DESIGN 2002

CONVERSATIONS ON INTERACTION: EXPLORING THE INTERPLAY BETWEEN THEORY, RESEARCH AND PRACTICE IN DESIGN EDUCATION

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1. Vexed questions: theory, research, practice and education

Despite much effort over many years, the relationship between theory, research and practice continues to be a vexed question for design educators. For some, theory remains an over intellectualisation, a distraction from the actual practice of learning how to design actual things. Others are happy enough as long as theory remains a contextual or parallel activity to studio practice. Even those who wish to integrate theory and practice in mutually supportive ways recognise the difficulty of the task. As Bonsiepe notes, the danger of an injudicious application of theory to practice is that the "… link to the materiality of design gets severed, promoting a bardism of design theory" [Bonsiepe 1999].

More surprisingly, perhaps, research too maintains an uneasy truce with design as taught and, to some extent, as practiced. Whilst *background research* is a common component of design projects, there appears to be little consensus about how (even if) such information might meaningfully inform the development of design concepts. Suspicion that 'method' encroaches on the distinctive human and intuitive nature of design creativity is also widespread, including amongst its number some who were early champions of the 'methods' approach [Alexander 1978]. Such forms of research – particularly those involving users of designed things – are, therefore, often absent or peripheral in education. What is more, it would appear that this perception of research is also widespread in the professional world. Anecdotal discussions with practising designers suggests that when times are hard and money tight, it is often user research – apparently the least 'designerly' budget item – that is sacrificed when hard talk about bottom lines begins.

These points notwithstanding, traditional notions of design activity and creativity – centred on surface styling and informed intuition – are increasingly open to question. It is now more common to recognise that design is a complex activity involving various skills and dispositions such as: interpretation; communication (verbal and visual); problem-framing; research and knowledge integration [Bonsiepe 1999]. This renewed recognition of the interplay between practice, research and theory is also evident in a number of converging trends: attempts to articulate new visions of design associated with 'interaction' and 'experience'; the emergence of new roles associated with use and usability, and with the social and cultural meanings of design; a

growing interest in multidisciplinary approaches and the various theories and methods that other disciplines bring with them. This paper explores some of the implications of these issues for design education. To do so it focuses on a particular educational experience, the postgraduate module Conversations on Interaction. Before exploring and reflecting upon this module in detail, I will outline the main contours of its home course, the Master of Arts in Design for Interaction (University of Westminster, London)

2. The Master of Arts in Design for Interaction

The Master of Arts in Design for Interaction evolved in response to the issues sketched briefly above. The course aims to encourage a reflective, critical and creative approach to the design of interactions and experiences. In our view, this requires the development of a portfolio of abilities and sensibilities: the ability to construct meaningful and engaging presentations of ideas and concepts; the ability to make sense of and use theories of various kinds; the ability to connect with users and useful knowledge through the selection of appropriate research methods; the ability to work with others in the conceptualisation, development and articulation of meaningful design concepts. Our vision emerged from two key domains of concern. Firstly, a belief that the outcomes of design should be viewed not simply as artefacts or systems but as the embodiments of human action, experience and knowledge and, as such, integral to the ways in which people make sense of their worlds, interact and communicate. As Winograd describes, design is not simply about the production of physical things but of " … practices and possibilities to be realised through artefacts" [Winograd 1987]. This approach poses a range of questions for the programme, such as: what kinds of teaching and learning are appropriate; what ways of thinking, inquiring and making will be encouraged; what kinds of work qualifies as 'design' and which qualities will be valued in it? Secondly, a concern for encouraging, enabling and developing *cross*, *inter* and *multi*disciplinary synergies and cooperation. As visiting speaker Alison Camplin told one class: "At IDEO we often say that 'it's what happens between the disciplines that matters'". Already our programme has brought together students from a broad range of disciplinary backgrounds: designers (industrial, information and graphic), fine artists, psychologists, usability specialists, photographers and mass media researchers. However, this approach also raises difficult questions: how are intellectual common ground and shared vocabularies created; how are the various disciplinary perspectives and approaches celebrated, accommodated, integrated and, crucially, focused on design?

