Prompting innovation
– Dedicated Places –

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Abstract
In our view, close collaboration in joint work meetings has gained limited attention from universities. Our vision for promoting innovative forms of academia-industry collaboration is to bridging meeting content, goal and physical domains to facilitate the meetings and everyday interactions of creative and innovative teams. This paper provides an outline of how an emerging approach for team innovation encourages a reorganization of research and development work, as well as provides a new rational for the design and use of collaborative work spaces.
The opportunity to dedicate a room, i.e., a boiler room, for creative collaborative meetings occurred when our offices was going to be refurbished. The space, i.e., the physical constraints of the room, was given. Structurally, it is a typical squared room, nothing remarkable about that. However, by observing and talking about our own collaboration and meetings a set of needs was identified. For the boiler room these needs was captured in the words static and flexible. On the foundation of these words the boiler room has been furnish. A furniture FocIn-FocOut was designed to guide people into different modes. The rationale for the boiler room has been made visible and thereby, also the notion of place as a cultural phenomena.

Introduction

It is sometimes suggested that knowledge is produced collectively when people work together (von Krogh, Ichijo and Nonaka, 2000), and a common way to share information and knowledge is to gather people into a meeting. Nevertheless, the value of 'collaborative' meetings is from the point of view of participants seldom assessed and sometimes the perceived pointlessness of many meetings can be attested.

If, as is commonly argued, globalization, information and communication technology, social and ecological sustainability and other issues are dramatically altering company strategy and evolution, then arguably it is time for meetings to evolve in line (Meetings International,

2007). Design of the meeting environment and design of the interactive processes are important parts of creating and maximizing the return-on-investment of meetings (ibid.). Giving attention to these aspects, it becomes evident that to enhance the content of meetings, these meetings and the environments they are held in have to be customized to be truly fit-for-purpose.

Certainly, the problem of the meeting, and how to enhance productivity has been the subject of some work. For instance, Streative Branding (Streative Branding, 2007) have suggested that dedicated whole day meetings in specialized environments which are designed to support a creative work progress can be effective. The meetings are referred to as Salon Sessions in which 'mental split' is an important concept. Mental split is to take people out of their offices (and comfort zones) and create an atmosphere where 'everything is possible' (Meetings International, 2006). Hence, there seems to be a benefit in changing the spatial location. New environments of this kind, it is suggested, create new levels of commitment, of focus, and of creativity. Furthermore, it is also argued that relocated and restructured meetings of this kind may introduce a level of democratization, whereby organizational status differences are less evident, and member contributions are more equal (Meetings International, 2007). This is, in our view, a basic principle for enabling creativity, which in turn, seems like an assumption to nurture innovations.

In distributed work research the physical workplace (Harrison, Wheeler and Whitehead, 2004) and dedicated team rooms (Covi, Olson, Rocco, Miller and Allie, 1998) gain interest. The latter are suggested to enhance team memory and work flow (ibid.). Thus, it seems like the interplay between the location, the design of the physical room and the structure in meetings might prove beneficial to productivity for innovative teams' work process. However, opportunities for such meetings may be limited and constrained by the physical environment.

Aiming to improve innovative work processes, technology *or* organisational change is sometimes seen as a solution. These solutions might call for a redesign of the physical workplaces, but often this is dealt with in a default way according to how we are supposed to work, e.g., heads down behind a desk and in meetings sitting around a table. Such reorganisation is rarely dealt with in relation to the multifaceted work of innovative team. Our interest, then, has to do with the creation and use of physical places in an academic office milieu which can facilitate a creative process for innovative teams. The opportunity to redesign our office environment has made it possible for us *to describe how a new approach to academic collaborate work has affected the design rational for those environments*, which is also the purpose of this paper. A particular focus on a collaborative meeting room is prevalent in this paper.

Background

An informal approach to collaboration and empowerment in meeting sessions are two criteria that seems to nurture creativity. This kind of culture cannot be made-up; it has to originate from the people working together. Hence, changing the design of the workplace does not bring about organizational or cultural changes (Harrison et.al., 2004).

Within our research context, informal teams have evolved and collaborated in research activities. For instance, a planned informal approach to supervise doctoral student by a team of senior researcher, a structured collaborative work to write papers, cross-boundary discussions, design of presentation material. One of the problems inherent in this kind of work

is 'visibility'. A productive culture will need each new member, or new partner, both to understand how that culture operates and, in some sense, to commit to it. To facilitate this approach we have attempted to build on a model which is sometimes referred to as the 'Tiger team' model. Its inspiration is the field of collaborative engineering, and in particular it is incited by The Darpa Initiative in Concurrent Engineering (Reddy, Wood and Cleetus, 1991).

The Tiger Team approach, which builds on people performing creative and collaborative work in small groups at a place separated from ordinary work, is identified as having a potentially radical effect on current work practice as well as calling particular attention to the use of our work environments. We, then, took the opportunity to inform the design of our office milieu when, serendipitously, refurbishment was in any case taking place. That is, aimed to design for an intentional change of work place to realize the Tiger Team approach and to take work progress and creativity into joint academia meetings. The recognition of the importance of organisational culture is one limitation in existing workplace design (Harrison et.al., 2004).

