IASDR07
INTERNATIONAL ASSOCIATION OF SOCIETIES OF DESIGN RESEARCH THE HONG KONG POLYTECHNIC UNIVERSITY 12TH TO 15TH NOVEMBER 2007

SUPPORTING STUDIO CULTURE IN DESIGN RESEARCH

Daniel Fallman

Umeå Institute of Design & Dept. of Informatics, Umeå University, SE 90187 Umeå, Sweden, daniel.fallman@dh.umu.se

ABSTRACT:

The concept of studio-based work is central to both practice and education within many traditional design disciplines such as architecture and industrial design. Studio-based work is in fact so central to these traditions that the style of studio-based work itself is quite rarely discussed—it is a way of working and being that is more or less taken for granted within these disciplines. In this paper, we introduce the idea of a studio culture in the context of design research. Is it possible to carry out design research with the attitudes typically found in a design studio culture? We describe the way in which we intentionally designed for a design studio culture, both conceptually as well as physically, to also support research endeavors. To conclude, we discuss some of the pros and cons of conducting design research in a design studio culture as compared to more traditional academic ways of organizing work.

1. INTRODUCTION

The concept of studio-based work is central to both practice and education within traditional design disciplines such as architecture and industrial design. Setting up, nurturing, and further improving a good 'studio culture' is regarded as essential for carrying out work, enhancing learning, and passing on experience and competence. Studio-based work is so central to these traditions that the style of studio-based work itself is in fact quite rarely discussed in academic writing; it is a way of working and being that is more or less taken for granted.

This work has grown out of a number of questions related to studio-based work. Is it possible that design research could also be carried out in a studio setting, or is it strictly limited to the corridors and cubicles of traditionally organized academic research? Would studio culture be a good model for Ph.D. educations in design research? What would be the pros and cons of designing for design research according to the studio tradition? What are the important steps to take when basing a research group on a design studio culture?

In this paper, we will thus introduce the idea of a studio culture in the context of design research and address the key aspects of design studio culture we see as crucial. Based on this, we will describe the way in which we designed for a design studio culture, both conceptually as well as physically, to also support design research. Finally, we will discuss some of the pros and cons of conducting design research in a design studio culture based on our own experiences.

2. THE SETTING

Umeå Design Research Group is a design studio at Umeå Institute of Design, Umeå University, Sweden. It carries out externally funded design research projects. The design studio also hosts a small number of Ph.D. students in industrial design that carry out project work as part of their doctoral programs. The group currently has around 12 employees with expertise in interaction design, industrial design, human-computer interaction, informatics, electronic engineering, and computing science. On one level, the group operates as a design studio, with no basic research funding. Most projects are carried out directly with a client from the business sector or from public administration that finances the entire project and thus expects certain outcomes.

The group however aims to support a studio culture also when it comes to research, bringing in traditional academic elements such as time for reflection, reading seminars, and perhaps most important of all, a writing

culture. In our experience, a design studio culture promotes a style of learning that is based on continuous dialogue, conversation, asking questions, and giving and receiving critique. Work is exposed to others both early on in the process and often remains consistently so throughout the process. This applies to designed artifacts as well as research findings.

Umeå Design Research Group has operated as a group and conducted design projects in this style since 1997, following a major collaboration—which is still ongoing—initiated with truck manufacturing company Volvo Trucks. Around 2000, a three-year build-up grant from the European Union allowed the group to advance and become more focused on issues to do with interaction design. Since 2003, the group has more clearly focused on combining the conduct of 'real-world' projects in interaction design with high-quality academic design research, partly a result of the sharing between the design studio and the Ph.D. program at Umeå Institute of Design, Umeå University, Sweden.

One aspect that sets Umeå Design Research Group apart from to many other organizations dealing primarily with interaction design labs is that we specifically address the issue of interaction design from a design perspective, not from a technical, engineering, or software-based viewpoint. In a similar way, many traditional Human-Computer Interaction (HCI) issues, including usability studies, are clearly relevant to the group's practice. We do this kind of work regularly, but it is not our main aim, our 'founding tradition'—which is to be found within design. While the current trend is to use the two terms as synonyms (see Löwgren 2002), we believe that studio culture is a crucial as well as quite a pragmatic element in distinguishing between Interaction Design and HCI. In our view, successful interaction design often tends to come out of a good studio culture, while convincing and reliable HCI typically seeks accountability elsewhere (Fallman 2003, Fallman 2005). The difference in both accountability and perspective is a key part of what we see as a difference in *tradition* between HCI and interaction design (Stolterman & Nelson 2003).

