Knowledge Production in Interaction Design

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Abstract

Research in HCI involves a wide variety of knowledge
production – bringing forth theories, guidelines,
methods, practices, design case studies / exemplars,
frameworks, concepts, qualities and so on. This
workshop is about mapping out the spaces, forms and
potentials of such knowledge production in interaction
design research.

Author Keywords

Interaction design theory; strong concepts; experiential
qualities; design programs; annotated portfolios;
design methods

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g.,
HCI): Miscellaneous.

Introduction

Interaction design research constitutes a disciplinary
topic that cuts through many domains of HCI (work,
leisure, games, health applications, ubiquitous
computing) yet remains distinctive of HCI. There have
been convincing arguments that Research through
Design [11] is a valid research method in our field [12].
But how do we articulate, validate and constitute the
knowledge gained through design research? Can we
build a theory of IxD through articulating different

forms of intermediary design knowledge? In this workshop, we will discuss what has been named intermediary research knowledge for IxD and debate whether it captures what is key to design practice: generative, inspirational, design concepts, aesthetics, design skills and designerly ways of knowing.

Please observe that we are not addressing what could be framed as the 'sociology of research'. That is, how to make the field more coherent, making people refer to one-another, engage in one-another's' concepts and knowledge contributions. That is a different problem to sorting out what we may count as IxD-knowledge, but unless we do the latter, the former will be less likely to happen [10].

Epistemology in IxD?

Knowledge can come in many different forms. We are all aware of universal knowledge such as laws of nature, i.e. knowledge in the form of theories that are universally true and applicable. We are also aware of the kind of knowledge that is closely related to a particular artefact or situation, that is, highly contextual and situated knowledge. Moreover, on an intermediate level between universal theory and specific instances there is a variety of forms of knowledge, which are produced, refined, elaborated and sometimes refuted in the on-going discourse of interaction design research.

We and others have argued [21],[14],[7] that intermediate knowledge exists in different forms, that it can be articulated and communicated at a level above the level of the particular but below the level of the universal (see Figure 1), and that doing so is a fruitful way to advance the discourse on theory in interaction design. It is clear that such knowledge is not

universally applicable but rather contingent on factors such as use contexts and design situations, limited to specific design genres, and potentially dependent on the judgment ability and competence of the individual designer. However, as a field we lack shared understandings and articulations of these forms of knowledge. In this workshop we will therefore examine approaches to produce intermediate-level knowledge in interaction design research. There are examples of pre-existing work that falls within this area, for instance design patterns [3] and design methods.

Lately, a number of additional concepts [16] have been introduced and discussed in the HCI community such as *strong concepts* [14], *experiential qualities* [15],[19], *annotated portfolios* [4], *design programs* [2], *manifestos* [13], *conceptual constructs* [21] and *bridging concepts*, [7]. Even with these, the field is still struggling with how to address aesthetics [1], design skills, designerly knowledge [6] and other intangible key ingredients in interaction design practice.

Even though these new forms of intermediate knowledge share some qualities – most pertinently that they all address intermediate level knowledge – they are also different in how they bring forth knowledge, how they articulate and manifest it, how and why it is intended to be used, etc. For instance, properties of these different forms of design knowledge can make the knowledge more suitable to serve *generative, evaluative, inspirational, descriptive, critical [18]* or other concrete purposes.

Research has as its core purpose the production of knowledge. There are, however, many different purposes that lead to knowledge production. The
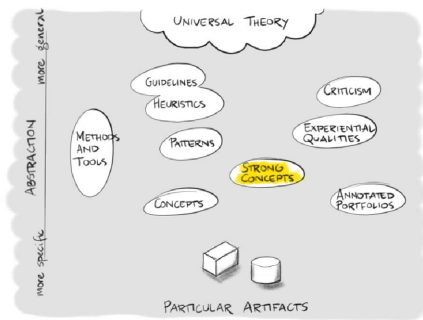

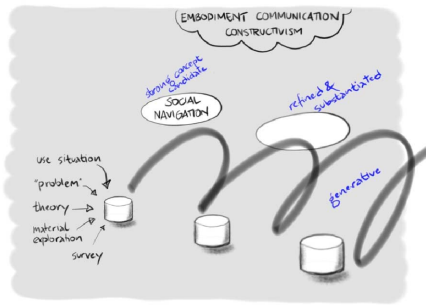Figure 1 Intermediate IxD-knowledge – taking different forms

Figure 2 The research process in generating intermediary design knowledge

purpose can be curiosity and a desire to understand the world. But it can also be driven by the ambition to produce knowledge that can support those who take on the challenge of changing the existing reality in some way, i.e. knowledge that can support a designer. Here we define *design knowledge* as such knowledge which is supposed to be *useful* to designers (both researchers and practitioners) [20]. Useful can be in relation to a designers' work processes, when generating ideas, when evaluating alternatives, when gathering background data, when opening or closing generates designs that end-users engage with in relevant ways – getting the kind of experience sought, behaving in ways that is relevant, wanting to buy the product, finding it cool, dangerous, interesting, coveted, and so on.

Intermediary knowledge forms

We find it important to facilitate a discourse around the 'nature' (or epistemology) of design knowledge, and we seek to do so by increasing the intersubjectivity of the concepts used in this discourse. This workshop is an attempt to provide a richer understanding of design knowledge, including generative knowledge aspects, and thus contribute to a more fruitful discourse of knowledge production in interaction design.

In this workshop we therefore pose a series of questions to understand the relationships of knowledge production in the interaction design aspects of HCI:

1. What is the difference between existing intermediate forms of knowledge in IxD? E.g., how do we distinguish between a (strong) concept, an experiential quality, an epistemology, a theory, and dogma? By which criteria do we judge the "strengths" of these different forms?

2. Is there a broad coherency / consistency to IxD knowledge in HCI? Should there be? Is there a schema that might organise the knowledge space of IxD? Is the notion of determining the boundaries of knowledge in IxD misguided entirely?

3. How might we deal with particularly challenging disciplinary structures of knowledge that are highly relevant to IxD (e.g., aesthetics, design skills)? What does it take to transform some intermediary knowledge from outside IxD specifically so that it has purchase within IxD itself? For instance, we might want to argue for the use of Danto's notion of "artworld" [8] as a concept of relevance for IxD, but what might we need to do to the concept itself so that it fits in the context of IxD?

4. What makes an IxD concept design-generative? Evaluative? Descriptive? Inspirational? How do we determine its strength? And what is presupposed in order for it to work e.g., a certain level of skill, a certain ability to make good judgments?

The workshop aims to bring together different views on intermediary knowledge forms for IxD. They will be juxtaposition against one-another to deepen our understanding of what roles they serve in our field. An initial list of key concepts, qualities and methods will be collected. The ultimate aim is to foster IxD-theory formation through combining the knowledge contributions in all these different intermediary forms. As this is a highly controversial topic, we do not expect to reach consensus, but rather a map of the difficult differences and discussions the field should engage with.

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