Further, a vision to *'live as we learn'* guides our divisional culture. Hence, early on we started to think about our work activities and observe our daily work. How do we use our office areas? What are they used for? How do we work? Where do we work? Who do we work with? When? Why? What are we trying to achieve? And, an unpleasant question, did we ever *really* collaborate, in the sense that we aim to support in our research? The study presented in this paper relates to our social thinking about our physical work environments and how that has influenced the design of them.

Area of concern and methodology

The area of concern is found within an academic setting and in applied research work. Interacting with representatives from companies affiliated to the research area is part of our work tasks. These interactive efforts take place locally at the university, at the companies' places, as well as supported by technology. The academic environment gives us access to try out, implement, evaluate and enhance creative and innovative forms of collaborative work. In our case, a Tiger Team approach.

To gain insights in our own activities, we applied a Needfinding approach (Patnaik and Becker, 1999) to identify needs related to us and our work environment. Needs were identified by observations and interviews, i.e., asking questions to our colleagues and vice versa. The questions presented above have been used. Needfinding provide rich contextual data about actions and behaviors (Patnaik, 2004). Accordingly, this provided data to make the design rationale for our collaborative areas visible. The contextual data also provided a basis for the development of a 'creativity-support-furniture'.

A motivation for this study is found in the belief that it is necessary to understand this logic to make an intentional application on other work environments, meeting strategies and interactive processes, i.e., to apply a Tiger Team approach into industry.

The theoretical framework presented in this paper is used to explain and discuss our design rationale.

Tiger Teams

A movie (Sneakers) in 1992 made the term 'tiger team' known in the context of hackers breaking through computer security, not with the intention to steal data, but to highlight weaknesses of the computer system (Steffora, 1994). To make the system owner aware of the trespass, the hackers left evidence of their activities, a note, a message etc. Eventually, tiger teams were hired by organizations to check up the computer security, so tiger teams are also hackers that provide data-penetration services (ibid.). The group process of a tiger team in these services might be similar to what we are aiming for; however, the purpose to apply a Tiger Team approach is completely different.

Another application of a namesake to tiger teams which relates to the idea of a specialized group performing a specific task is Cheetah teams (Engwall and Svensson, 2001)). The task for a Cheetah team is to solve unexpected problems that are threatening to delay or disturb a running project. A Cheetah team consists of a few selected people separate from the product development team (ibid.). The Cheetah team takes out the problem from the ordinary activities, thus they can focus their efforts on solving the problem and, by the same token, avoid disruptions in the running product development project (ibid.). Some factors that characterize a Cheetah team are that the team is always ad hoc, initiated for a specific mission and is dissolved when it has solved the problem (ibid.).

The inspiration for our Tiger Team approach stems from a context of concurrent engineering, i.e., The Dapra Initiative on Concurrent Engineering (Reddy et.al., 1991). The approach was seeking to *"…stimulate small-team interactions among people in large, dispersed organizations."*(ibid., p.26). The aim was to enable similar freedom of interaction and information exchange among these people as in a small team working in the same room (ibid.). The structure in this way of working emphasized instant communication with each other, accessing, sharing and storing up-to-date information in a transparent way (ibid.). A tiger team is *"… distinguished by both a high level of coordination and a deep interpersonal dialog among the members."* (Pavlak, 2004, p.8). It is important that the members of a tiger team feel free to say what they think and that every member participates in a committed way. The physical place for a tiger team is, in some cases, suggested to be an informal living room, since such environment works better than a traditional conference room (ibid.).

Tiger teams are not work groups. Information exchange and coordination are typical activities for a work group, e.g., a traditional staff meeting (Pavlak, 2004). A tiger team meeting is different from informative meetings. To be productive, such meetings insist on also facilitating a social process.

Working in a Tiger Team
The selection of participants in interdisciplinary tiger team groups is important. A tiger team must include people providing ownership and motivation to accomplish results, as well as providing integration of a diverse set of outside expertise to the mainstream project team (Pavlak, 2004). To be able to make all participants' available information and knowledge explicit, all members must be given the opportunity to speak in meetings. The restricted air time must not be consumed by a few people (Ottenheijm, van Genuchten and Geurts, 1998) Therefore, creating a climate for rich dialogues are critical. A problematic situation is that people holding different competences and interests also speak different languages (Bucciarelli, 2002).

Certain ground rules are suggested to provide team building, for example, listen for newness, staying loose until rigorous conditions count, questioning for understanding only (Pavlak, 2004). Creativity is part of the Tiger Team work. Purposeful leadership is an essential part of effective tiger teams; one reason that these teams are rare is that the leadership style is difficult to implement (ibid.). In a tiger team, both content and process has to be managed; this requires a split leadership (ibid.).

Perspectives on work

In the 1970's and 1980's, drivers for building design were to reduce costs and design solutions. The design was relying on prescribed central standards (Harrison et.al., 2004). 1980 is considered as a turning point, due to the introduction of the personal computer: *"...the world of office work and office design was changed forever."* (p.9, ibid.). A new work situation where technological innovations insist on alternative workplaces was, by the same token, introduced (ibid.). Work was affected by being enabled to take place in a wide variety of locations, within and/or outside the office building. This also made shared working settings, meeting rooms and other intelligent environments more significant (ibid.), because, even though people can work anywhere, they will still always choose to work *somewhere* (ibid.).