Whilst it is our intention to address these issues throughout the programme, the Conversations on Interaction module aims to address them in detail and in depth. The remainder of the paper describes this module, displays some fragments of student project work and offers a tentative evaluation of the experience.

3. Conversations on Interaction

3.1 General approach

Conversations on Interaction is a one day per week, semester long module. The aim is to provide an orientational experience. That is, one in which students can consider their own backgrounds and explore how they might connect, consolidate and extend these in relation to the vision of design outlined above. At the fundamental level then, the module seeks to provide a space for the students to get to know each other in two interdependent ways: as individuals who share the same space, discuss ideas and work together on projects of various kinds; and, as people from particular disciplinary backgrounds with the perspectives, skills, methods and ways of knowing and acting that these imply.

The vehicle for this process – in fact the main vehicle for teaching and learning throughout the module – is *conversation*. Indeed the module can be best understood as a series of unfolding conversations: between students; between students and staff; between students and visiting

practitioners. Ideas, texts, objects, systems and experiences of various kinds mediate these conversations. They are subject to interrogation and interpretation from a range of perspectives from within and beyond the group. They are initiated and sustained by voice – classroom dialogue – and extended by text – asynchronous, email dialogue.

The emphasis on conversation, or *languaging*, rather than *making* is deliberate. As Krippendorff notes [Krippendorff 1995] "In languaging people talk and listen to each other's voices, acquire their identity, coordinate their behaviour relative to each other and produce or reproduce what matters to them, both individually and jointly." Moreover, he goes on to suggest that "Only in conversations among real people, with their own (often only partially articulated) feelings, with their own histories of involvement with one another, do designs acquire their meaning and their significance, and bring a design community together." The focus of our conversations is, of course, *design*, and our aim is to introduce the subject in the round. That is, as a complex human activity that integrates practice, research and theory and whose aim is to reconcile the interests and expectations of the various stakeholders involved in the conceptualisation, production and use of designed things.

The module is structured around a single theoretical text: "On the essential Contexts of Artifacts or On the Proposition that Design is Making Sense (of Things)" [Krippendorff 1989]. We use a theoretical text in this way as it provides common ground for all students regardless of their disciplines. Moreover, we find that in the early stages of the experience, discussion – in contrast to making – quickly brings to the surface the varied assumptions about the nature, role and scope of design held by the class. Whilst there are, we suppose, any number of texts that might serve, there are good reasons for choosing this particular one. The first is its (apparent) remoteness from current discourse on the subject of interaction design. Much current discussion on interaction suffers from a narrow association with digital media. Krippendorff's focus on physical artifacts seems to provide a critical distance from the here and now, a space within which, we hope, imaginative thinking might flourish. The second is the open-ended, non-deterministic nature of its argument. Rather than offer methodology or ideology, Krippendorff empowers readers with the suggestion that the paper might " … provide fertile concepts from which powerful theories of meaning for industrial designers may grow" [Krippendorff 1989]. Thirdly, the paper outlines a broad and inclusive vision of the subject. By drawing from a range of disciplinary and theoretical traditions it offers footholds within the subject of design for people from beyond it. Fourthly, the focus on 'sense-making' dovetails neatly with the various approaches to design introduced on this and other modules on the course. Finally and pragmatically, the structure of the paper lends itself to a series of small-scale projects focused on different design issues and domains, and using different approaches and methods. This, in turn, allows for shifting coalitions and interactions within the student group as the module progresses.

3.2 Structure and activities

The module is progressively structured in stages, based, as noted above, on the structure of the Krippendorff paper [Krippendorff 1989] (hereafter referred to as the module text).

3.2.1 Stage 1 – orientation

This stage aims to establish a theoretical framework within which students can question and evaluate subsequent experiences. Activities – primarily seminar discussions – focus on issues raised in the introduction to the module text. This discussion unpicks the idea of *sense-making*, its relationship to the disciplinary backgrounds of the students and its meaning in various social, cultural and theoretical contexts.