Since 1997, most members of the group have had their background and basic training in industrial design, typically at the Bachelor's level, with interaction design as their specific area of expertise. Many of them have had experience in the commercial world while others have Master's level training in interaction design. These designers have brought a strongly rooted design tradition to the group. Studio culture is the way in which they have been educated as well as the way in which they prefer to work. So, to some extent, running Umeå Design Research Group as a design studio rather than as a more traditional academic research organization has been quite a natural choice for us to make. While this style of working has proven very useful for design activities,

we must ask if it is also a good way of organizing design research when it comes to more traditional academic research endeavors such as reflecting on practice, generating knowledge as well as competence, and writing articles and books.

3. WHAT IS STUDIO CULTURE?

The concept of studio-based work has been central to practice as well as education within traditional design disciplines such as architecture and industrial design for over a century. In these fields, setting up and upholding a good 'studio culture' has been seen as essential for carrying out work and for enhancing learning. But what are the important characteristics of design studio culture?

As previously argued, the culture of studio-based work is so central to design traditions that its style of working itself has not received much attention. While for instance Schön (1985), Sachs (1999), and Anthony (1991) have also dealt with various aspects of the design studio, compared to many other ways of organizing work, very little has been written about the design studio and its culture. Kuhn (1998) talks about the characteristics of an architecture studio as being complex, and using open-ended questions as starting points, moving through different design solutions in rapid iterations, and being a culture of critique.

We believe an important part of design studio work is the ability to form a culture of work that cares as much for the whole as it does for the details. Studio activities typically take on a synthesizing, holistic character, often bringing together a variety of forms of knowledge from the arts, history, social sciences, engineering, philosophy, and mathematics—thus being a contrast to the fragmentation and increased specialization that often characterize professional settings. Addressing it as a 'culture' obviously implies that the design studio is a multi-faceted phenomenon. It has a physical dimension, where the actual physical designs of buildings, rooms, furniture, and so on help shape that culture. The various ways in which reference materials, books, and inspirational material are configured also conspire to shape the culture. Also, the ways in which people tend to dress, talk, and behave socially are part of the often somewhat bohemian design studio culture. Hence, the perhaps most important part of a design studio culture is the shared understanding of being in that culture—as it comprises a set of specific activities on the one hand, but also a number of desirable social practices, a way of being on the other.

When successful, a design studio culture promotes creative and collaborate activities, and becomes a setting in which it is natural for people to interact with each other—thus supporting shared spaces. Successful studio culture must however also be able to support individual work and work in small groups—i.e. supporting personal spaces. Furthermore, the successful studio is often quite 'material' or concrete in its character. Its walls are typically covered with photographs, images, diagrams, sketches, and PostIt-notes. Magazine and newspaper scraps, models and other seemingly unrelated physical objects are also typically brought into this place, making the studio appear slightly chaotic to an outsider.

While each and every piece among the multitude of material objects that appear in a progressive design studio seldom by itself has a strong or even explicit link to an aspect of the project at hand, they as a collection seem to conspire to create the rich environment needed to stimulate creativity and create novel ideas.

When it comes to learning and enhancing the skills, competence, and experience of a group of studio members, the design studio culture seems to promote a style of learning that is based on continuous dialogue, conversation, and asking questions and giving and taking critique—hence somewhat 'Socratic' to its character. This means that in a design studio, work is exposed to others both early on in the process and often remains consistently so throughout the process. Here, the physical setting of the design studio is typically meant to emphasize and stimulate communication, collaboration, and sharing.

4. DESIGNING FOR DESIGN RESEARCH STUDIO CULTURE

Some years ago, in 2003, plans were made to extend the premises of Umeå Institute of Design at Umeå University, Sweden, to accommodate more students. At the same time, Umeå Design Research Group would also move to a new part of the building being redesigned to fit our purposes. We saw this as an excellent opportunity to design our premises according to our idea of studio-based design research, and the important role we believe the physical location has for nurturing such a culture. As with most design projects, our hands were partly tied by costs, existing building structures, slow-paced university administration, and so on, but we still had sufficient design space left for actually planning and setting up the physical environment in the way we wanted it—and in a way we thought would explicitly support studio culture based design research. The premises were constructed during 2004-2005, and we have now been using our new facilities for about two years. Our design for studio culture came to result in an environment where four 'levels' of activity take place: the personal space, the creative space, the shared space, and the public space.

4. 1. THE TANK—PERSONAL SPACE

A small room located adjacent to the public space (see below) was originally intended by the architect as a small meeting room. However, we quickly redesigned the room into a 'think tank'—a quiet, peaceful, and perhaps most importantly a personal space. Hence, this room is also where people go to find a quiet space for thinking. It resembles a traditional office space with a large desk, a chair, and some bookshelves. Yet, its most important feature is the door that can be shut and the silent, quiet environment that then gets created. Such a peaceful, individual space is indeed quite uncommon to design studios.

4. 2. THE STUDIO—CREATIVE SPACE

Second, the main working environment forms a semi-open, semi-personal space. Here, each member of the group has his or her own individual desk. Each individual's desk faces another person's desk, thus forming pairs of people, each facing the other. The desks are large and can be adjusted vertically so that one can either sit or stand in front of them. Each member has a laptop computer and/or a desktop computer, and a flat-panel LCD screen to save desktop space. Between the desks is a physical screen that is low enough for the individuals facing each other to talk easily, but which also allows them some privacy when needed. These screens also work as note boards for PostIT-notes and various kinds of inspirational material. Each member also has a small personal bookshelf, and typically use the walls close by for personal posters and pictures.

This room is semi-individual in character, allowing for individual work but with important physical elements that also allow the space to be opened up for interaction, communication, and inspiration.

4. 3. THE 'WAR ROOM'—SHARED SPACE

Third, an adjacent, smaller room is used as the 'war room' for the currently most pressing shared project. Typically, only one project at a time can occupy this space. Here, inspirational materials fill the room from floor to ceiling. Models at various stages of completion are abundant; printouts, pencils, pens, scissors, sticky-

tapes are present; walls are covered with annotated sketches, scenarios, pictures of real users with comments, printouts of persona characters, PostIT-notes organized in groups; and so on. As the group is inherently multidisciplinary, we try not to separate design work from for instance electronics work whenever possible, so various sensors, strange-looking electronics, batteries, cables, and what have you are also typically part of what appears to be a complete mess for an outsider.

This room is primarily intended for and designed to support collective work around a particular topic, i.e. typically two or three members of the group sketching together, putting together a prototype, or just discussing a particular project-related issue. However, when needed, this room also caters for a kind of project-based privacy that the main room cannot provide due to its semi-open design where many projects are carried out at the same time and where people tend to rush in and out.

4. 4. THE ARENA—PUBLIC SPACE

Fourth, adjacent to the studio space, but also accessible from a main passage in the design school, is a more public room—informally known as 'the old kitchen' (as the space used to host a student kitchen before it was rebuilt). This is a fairly large room, about 20 x 20 feet, which is completely white and somewhat sterile by design, but with lots of large windows and an airy feel. Under its high ceiling is a metallic net attached throughout the room that allows us almost complete freedom in terms of hanging posters, equipment, and other things from it. A fairly clever system of tables and chairs allows us to quite effortlessly and quickly reconfigure the space for different purposes. A high-end projector is mounted in the ceiling, which can project a large picture on one of the walls that literally goes from the floor to the ceiling, allowing for a very powerful display of pictures and for presentation purposes.

We use the old kitchen to host seminars, perform various design crits on our own productions and on the productions of others, expose users to prototypes and interview them, arrange workshops, meet with financers, host exhibitions, and for more general presentation purposes. As an example of the room's configurability, for an exhibition in 2006, we covered a substantial area of the kitchen floor with real grass and grovel to simulate an outdoor environment needed by one of the prototypes being displayed.

The old kitchen has a more public character than either of the other two rooms—it is in some ways an arena where we as a design studio meet others: it is our interface outwards. While the space is reconfigurable to suit

most purposes, entering it feels different from entering, for instance, the 'war room'. Somehow it is as if the room itself gives the activities that take place there a different vibe, charges the air with tension. We believe this changes our behavior and how we approach ideas, concepts, and each other. We carry out design crits in this room, where we simply bring a prototype, a sketch, or a mock-up from the war room over to the old kitchen. The change of physical environment also changes our attitudes and our perspectives.

5. DISCUSSION

So far in this paper, we have presented our view on the issue of creating a design culture within interaction design research, and we have provided a description of how we tried to design both the group as well as our facilities for such a culture to thrive. In this section, we will reflect on some of the choices we have made as well as some of the pros and cons of basing a design research group on a studio culture.

In some sense, our challenge is somewhat different from the challenge facing those that are interested in setting up and keeping a good design studio culture. What we have are designers that are used to working in a studio setting, but not at all familiar with an academic culture, tradition, and ways of working. As our group is evolving from solely carrying out design projects into carrying out more elaborate forms of design research, where some members are active Ph.D. students, we have been interested in whether the design studio style of working would also be a good way of exposing them to and training them in more traditional academic practices, perhaps most prominently a writing culture that is often not present in a traditional design studio setting. The sections below discuss our experiences in this explorative experiment so far:

5. 1. THE ROLE OF PHYSICAL SPACES

In our view, traditional office-type environments with individual offices, screening cubicles, or interchangeable desks that are featured in most traditional university buildings support the design studio style of working poorly. In addition, we also fear that the strong focus on individual work such as web-surfing, email management, and the use of various kinds of other distance-spanning technologies would come to do a disservice to studio culture. Setting up each desk for nurturing face-to-face communication, for sharing inspirational material, and for sketching is far more important, in our view, than for instance to find the perfect ergonomical computer-use posture for each individual. To some extent, we have played with the idea that if in

fact computer use was to be designed to be non-ergonomical, it might even put a natural limit to the amount of time that goes into email handling and web surfing each day. Somewhat uncomfy chairs could likewise limit the periods of time people would tend to sit, encouraging them to move around in the physical environment. Notwithstanding the positive effect this might have on the work being carried out, fairly convincing Swedish tradition (not to mention regulation) in the area would put a sudden end to any such aspirations.

We acknowledge that it is sometimes important to employ distance-spanning technologies such as shared virtual spaces, video conferencing, various technological means to carry out asynchronous work and even design crits, and so on (Wojtowicz, 1994). However, we keep returning to the need for people to be co-present to be able to keep up a good design studio culture. We continue to stress the importance of physical settings that allow for the whole spectrum between individual work and whole-studio work. We have yet to see a computer application or a service that can replace or even become a serious complement to designers working side by side. We very much believe in the importance of physical presence, the material aspects of design work, finding inspiration in each other, and performing design crits with people in the same room. Considering our concern for the physical space, we may indeed be seen as traditionalists—or perhaps rather as romanticists—when it comes to creating a design studio culture.

5. 2. INFUSING RESEARCH CULTURE

Unlike a commercial design studio, Umeå Design Research Group also has an interest in contributing to design knowledge and helping to build an intellectual tradition within the discipline. This typically involves our design researchers in analytic work, in taking part in and contributing to ongoing discussions about design theory, design methodology, design history, and design philosophy. Influences from other scientific disciplines are also prominent, where we work together with, for instance, social scientists and experimental psychologists, and by directly referencing and adopting other disciplines' techniques, practices, and theories. The main arenas for this kind of work include conferences, workshops, and other gatherings, as well as locally by organizing reading circles, seminar series, and group discussions.

One of the most crucial parts of our practice is to prepare newly graduated design students coming into the group for design research. Traditional education in design tends to prepare the students poorly to handle research methods and practices. Before or soon after these students go into Ph.D. studies, we must prepare them for the culture of research. We believe a studio culture works well in this respect, as new members come

to work closely in projects with more experienced design researchers. However, to establish a writing culture—which we see as an archetypal activity in any kind of research—something more has to be done. For this, we have introduced a series of seminars in design research with both local and invited speakers. The purpose of the seminar series is to try to build a shared understanding about what design research is and what may count as design research. We also have a weekly and compulsory reading circle in which important articles from relevant academic conferences and leading design journals are read and discussed. Thirdly, we encourage and provide funding for group members to visit at least a couple of relevant conference each year.

These events play an important role in at least four ways. First, they contribute to a shared repertoire of design writings that the group as a whole has read and discussed, and that we can all relate to when we discuss other things. Second, they help us place our own work and establish individual interests within the design research context. Third, they help us build a network of peers in the academic world. Fourth, they help in establishing a writing culture, as reading articles and books and listening to others presenting their work is a necessary first step for the members of the design group towards producing their own written material.

5. 3. SOME CONCERNS WITH DESIGN STUDIO CULTURE

In our experience, one of the main concerns we have with design studio culture has to do with what goes on below the surface. It is easy to romanticize the design studio culture in terms of, for instance, admiring the amount of work its highly motivated, high-achieving members put in, the many late nights and early mornings, and the way in which the studio space comes to serve both as a workplace and a home. In a design studio culture, the studio is the turf; it is where people live and socialize. Satisfaction and well being in general in this environment tends to come from professional growth, success, and recognition.

One often thinks about the studio culture as a place for creative interaction and collaboration. Less often does one think about the design studio as a highly competitive environment; it is a culture that is driven by highly motivated achievers, and it is the highest achievers that tend to develop the standards.

In trying to develop a design research culture, we have found that the best designers are not always the best design researchers. On the contrary, some of the qualities that we believe good design researchers develop, perhaps most importantly the ability to be able to really reflect and look at one's own practice from 'a

distance' and to find time to write about their experiences—i.e. prioritize reflection—appear quite difficult for some high-achieving designers to adopt.

6. CONCLUSION

In this paper, we have examined the concept of studio-based work and found it central to both practice and education within many traditional design disciplines such as architecture and industrial design. It has been noted that studio culture is so central to these traditions that the style of studio-based work itself is rarely discussed in academic writing—it is more or less taken for granted within these disciplines. We then introduced the idea of a studio culture in the context of design research: would it be possible, and if so, desirable to carry out design research in the tradition of design studio culture?

In an attempt to come closer to an answer to these questions, we have described in some detail what we believe to be important characteristics of design studio culture. Studio activities typically take on a synthesizing character, often bringing together a variety of forms of knowledge. Design studio culture has a physical dimension, where the actual physical designs of buildings, rooms, furniture, and so on help shape that culture. The way in which reference materials, books, and inspirational material are on display and configured also shapes the culture. But perhaps most importantly, design studio culture is acted out. It exists in how people behave, dress, talk, relate to each other, and socialize. Thus, design studio culture comprises a set of specific activities on the one hand, but also a number of desirable social practices, a way of being on the other.

Based on this, we have described the way in which we intentionally designed for a design studio culture, both conceptually as well as physically, to also support design research. To conclude, we have discussed some of the pros and cons of conducting design research in a design studio culture as compared to more traditional academic ways of organizing work. First, we have found it important to have physical spaces that support collaborative studio work but which also supports individual reflection. Second, based on our experience, we have provided some insight into how to infuse a research culture into a thriving design studio culture. We have done this primarily by setting aside time to build a common canon of design research through a compulsory seminar series and through reading circles. Third, we have also noted some of the less advantageous aspects of design studio culture, namely the highly competitive environment it tends to create, and commented upon our experience that the highest-achieving designer might not always become the highest-achieving design researcher.

REFERENCES:

Anthony, K.H. (1991) Design Juries on Trial: The Renaissance of the Design Studio , Van Nostrand Reinhold, New York

Fallman, D. (2003) Design-oriented human-computer interaction. Proceedings of CHI 2003. ACM Press. pp. 225-232

Fallman, D. (2005) Why Research-oriented Design Isn't Design-oriented Research, Proceedings of Nordes: Nordic Design Research Conference, May 29-31, Copenhagen, Denmark.

Kuhn, S. (1998) The software design studio: An exploration. IEEE Software 15 (2), 65-71

Löwgren, J. (2002) Just How Far Beyond HCI is Interaction Design, Box and Arrows, April, 22, 2002.

Nelson, H. & Stolterman, E. (2003) The Design Way -- Intentional Change in an Unpredictable World. Educational Technology Publications. New Jersey.

Sachs, A. (1999) Stuckness in the design studio , Design Studies, 20 (2), pp. 195-209.

Schön, D. A. (1985) The Design Studio: An Exploration of Its Traditions & Potential, RIBA Publications Limited, London.

Wojtowicz, J., 1994, (ed.) Virtual Design Studio, Hong Kong: Hong Kong University Press.