Today, the office has changed to be *"...not merely a place of information and control but a place for stimulating intellect and creativity."* (p.11, ibid.). Contemporary work environments should support creative thinking and combining of ideas (ibid.). In view of this, some limitations of existing workplace evolutions are identified (Harrison et.al., 2004). For example:
- The amount and quality of communication, whether face-to-face or virtually is not yet sufficiently recognized.
- Knowledge work and creativity are insufficiently taken into account.

Work styles
Diversity in work styles is important to understand for the evolution of workplaces. Four basic types of work styles are (Harrison et.al, 2004):

- The sitting worker
- The walking worker
- The talking worker
- Mixed types

These types seem useful for design of workplaces for homogeneous knowledge work tasks, where the needs are rather similar. However, for complex knowledge work a deeper understanding is needed (ibid.). Complex knowledge work is described as including phases with different activities and job roles, as well as being challenging to workplace designers (ibid.). The collaborative knowledge worker moves between joint decisions or planning to individual, yet parallel, analysis of problems (ibid.).

Zoning

Zoning is one option to deal with two aspects of work, (1) needs related to a variety of activities, and, (2) individual preferences for concentration (Harrison et.al, 2004). A zone is

an area designated for particular activities, for example, zones for informal communication and heads down work (ibid.).

A dedicated project room can be seen as a zoning for collaborative work. The idea of bringing people together into dedicated rooms is to provide closeness of others and to facilitate face-to-face communication in multidisciplinary groups (Teasley, Covi, Krishnan and Olson, 2000). The main principle is to enable interactive continuous communication (ibid.). In such a team environment, the team members have sidebar conversations, talk to neighbours, speak across the room and discuss in groups (Covi et.al., 1998, Teasley et al., 2000). Dedicating a physical room for a project team means that the team can run riot for a longer period of time (Covi et.al., 1998). The furnishing of the room and the technology needed are specified by the project team and their project. Looking into such a room, it usually appears rather untidy, flooded with project artefacts and *boiling* with activities. Usually, the team posts work artefacts on the wall to provide visibility of the work tasks and progress (Teasley et.al., 2000). The possibility to leave artefacts in the room helps the team to get into their work mode more quickly. From the knowledge worker point of view, working in dedicated rooms provides *"... a number of advantages for teamwork, including awareness, implicit training, easy transitions from individual to group work, and motivation."* (p.60, Covi et.al., 1998).

Within a dedicated room, all activities, performed by an individual or a team, becomes visible to everyone else in the room. Mistakes are no exception (Mark, 2002). This requires certain types of personalities. Working in this way you have to be, for instance, flexible, adaptable to an unstructured environment and able to monitor conversations (ibid.).

Locale, space and place

The concept of locales was used as a primary unit for the design to, by the use of information technology, support people working across space and time (Fitzpatrick, 2002). A locale does not exist previous to space and place. It is created in relationships between people in a particular social world, the space and the available resources (ibid.). The use of locale emphasise people, their actions, interactions and resources needed for the practical accomplishment of work (ibid.). The concept evolved when it was observed that a group were *"...better characterized by "individuals in multiple groups" who make use of a variety of physical and virtual spaces as places of work, and where notions of relationships around centers are more relevant than containment by boundaries"* (p.145, ibid.).

Harrison and Dourish (1996), elaborates on space and place, since they are not considered as meaning the same thing. Space is related to the physical room and gives the opportunity to something, e.g., meeting, concert, sport event, conference. Place is the understood reality, *"...rooted in sets of mutually-held, and mutually available, cultural understandings about behaviour and action."* (p.67, ibid.). There are many similar spatial features, e.g., lightning and orientation, between a conference hall and a theatre; *"... and yet we rarely sing or dance when presenting conference papers"* [...] *"We wouldn't describe this behaviour as "out of space"; but it would most certainly be "out of place"..."* (p.69, ibid.). Harrison and Dourish (1996) conclude: *"Place, not space, frames appropriate behaviour."* (p.69, ibid.).

These concepts provide a window into our design rationale for our collaborative environments. Beside a social view, the concept of locales puts attention to the resources needed to perform the tasks, e.g., expertise, competences, furniture, displays. The structure of the space matters, but based on insights provided by Harrison and Dourish (1996) we can

focus on place which can be designed for, but can not be designed in. Our vision was to design some of our offices areas for collaboration and creativity.

Our former office environment

Our former collaborative office environment consisted mainly of two meetings rooms, one big and one very small. These meeting rooms played a vital role for our collaboration. A typical workplace for us PhD students was, and is, shared with a colleague, thereby our offices is not doable to use as a meeting place. They are intended for heads down work. The big and small meeting rooms consisted of a table and a number of chairs. Approximately 20 persons could be in the big meeting room, and around 4-5 people in the small room. The big meeting room, A in Figure 1, had a large table and a lot of chairs. Based on how the table and chairs was positioned informative meetings, where one person at the time stands in front of the group and speaks, was supported in the room. It was also equipped with typical conversational props, such as a whiteboard, an overhead projector, a conference telephone, but, also a public display (plasma screen). From time to time, there were large groups in the big meeting room, but oftentimes the room was booked for medium size meetings, approx. 4-6 persons. The small meeting room, B in Figure 1, had a table and chairs, a public display (plasma screen). This room was mainly used for group discussions. In both of these rooms there was little space to move around in the room.
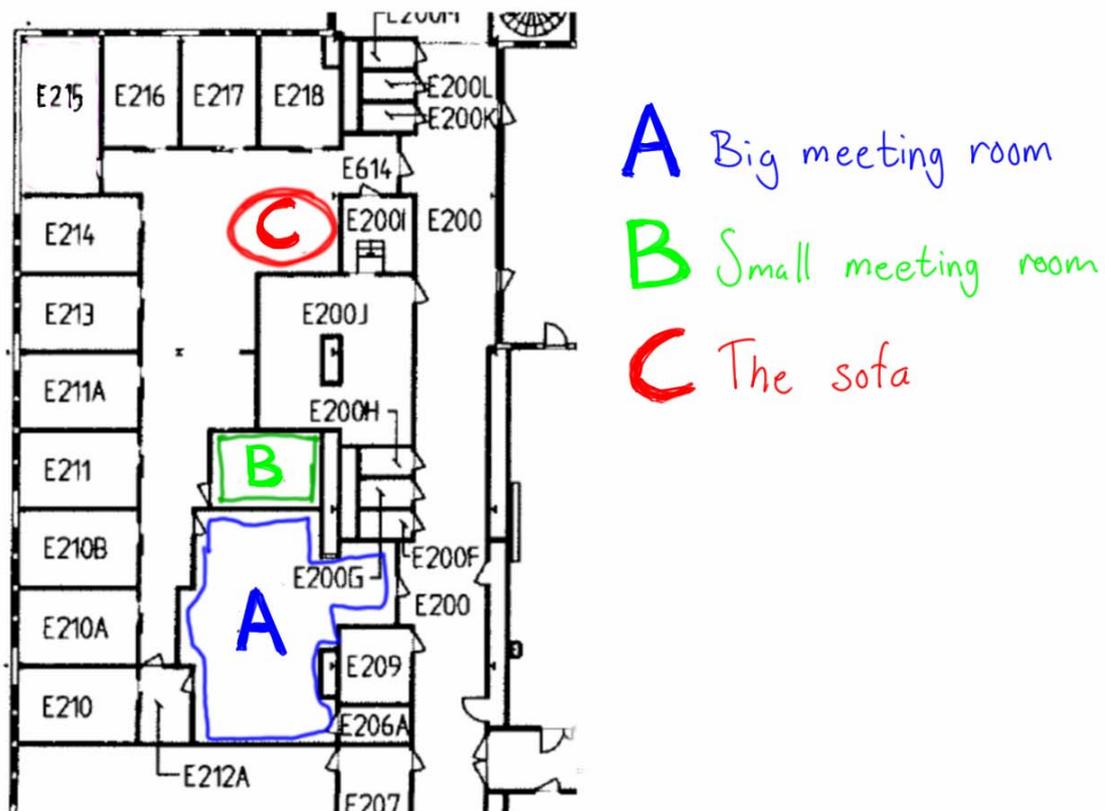

Figure 1. The former collaborative environment.

An observation that we made, was that when we, in a smaller group, had collaborative meetings in the big room, we usually gathered in front of the whiteboard. The whiteboard was frequently used by all participants to support an explanation e.g., drawing some sketches, or to support some creative session, e.g., brainstorming. This behaviour made us only leaning towards the table or sitting on the arm of the chairs.

Besides these two formal meeting rooms, there was also a space, C in Figure 1, aimed for coffee breaks in our office environment. This space had a sofa and was frequently used for dialogues between us - senior staff and PhDs, but also informal conversation with visitors. Occasionally, this place was used for short formal meetings, in such cases when the other meeting rooms were occupied. The sofa was also used to do heads down work, due to some of us, from time to time, performed better in the light of sounds. Another reason was to overhear what was discussed, if the work at hand did not demand high concentration, such as reading emails, it was doable to sit and work here. As a curious fact, the sofa has been mentioned as invaluable for knowledge sharing and socializing in several prefaces in dissertations. This might be the place where our collaborative culture has its roots.

Our new collaborative office environment

After the refurbishment of our office environment, we ended up in access to four meeting rooms. The big meeting room is now even bigger, approx 30 persons, but are now also dividable into to two meeting rooms, A and B in Figure 2. These rooms are still aimed and used mainly for informative meetings. Two new small meeting rooms, or rather team rooms, has been built, C and D in Figure 2, to provide for quick access to a collaborative area. The former small meeting room has become a library, E in Figure 2, which was found as needed to provide for a quiet reading in isolation.
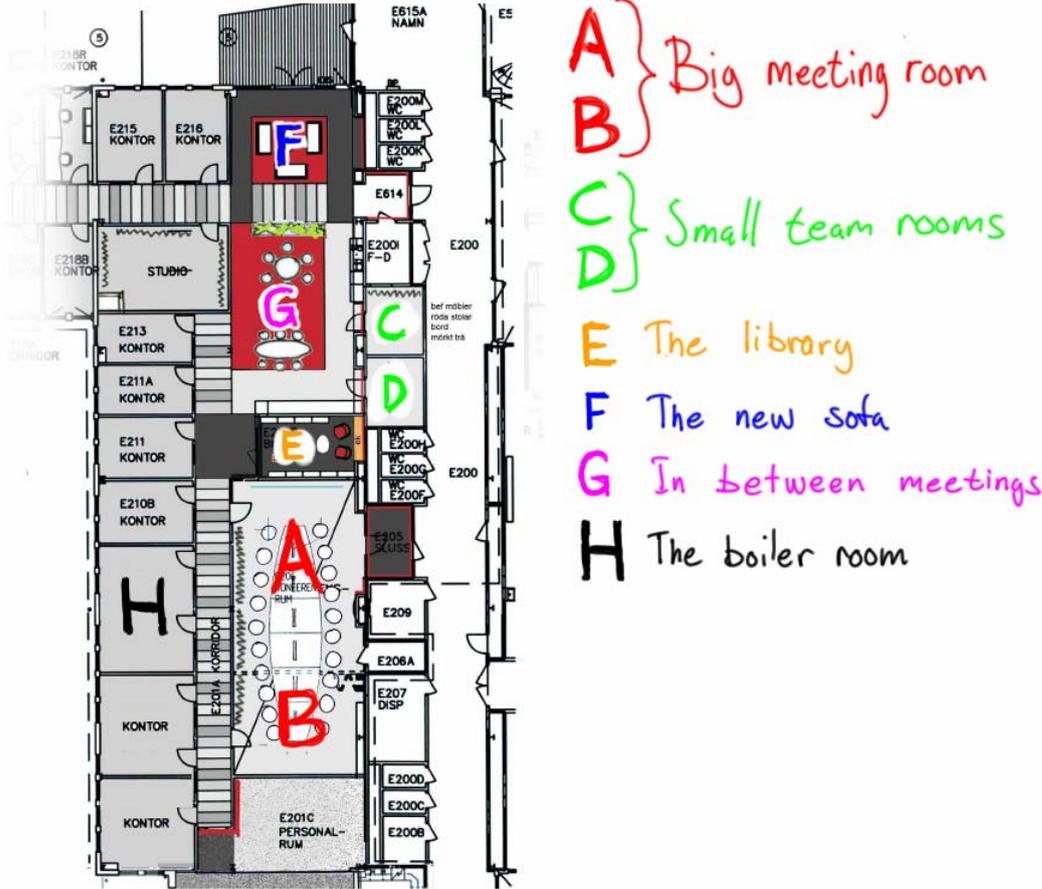

Figure 2. Our new collaborative environments.

A sofa for coffee breaks can also be found in the new office area, F in Figure 2. However, it is not used by any of us. Based on the observations done of the activities in the former sofa, we intentionally designed a space for informal communication, G in Figure 2. The rationale for this area is to support an *in between meetings* mode. Work activities which usually can be observed in a business lounge at a flight terminal have been the inspiration for this area. Here people visiting us can find a place to sit down and make phone calls, read documents, check their e-mails or prepare for a meeting. Besides coffee and newspapers for the relaxed part, wireless local area network and visible wall sockets (to recharge batteries for laptops and mobile phones) support work here. Further, in this space, there are two tables, one to sit around and one bar counter. The space is frequently used for short informal conversations, but the same activities as in the former sofa cannot be observed here. We have not yet found the reason for that. Since we have gone through a reorganisation, some reasons might be found there. Or, the sofa by the window is turned in the 'wrong' direction not inviting people in, thus not contributing to an informal mode.

In addition to these spaces, one room has been dedicated to creative collaborative meetings, H in Figure 2. This room is particularly designed for Tiger Team work.

Driven by a vision to make it really visible that this room is not a regular meeting room, since Tiger Teams are not work groups (Pavlak, 2004), the need to differentiate the room in a holistic way has emerged. Firstly, we have decided to call it *'boiler room'*, indicating that this room should be *boiling* with activities, thus also, when used the best way, appear rather untidy and flooded with project artefacts (Teasley et.al., 2000). Secondly, we wanted the furniture to support collaboration and creativity, i.e., to set a person who is not in a creative mode into such mode. Another intention is that, when entering the room, a 'mental split' (Meetings International, 2006) should take place. People should at a glance understand that this space expect something else of them.

The space, i.e., the physical room, was constrained to be as it was - a typical squared room. Accordingly, to design a creative place, furniture and conversational props to support Tiger Team work was in focus. Two basic characteristics for the boiler room originate from our observations and interviews, static and flexible. Or, rather we elaborated on static *versus* flexible. On one hand, the furniture has to be fairly static since they are thought of as supporting certain modes and activities. People's behaviour has to be guided by the furniture. On the other hand, flexibility was found necessary since the furniture should enable different modes and activities. People's 'flux of activities' has to be supported by the furniture. There has to be a balance between static and flexible. The furniture has to be flexible enough to be able to customise for particular tasks. But, not too flexible due to the focus might be on rearranging the furniture rather than focusing on the task at hand.

We described our vision and how we would like to behave in the boiler room for an interior designer. We wanted furniture that should support people to become comfortable and creative, and it should make people brave enough to try new ideas. Based on our description, he delivered a typical conference room set, a table and some chairs, some with wheels to make them flexible. Our description might have been poor, but looking in catalogues and on homepages, we still could not find what we were searching for. Hence, in the spirit of a Tiger Team, we decided to design the furniture we were looking for.

Firstly, ordinary chairs are prohibited in the boiler room. This was based on our observations that we did not sit down when we were creative, that we used our body language to describe

ideas and that we used the whiteboard a lot. Thus, an assumption that sitting down in chairs is likely to prevent creativity and participation frames our rationale. However, if we are going to work in the room for a longer period, we would probably like to sit down sooner or later. The idea to put in a hammock settee is based on the rationale that this makes the furniture different and support a 'mental split'. We have had visitors going in to the room, and, direct curiously asked: *"Why is it a hammock settee there?"*. Happily, we can conclude that it serves one of its purposes; it makes people curious and interested. In this mode, they are encouraged to try it out. Further, the rationale for the hammock was to provide a place to sit to overhear discussions in the room, the sunroof on the hammock makes it feel like an individual zone. However, the rationale is also to enable side conversations, 2-3 persons can sit in down and talk. Also, to swing in the hammock, with your laptop in the knee is really a relaxed and appreciated way to check your emails. There are also three large soft sit poufs in the room, since they are large the can be formed as ordinary chairs according to the height. Thus, they can be used next to the hammock and provide a small meeting zone, for formal or informal, planned or unplanned conversations.

Two of the walls in the boiler room have large whiteboards, in front of one of them stands furniture especially designed for creative collaborative work. This furniture allows people to focus on the whiteboard or to focus out from it; therefore it is called FocIn-FocOut. The area between FocIn-FocOut and the whiteboard is an active zone (A in Figure 3) making people participate actively on the whiteboard. Typical behaviour here is to stand, walk, leaning towards the FocIn-FocOut or writing on the whiteboard.

The convex, focus out, side on the furniture (B in Figure 3) allows people to participate in a less active way, e.g., listening, put in comments and observing although working on a laptop. The furniture is dividable and thus flexible to different activities.
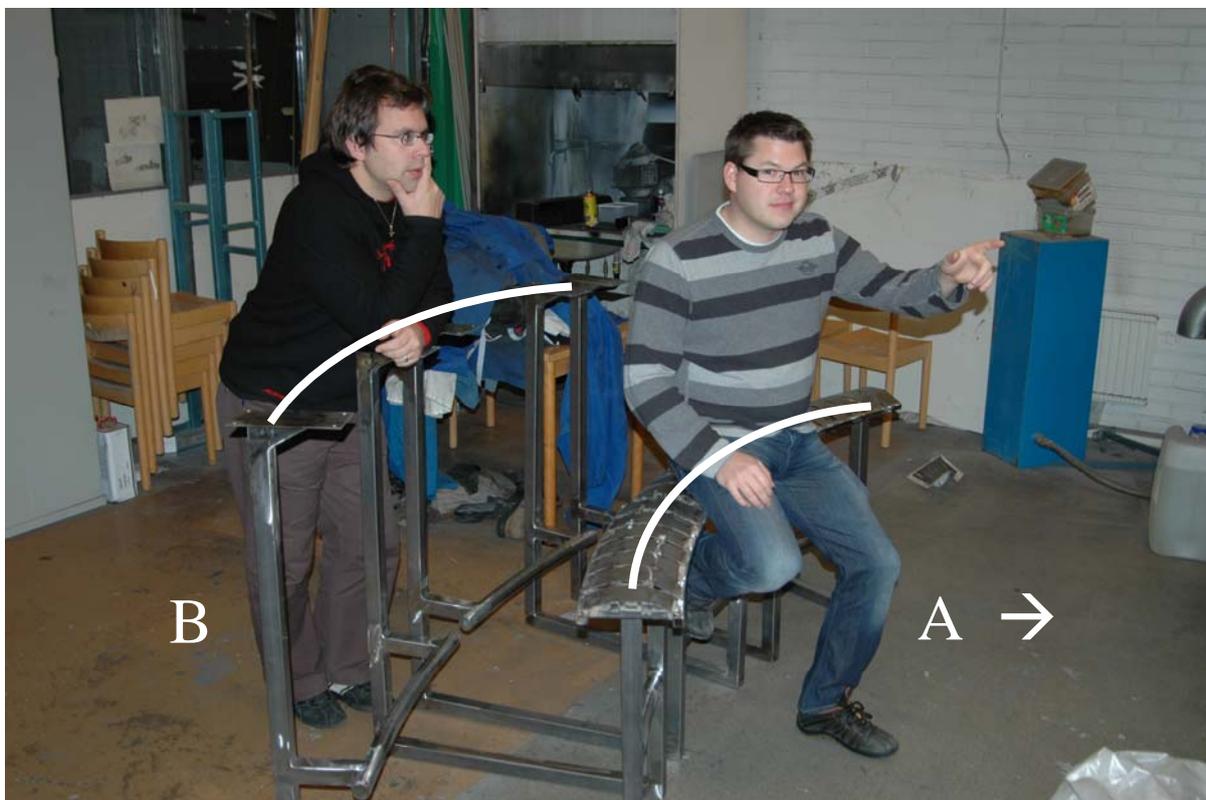

Figure 3. FocIn-FocOut, a focus in position is portrayed.

The rationale for this furniture is that it should be possible to choose position due to activities. In a way, it is the position which decides activities; hence, in this sense FocIn-FocOut is static.

One position, see A in Figure 4, sets the person in a highly active position towards the whiteboard. From this position it is easy to take a step forward and draw something on the whiteboard. The sitting position, see B in Figure 4, and the standing position, see C in Figure 4, allows for a side conversation, perhaps a discussion about a drawing done on the table, since the table surface is also a whiteboard. From the sitting position (B) it is also possible to face towards the room and overhear what is happening at the other side.
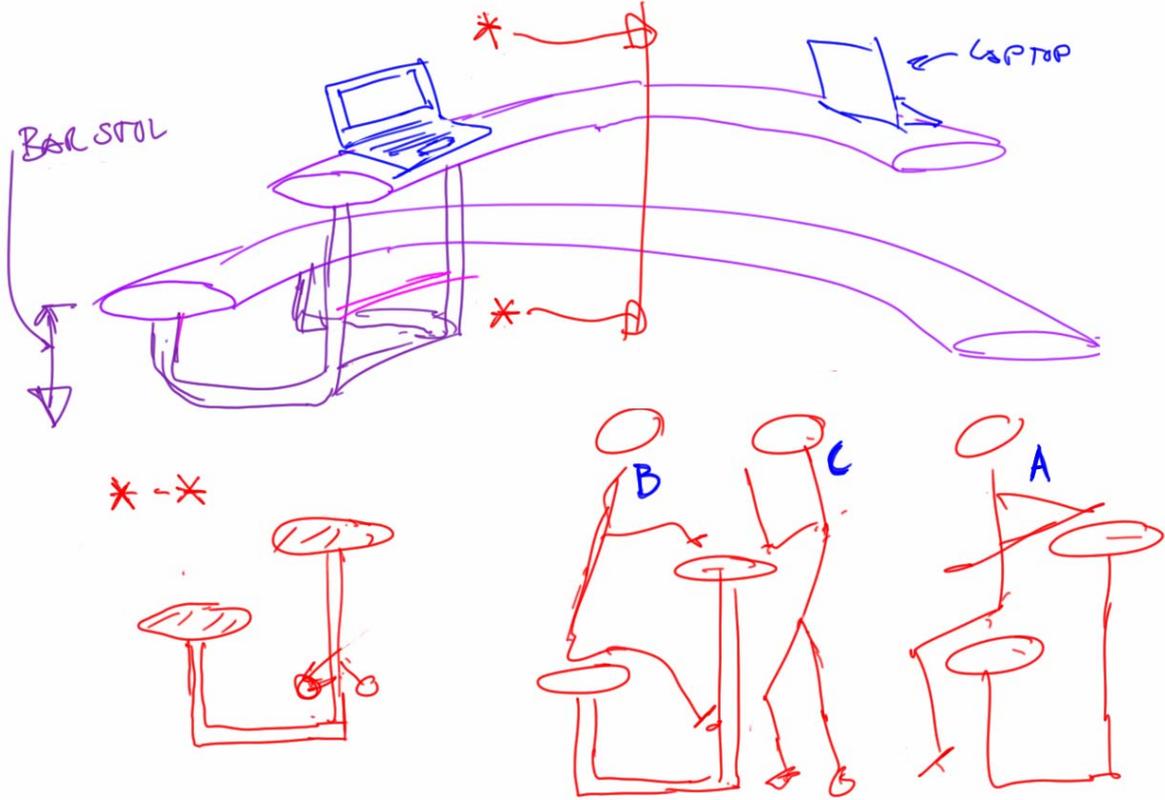

Figure 4. A variety of positions is supported by the FocIn-FocOut furniture.

Within the boiler room, we have designed a number of zones, or places. In one direction, around the hammock settee, A in Figure 5, is a more individual zone, less active for what is taking place at the whiteboard on the opposite wall. The centre of the room, B in Figure 5, serves as a transition zone, where people get into a more active mode, either sitting on the sit poufs, putting in comments to the discussion taking place at the FocIn-FocOut. In front of the whiteboard, C in Figure 5, inside the concave side of the FocIn-FocOut furniture, a highly active zone is encouraged.

The arrow marked X at right in Figure 5, show how the mode changes in the direction towards the whiteboard, from being less active, via a transition zone to become highly active and participative. The other arrow, marked Y, shows how the mode changes in the opposite direction.
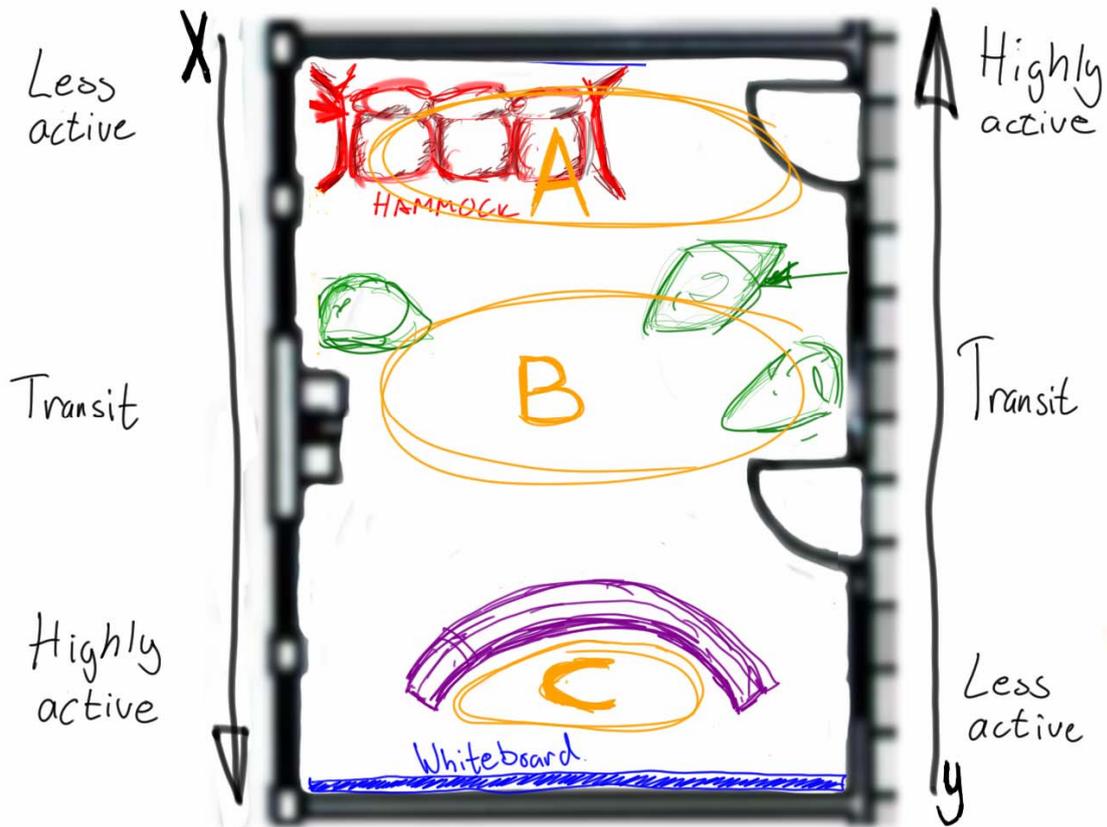
Figure 5. The boiler room and its zones.

When a participant is positioned in the FocIn-FocOut with their back towards the whiteboard, this zone is perceived as a less active one. In this direction the transit zone might provide access to a highly active zone around the hammock settee if, e.g., an interesting unplanned discussion has ended up in an informal meeting.

Concluding remark

The aim in this paper was to describe how a new approach to academic collaborative work has affected the design rationale for academic office environments, in particular a collaborative meeting room, i.e., the boiler room. The new approach is based on the creative focus in Tiger Teams. The Tiger Team approach is not thought of as replacing the existing work practice, it is an additional work style. We still need our heads down offices. The Tiger Team approach is found particularly useful for creative collaborative work, but it is also challenging traditional meeting environments.

We have had the opportunity to dedicate a room for creative collaborative meetings, i.e., our boiler room. The aspects of locales, space and place are taken into account in the design of the boiler room. The locales aspect has put attention to furniture, but is also found in the Tiger Team approach as particular competences needed to facilitate creative meetings. The understanding that space is different from place has contributed to a '3-D view' of the room, i.e., our vision has to be conveyed in both humans and objects.

A last remark, in industry, it is not doable to try out innovative methods in real running projects, but the affiliation with universities provides a safe playground. Thus, allowing us to run riot in a boiler room together and enjoy it.

References

Bucciarelli, L.L. (2002). Between thought and object in engineering design. *Design Studies*, 23 (3), 219-231.

Covi, L.M., Olson, J.S., Rocco, E., Miller, M.J., Allie, P.A. (1998). Room of your own: what do we learn about support of teamwork from assessing teams in dedicated project rooms? In *Cooperative Buildings*, Streitz, N., Konomi, S., and Burkardt, H. Eds. Springer-Verlag, Amsterdam.

Engwall, M., Svensson, C. (2001). Cheetah teams. *Harvard Business Review*, 79 (2), 20-21.

Fitzpatrick, G. (2002). The locales framework: making social thinking accessible for software practitioners. In Dittrich, Y., Floyd, C., Klishewski, R. Eds. *Social Thinking – Software Practice*. The MIT Press, London, 141-160.

Harrison, A., Wheeler, P., Whitehead, C., Eds. (2004). *The distributed workplace*. Spon Press. Great Britain.

Harrison, S., Dourish, P. (1996). Re-place-ing Space: The roles of place and space in collaborative systems. *In Proceedings of CSCW'96*, Boston, MA, USA, ACM Press, 67-76.

von Krogh, G., Ichijo, K., Nonaka, I. (2000). *Enabling knowledge creation – how to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford University Press, NY.

Mark, G. (2002). Extreme collaboration. *Communications of the ACM*, 45 (6), 89-93.

Meetings International (2006). Interview with Shari Swan (in Swedish). *Meetings International*, 17, 17-22.

Meetings International (2007) Available: http://www.meetingsinternational.se/artikel.asp?id=40&1ID=25046 Extracted on: 2007-04-24

Ottenheijm, S. van Genuchten, M., Geurts, J. (1998). What's the problem? *In Proceedings of the 31th Hawaii International Conference on Systems Science, IEEE*, January, 555-565.

Patnaik, D., Becker, R. (1999). Needfinding: The Why and How of Uncovering People's Needs. *Design Management Journal*, Spring, 37-43.

Patnaik, D. (2004). System Logics: Organizing Your Offerings to Solve People's Big Needs. *Design Management Review*, Summer, 50-57.

Pavlak, A. (2004). Project troubleshooting: tiger teams for reactive risk management. *Project Management Journal*, 35 (4), 5-14.

Reddy, R., