at the center and surrounded by a plurality of issues and concepts associated with it by the team. In this «first vintage» the terms are randomly positioned and not (yet) arranged in any hierarchical or meaningful order. Still, each concept map suggests topics that have been neglected for some time in the field of design. As such, each concept map will serve as a resource for deeper exploration, discussion, and debate, generating and identifying important areas for future design research.

Here is one example taken from the concept map on risk: if we take into account that designers face choices between various alternatives and have to make decisions, this means that designers

inevitably have to deal with risks; they risk unintended consequences – for better or for worse. They put themselves at risk of failing, but they are also at «risk» of achieving success. A successful and popular design can be risky because success can turn into its opposite; high levels of demand for a product can lead to serious supply issues and ruin the business. Such success might also lead to complacency or a narrow point of view, so that the company neglects long-term investment in research and development and falls behind its competitors. So design itself is a form of risk management, and yet there is no design literature on the risks that designers face.

When one concept map is seen in conjunction with a second or third concept map, new insights can be generated. Putting the ethics concept map alongside the risk concept map allows for an exploration of risk management. If the claim is that design is an ethical practice, questions arise about how we make decisions and how we cope with judgment. In short: what are design ethics based on? This opens the door to reflective discussions on values, norms, beliefs, responsibility, morality, integrity, and legitimacy. It soon emerges that the meaning of value can range from aesthetic, economic, organizational, social, or individual values while the integrity of a product may refer to its functional or its material integrity, its production or the integrity of a product-related experience. Concept mapping here serves as a means of discovering various aspects, elements and meanings of a concept; making the concept visible and withholding both judgment and interpretation can open up a space for people with different views to examine and reconsider their views together.

This became particularly clear during work on the third concept map, on principles. Articulating underlying principles was a significantly more difficult task than discussing ethics and risks. Principles imply notions of justice, self-realization, independence, the golden rule of reciprocity («do as you would be done by»), utilitarianism («the greatest happiness principle»), pluralism, etc. These notions call for discussion and debate, first within the discipline of design, since designers have long ignored the fact that there are principles behind their work, but then also among the public at large, as a way of coming to terms with the numerous risks and disruptive forces that are at work today.

Workshop 4:

New Design Education⁶

Design education is the foundation of both the practice of design and research on design. Approaching the theme of «design in the organization» from the educational perspective points

→ Fig. 1 One of the concept maps developed during Workshop 3 shows the risks designers are facing both through their action and their inaction. The map allows for new connections and new questions that design researchers can pursue.



to at least two core areas of inquiry. A first area of investigation begins with public and private-sector organizations understanding their design-related issues and needs in order to identify the skills and knowledge they will require from future designers. A second area examines the implications of these skill and knowledge profiles on an institutional level.

The working group on New Design Education brought together the director of the Master in Design program at the Lucerne School of Art and Design, a student on the bachelor program Design Management International, a student on the Master of Arts in Design, and a visiting doctoral student to explore and discuss key issues with Professor Xin Xianyang, former Dean and now Professor of Design at the School of Design, Jiangnan University.

This group started with a collective brainstorming session: group members' individual thoughts on design education were gathered together on a collective poster; perceived problems with the current educational situation were then added. Revisiting earlier design programs, most of which were developed in times of change and upheaval, the group identified four principles that drive design education. The first principle is based on design disciplines. Educational efforts are framed by discipline: graphic design, product design, and service design, for example. The second principle builds education around skills and skill development. Competences and competence development constitute the third educational principle in

design. Here, disciplines and skills (i.e. technical training) are subordinated to the needs of supra-disciplinary problems. Thematic education is a fourth educational principle in design. Themes combine competencies, techniques and disciplines.

How, when, and why does design education move from, say, a skills-based discipline to a discipline based on competences and themes? Is integrative design a skill, a competence, or a theme? Are we at a point in time when organizations recognize design as a core competence? Does this suggest a form of transversal design education that ought to be taught to all students everywhere, like mathematics or art? Expanding on this idea, what sort of role does this imply for the design schools of today, the Lucerne School of Design and Art, for example? In this respect, design education finds itself in a bind; the market demands specific design skills but rarely overall design competencies. At the same time, the skills-based educational principle becomes problematic when the skills required change significantly over time – as has happened in design. Many organizations now ask for design thinkers or service designers who are capable of conducting user research, but many young design professionals are not educated or trained in these areas. This also has implications for design schools, which are increasingly expected to offer life-long learning programs and ongoing skill development.

For this group, conversation and visualization took the form of a four phase process captured on four wall panels. Panel 1 captured the results of the brainstorming session; Panel 2 emerged from the conversation about the complaints and problems with the status-quo; Panel 3 captured the development of individual diagrams and critical engagement with theories of I-shaped, T-shaped, and Y-shaped graduates in design.⁷ Panel 4 showed the culmination of these inquiries and the two new models of design education envisaged by the group: one model focuses on roles, the other focuses on future-oriented processes.

Workshop 5: Problem Framing⁸

Design research and design practice are increasingly concerned with problem framing.⁹ For Enrique Martinez (Director of Design at The Lab, a design institute at the US Office of Personnel Management in Washington, DC), the ability to frame and reframe problems is central to working as a design educator in the public sector. He explained that when a problem occurs, most people are quick to point to a solution. In his experience, people arrive at a problem statement («this is the problem») and from there move directly to a solution («this is the solution we are going to develop»).

The problem with this problem–solution relationship is that it does not allow for prototyping of different ideas or leave room for exploration and experimentation. This imposes limits on innovation because the focus of the solution is on the speed at which it can be implemented under existing conditions. In this relationship, «the problem» rarely represents «the» problem. Too often, such a problem is merely the symptom of a root cause that remains hidden and therefore unaddressed. But how can this anti-innovation trap be avoided? The tendency for people to frame something is usually based on a first spark, not a «right» or «best» framing. To arrive at the latter, one needs to generate various framing possibilities. To demonstrate how one might go about this, Martinez asked each workshop participant to produce two diagrams: one diagram visualizing a simple problem and a second diagram visualizing a complex problem. In the subsequent reflection, he explained how The Lab uses diagramming to approach the same task: the line between problem and solution is drawn either as a thin line (for simple problematics) or as a thick line (for complex problematics). While the thin line for simple problems assumes that we possess most or all the knowledge and information needed to move from a problem to a solution, this is not the case for complex problems. The thick line suggests that we are dealing with a problem space that can be opened up to reveal new problem-framing possibilities. The line now no longer represents a line but instead denotes a design space; a space between a problem and its solution that can be explored to generate novel solution possibilities through experimentation and prototyping. In this design space we find context, factors, and circumstances that allow multiple approaches to framing the problem under investigation. Each frame may serve as a stepping stone toward a portfolio of multiple solutions, which Martinez referred to as «monumental problematics».

These ideas were elaborated in a second round of diagramming that took wedding planning as a concrete problem for solving. The group developed an issue map, clustering issues into the categories of «Can be controlled,» «Can't be controlled» and a gray area in between called «May be controllable» as framing modes. One possible question that arises is: What are the potentially shared priorities? Interlinked wedding planning issues such as culture, religion, catering, and so on can then become a basis for creating consensus on one or more specific framings of the problems posed by wedding planning. Conventional wisdom says that an initial frame for marriage – when seen as a simple problem – is love. However, when marriage is conceived as a complex problem – diagrammed as a thick space between problem and solution –

it can be seen as including issues such as culture, money, status, religion, and so on.

A good way for the team to arrive at a shared perspective and to reframe marriage as a problem was to consider and debate different facts, biases, and assumptions about marriage as a cultural question. To deepen the skilling exercise, the next challenge for participants of the workshop was to develop individual models with problem-framing mechanisms. The result was a collection of seven variously structured diagrams, some of them procedural, others circular, and one depicting a continuum between concrete and abstract.

- 1 Workshop 1 with Prof. Dr. Kaja Buchanan (reported by Claudia Rimseier).
- 2 Dwey explains this concept in his seminal book *Art as Experience*, New York 1929, which has become a keystone of the literature on human-centered design and user experience. It is of great relevance to service design.
- 3 Workshop 2 with Catalina Jossen Cardozo (reported by Bettina Minder).
- 4 Jjn Kalko, *Exposing the Magic of Design*, Oxford / New York 2011.
- 5 Workshop 3 with Prof. Dr. Richard Buchanan (reported by Dagmar Seffen).
- 6 Workshop 4 with Prof. Dr. Xin Xanyiang (reported by Andrea Augsten).
- 7 See Morten T. Hansen and Bolko von Oettinger, «Introducing T-Shaped Managers: Knowledge Management's Next Generation», in: *Harvard Business Review* (2001); see also Andy Boynton and William Boyle, «Are You an «I» or a «T?»», 18 October 2011, <https://www.forbes.com/sites/andyboynton/2011/10/18/are-you-an-i-or-a-t/#18bc2b06e888> (retrieved 12 February 2018).
- 8 Workshop 5 with Enrique Martinez (reported by Hans Kaspar Hugentobler and Sabine Junginger).
- 9 Kees Dorst, *Frame Innovation: Create New Thinking by Design*, Cambridge, MA, 2015.

Design in the Organization

Summary of Initial Findings and Research Outlook

Sabine Junginger

One of several aims of the International Symposium on Design in the Organization was to provide a hands-on demonstration of how design research, design methodology, and design processes may support organizational change and organizational transformation. Though many people think of design as addressing a problem, this exploratory conference serves as evidence that design research starts long before a problem has been or can be articulated. Each keynote speaker, each panelist, and each participant joined in a collaborative effort to produce an initial overview, a kind of land-scape of the issues and questions emerging from current design research and design practice in the context of organizations. I will briefly summarize some of these initial findings and provide an outlook of future design research in this area.

Design, Change, Organizing, Managing: People and Making

Design is inseparable from change. Change is inseparable from organizing. Organizing is inseparable from managing.¹ Managing frames the way we go about designing and therefore how

we approach change. These relationships were revealed in the symposium presentations and they dominated the workshops. Yet, they are not always obvious to the people engaged in one of the four activities under discussion here. For example, few managers think of decision-making as part of a broader design process. For far too long, the development of procedures and services in the public sector has been deemed outside the domain of design. When we are trying to understand risk, however, the intrinsic relationship between design, management, and change becomes evident. Careful risk management remains one of the most important tasks for people, regardless of their position in life. When we design, we risk change – for better or worse. Or, to use Richard Buchanan's words: «Design is risk management.»

This notion of design is neither well understood nor fully examined. Business managers do refer to risks when they talk about new designs, but all too often they think of design itself as the risk. Designing is «risky.» And yet the outcome of the symposium suggests that design is actually a means of identifying, assessing, and reducing risks. In fact,