Uses of Argumentation Theory and Dialogic Methods in the Design Research Process

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Uses of Argumentation Theory and Dialogic Methods in the Design Research Process

Keywords: Argumentation Theory; Dialogue; Design Research; Design Pedagogy

A conversation held at DRS2016
June 28th 2016, 2:00 – 3:30 PM.a
In this document, the conversation proposal and documentation are combined.

Catalysts

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Introduction

Designers are becoming involved in addressing complex challenges and this has led some to argue that decision-making in design should be based on evidence and knowledge gained through research (Feast & Blijlevens, 2014; Norman, 2010). However, while natural sciences aim to describe, explain and predict observable phenomena, design research often has the additional aim to be useful and to contribute to improving or interacting with situations (Chakrabarti & Blessing, 2014, p. 6). Consequently the knowledge brought together in design research must often satisfy the condition of generativity as well as generality, meaning that design research should have the additional capacity to generate creative reasoning and innovative design (Aken, 2004, pp. 224-225). We claim that *argumentation theory* forms a useful frame for teaching and learning design research since it better communicates the generative condition structuring the use evidence and knowledge within the design process.

Arguments and argumentation are often assumed to refer to either, at one extreme, testing the validity of isolated units of sentences, or at the other extreme, a kind of disorganised quarrelling. Contrary to these views, contemporary research characterises argumentation as involving "*the practices of using arguments to interact with, explore, understand, and (sometimes) resolve matters that are important to us*" (Tindale, 2015, p. 2). Argumentation is not context-independent, but a form of pragmatic social interaction that we suggest shares common ground with the goals and values of human-centred design research. Consequently, design-as-argument provides a useful conceptual framework through which to understand designerly ways of knowing.

In this conversation we proposed a discussion around the role of using argumentation theory in design research and design pedagogy. The conversation was intended to provide an opportunity to share concrete tools and approaches to bridging the gap between theory and practice in design research and design pedagogy.

The organising research question we took as a point of departure is:

> What are different perspectives and tools used to support argumentation in design research and design pedagogy?

The DRS2016 session

Stella introduced the structure of the Conversation. First, there would be three very brief presentations using power point in which each of the three catalysts takes a different perspective on argumentation (Figure 1). Then the participants would split into three groups and discuss their experiences with one of the perspectives. The catalysts would then present a brief account of what each group discussed (Figure 2), followed by a general discussion.

Figure 1: the catalysts' presentations of stances, here Luke Feast

The three catalysts' dialogical stances

The three catalysts presented their stances regarding dialogues that use argumentation (Figure 1). These were the statements they presented:

a. ***Beyond Reasonable doubt*** *(Luke Feast): establishing knowledge in a discussion.*

This view took the standpoint that designing is a communicative activity that, at its most general, utilises the method of systematic doubt. The standpoint frames designing as an information process. An information process is the kind of thing that makes a difference to someone's knowledge through the participants' exchange and transformation of information within a critical discussion. A critical discussion is a verbal, social, and rational activity in which the parties involved in a difference of opinion systematically try to determine whether the standpoints at issue are defensible in the light of critical doubt or objections. It is critical because it relies on argumentation to question differences of opinion and test standpoints to arrive at a mutually acceptable resolution. Resolution is when the participants take up the commitments involved in accepting the standpoint at issue. One role that design research can play is to generate support that affects the reasonableness and effectiveness of the critical discussion.

b. ***Iterative playing*** *(Karel van der Waarde): understanding our designs.*
In Karel's view, graphic designers develop visual arguments in three different ways. These ways overlap with the classical ways to communicate. Graphic designers are always working within a larger dialogue between clients and their relations (visual dialectics). Designers need to enable longer term dialogues between different stakeholders. Within all these dialogues, graphic designers need to persuade different people to look and read particular information (visual rhetoric). And, in order to make sure that this information is clearly understood, graphic designers create a structure in which all the information fits in such a way that the reader can find a logical path through it (visual logic). A second reason that graphic designers need arguments is to convince clients to accept a design. Graphic designers need arguments to motivate decisions why they choose this particular design.

c. ***Inclusive thinking*** *(Stella Boess): seeing a context from different perspectives.*
This view sees designers as inclusive thinkers, willing to consider different sides and critique dominant views. They use arguments to explore possibilities. Arguments serve as reflection and critique tool, ranging from designing products to developing society. In a complex stakeholder context, it is not about resolving arguments, but understanding and exploring all sides. Toulmin argumentation is suited as a backdrop for this because it facilitates looking at the special case and at the exception, in contrast to absolute arguments (Toulmin, 2003). Not all of the design process is rational, but some parts are rationalised sometimes to facilitate mutual understanding.

Three group discussions: the results

The catalysts presented a brief account of what each group discussed (Figure 2).

Figure 2: Presentations of discussion results per group, example of Luke Feast's group

Group 1: *Beyond Reasonable doubt (Luke Feast)*

The 'Beyond Reasonable Doubt' group discussion began by introducing the notion that argumentation encompasses a range of reasoning styles. The group discussed and shared examples of syllogisms and contrasted this reasoning style with practical arguments that utilize case-based reasoning and conductive argumentation. We contextualized these reasoning styles in examples of communicative activities such as mediation, jury trials, scientific experiments and collaborative design workshops. Next we discussed different notions of reasonableness within the different argument styles. We contrasted evaluating arguments in terms of valid inferences with evaluating arguments using the informal logic criteria of relevance, acceptability, and sufficiency. This topic led to the discussion of interdisciplinary work and the integration of different types of knowledge. We shared experiences of practical argumentation experiences and discussed issues of accessibility, consent, and consensus. The discussion concluded with discussion of the conceptual difference between arguments that generate conviction, where the interlocutors take up the commitments of the standpoint, and arguments that produce persuasion, where the audience interaction leads to an action. Sketching and noting served to support understanding during discussion (Figure 3).

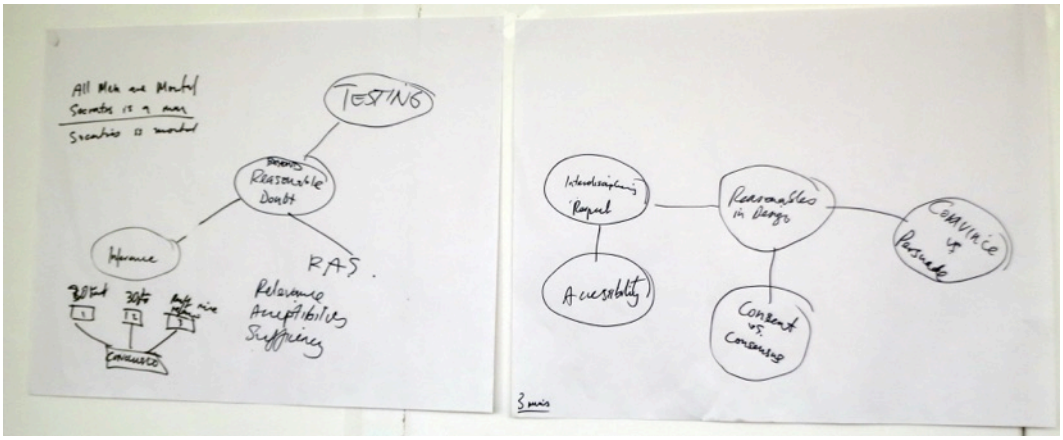

Figure 3: Sketching and noting served to support understanding during discussion.

Group 2: *Iterative players (Karel van der Waarde)*

This group consisted of Design-educators and a Functional clothing Design PhD student. The discussion went from the initial clarification of terms towards education. One of the discussion topics was the integration of this approach in a three-year curriculum, because rationalisation and logical thinking requires both skills and some form of maturity to be able to understand the environment and the related responsibilities. Furthermore, different types of students that appear in the same group need to collaborate: a standardised basis – such as argumentation theory – might work? All three – logic, rhetoric, and dialectics – need to be trained simultaneously, and the edges between those are blurred. The approach needs to fill in a lot more details before it is possible to consider its real merits for design education. A visual representation of the three basic parts served to support understanding during discussion (Figure 4).

Figure 4: argumentation as logic, rhetoric and dialectics

Group 3: *Inclusive thinkers (Stella Boess)*

This group consisted of design researchers who were also educators. They were invited to contribute project experiences in which inclusion was at issue. For example, the start of a project is a key moment for inclusive arguments: one participant shared experiences from a project to support immigrants' integration in Sweden. An immigrant herself and design researcher, other project members looked to her for answers. She found that it was *key to establish at the start of the project: 'we don't know yet what to do', 'we don't have answers yet'* to facilitate inclusion of the target group in the project process. Another participant agreed, and contributed an example of how a phenomenon turned out completely different than initially thought: a student of hers researched schoolyard bullying, the *initial theory* being that this happened in hidden pockets of the school. Close observation resulted in the *observed theory* that schoolyard bullies actually seek an audience. This resulted in the *generative theory* of creating boundaries of safe spaces for bullied children. The discussion resulted in the following points of attention for inclusive thinking:

- aim for an *inclusive contract* at the start of a project that facilitates the gathering of information, preferably based on preliminary studies that indicate the knowledge gaps
- aim for strategies to *include perspectives* that are normally missing or withdraw - by accommodating disabilities or language issues, or in an example of bicycle thieves, by providing rewards for participation and appealing to their pride in their craft.
- be ready to build *new arguments and new theory throughout a project* around stakeholders that turn out to be relevant, yet may not have been included at the outset.

A shared collection of insights served to support the discussion (Figure 5).

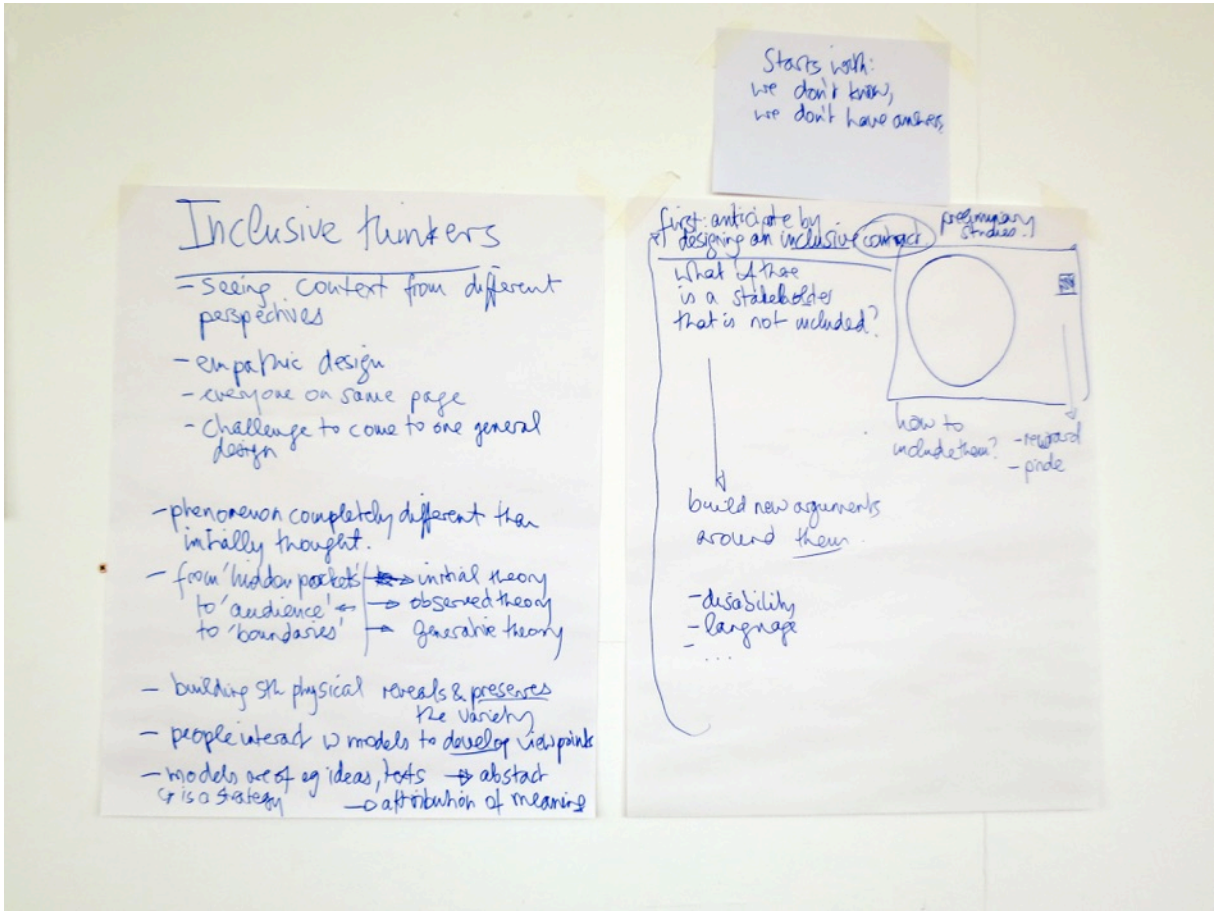

Figure 5: argumentation as inclusion: collecting examples of inclusion for insights

Conclusion

In the final discussion, the participants reflected on the breadth of interpretations of argumentation and dialogue in design research. A need was identified for an elementary introduction about 'the role of argumentation theory in design research'. Such an introduction could cover the main ideas, point to the main publications, and provide practical examples that show the relevance of argumentation theory for designers.

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About the Catalysts:

Stella Boess I'm an industrial designer and assistant professor at the IDE faculty at TU Delft. I research and teach in the areas of user research and design for interaction. I am specialised in qualitative research methods and user research as a generative step in product design.

Luke Feast is Postdoctoral Researcher in Design at the Department of Design, Aalto University in Finland. Luke's research is situated within the research program of design methodology and investigates knowledge creation processes in socially responsible design practices.

Karel van der Waarde designs information about medicines (packaging, labelling, websites), teaches design-research (Basel School of Design), and investigates visual communication (visual argumentation, testing, prototyping). I try to base all three on a combination of visual logic, visual rhetoric, and visual dialectics.