3.2.2 Stage 2 – explorations

This stage focuses on the four contexts for design outlined in the module text. These are: "*Operational context*, in which people are seen as interacting with artifacts in use; *Sociolinguistic context*, in which people are seen as communicating with each other about particular artifacts,

their uses and users, thereby constructing realities of which objects become constitutive parts; *Context of genesis*, in which designers, producers, distributors, users and others are seen as participating in creating and consuming artefacts … ; *Ecological context*, in which populations of artifacts are seen as interacting with one another and contributing to the autopiesis (self-production) of technology and culture" [Krippendorff 1989].

Each context forms the basis of a set of intensive learning activities (lasting approximately 3 classroom days and an equivalent amount of personal study). The purpose of these is to encourage students to explore and evaluate the integration of theory, research and practice. Each set comprises the following activities:

Student-led seminar presentations

Seminars involve a detailed reading of the text and the preparation and delivery of a presentation to the class as a whole. Their purpose is to initiate a series of critical conversations about issues arising and to relate these to design. Students are encouraged to support their argument (and exemplify, extend or challenge that of the text) with 'exemplar objects', again, seeking to relate the often-complex ideas raised in the theory with designed products, their users and their contexts of use.

Visiting speaker from the design professions

The module makes extensive use of visiting speakers from the design professions. The purpose of these moments is to provide professional context for the module by relating some of the more discursive elements to the exigencies of 'real world' design practice. Visiting speakers make a 45-minute presentation to the class based on their work and approach. Following this, time is made for a more informal dialogue.

Project

Projects serve to connect theory and research to practice in direct ways. Ideally, they aim to enable students to work in small groups (2-3 students), sharing, developing and testing ideas together. Projects adopt the following common format: each project focuses on a particular issue or theme raised in the module text; each project makes use of a particular form of inquiry or research method; each method is supported by additional theoretical material relevant to the task in hand; each project culminates in a presentation to the group as a whole and a discussion about issued raised; each presentation is seen as a design task, an exercise in sense making for both makers and their audience. In this current academic year the projects took the form detailed in table 1 below:

Table 1. Project areas 2001/02

Context	Method	Project/theme
Operational	Observation	*How do people use textual artifacts in constrained environments (e.g. a crowded underground carriage)?*
Sociolinguistic	Interview	*What meanings to people derive from and attach to their mobile phones?*
Genesis	Scenario	*How might narrative techniques help designers communicate with the various stakeholders in the design process?*
Ecological	Literature review	*How might one map ideas and sources relevant to a design project?*

It is beyond the scope of this paper to provide details of all the projects above. However, it would I feel be useful to sketch the approach, format and requirements of one of these. The project associated with sociolinguistic contexts, for example, is a particularly challenging one. On the one hand, the project requires that students to use a difficult research technique – the interview. On the other, it necessitates making sense of the subjective and often seemingly vague data this method generates. What is more, the project also challenges students to find a vehicle for making their findings accessible to others. The project briefing was as follows:

Project briefing: my mobile (phone) and me

Process:

Identify three people and conduct short interviews with them on the theme "what my mobile means to me"

Using the disposable camera provided, take 1 photograph of each interviewee and ask them to take no more that 4 photographs of their mobile phone

Develop the images and analyse the interview conversations in the light of our discussions of Krippendorff's description of *sociolinguistic contexts*.

Outcome

Using your interviews and your images construct a presentation that will:

1. demonstrate your understanding of your material in relation to *sociolinguistic contexts*
2. enable others to access and explore your findings.

An example of the kind of project that emerges from this kind of briefing is included in section 4 below.

3.2.3 Stage 3 – integration

This stage enables students to reflect upon and evaluate their experience of the module. The vehicle for this is the *Integrative Project*. In this, students are requested to revisit the idea of 'sense making' and develop project work that will crystallise *their* interpretation of the concept and make it available to others in an engaging way.

3.2.4 Stage 4 – communication

This is the summative stage of the module. It provides a space for students to present their work to the group as a whole and, of course, to see the work of others. As with all the previous projects and presentations emphasis is placed on the extent to which student work initiates and structures conversations and interactions around issues of theory, practice and research.

4. An example project

Responses to the above activities vary greatly in terms of their content, approach, media and form. Projects submitted thus far include screen-based interactives, physical models and even choreographed performances. Not surprisingly, it is impossible to capture the ways in which an artefact or interactive system communicates, and the kinds of discussions it engenders, in a paper publication. Nevertheless, it is, I hope, possible to represent something of the flavour of the work – the kinds of issues addressed, ways of working and thinking – by briefly describing one project.

4.1 A project about key rings

"What kinds of meanings do we attach to and derive from everyday objects? How might we uncover these meanings? How might we make use of this information for design?" These words introduce and frame a student integrative project. The subjects of this work were those ubiquitous and rarely considered everyday items, keys and key rings. Building on the work undertaken in *sociolinguistic contexts*, the student identified a small sample group and used semi-structured interviews with them as a means of generating data about the subject. Interviews were recorded and images of the participants and their objects generated quickly using a digital camera. After analysing the content of the interviews, a screen-based interactive was produced using MacroMedia Director. The main interface (Figure 1) enables users to trigger close-up images of the participants and their keys and key rings, *whilst* hearing them voice their thoughts and reflections on the subject. A further level of detail is also provided by the application (Figures 2, 3 & 4). In this, a web of associations, memories and qualities are derived from the interrogation of a single set of keys. Again, these are made accessible and explorable in the form of an interactive that integrates still image, video and voice.
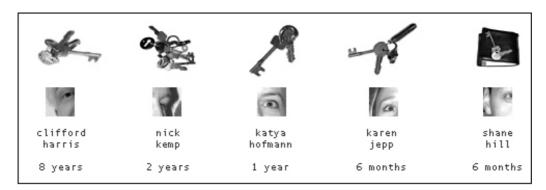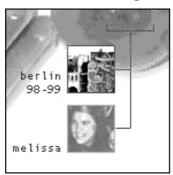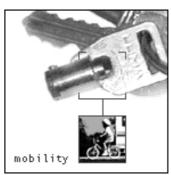
Figure 1. Main Interface (cropped screen shot)

Figures 2., 3. & 4. Close-ups of the web of associations, memories and qualities

Crucially, the project also contains a set of issues derived from the interviews that are germane to design. These include, on the one hand, issues of status, prestige, value and responsibility. And, on the other, highly personal feelings such as memories of places, people and events, and feelings of security and secrecy. An attempt is then made to connect these issues to design in a more vivid way by suggesting a number of product scenarios based around the idea of a digital key.

5. Reflections (in place of an evaluation)

In his paper "Remaking Theory, Rethinking Practice", Blauvelt claims, "Modernist design theory and research tended to ask questions removed from any particular cultural context and any specific historical moment. By doing so, their answers were often presented as universal and ahistorical—placeless and timeless. A critical, theoretical disposition helps frame and limit the answers found in research by making them contingent—specific to the historical moment and the particular context from which they emerge; in effect situated knowledge and timeliness replace objectivity and timelessness" [Blauvelt 1998]. This paper outlines an attempt to encourage such as disposition. It does not make use of or champion a particular approach, ideology or method(ology). On the contrary, our overall aims are to promote a sensibility, a way of thinking about design that, as far as is possible: values and involves the experiences and participation of all those involved in the design process; enables graduating students to play a range of roles in the research, conceptualisation, development and evaluation of design projects. Given the newness of the programme – the course was validated in 2000 – it is difficult at this stage to draw any firm conclusions about the success or otherwise of our approach. In place of this, however, I would simply like to offer some (unscientifically selected) fragments of student feedback (taken from email discussion):

> "*I would describe the learning experience as very "open", informing, and with a lot of possibilities to integrate theory and practice. I also would say that I like the way that we come from very different backgrounds, this multidisciplinary mode of*

classroom really helps in terms of ideas, feedback and so on. It is very valuable to hear other people (different) minds and opinions, and that is something one can not put a prize on."

"I particularly valued the 'context' seminars and group conversations, sharing/learning from the diverse experience of the group. Being stimulated and taught (not only via the course but through you all)."

"I really enjoyed the discussion, format and style of the conversations on interaction module. The format (reading and discussion followed by simple applied exercises) of these modules made it clear throughout how to integrate theory with the practice of design, and this worked well for me. In addition to this, their content was appropriate (for example, examining product design semiotics). These were the most successful modules for my design development."

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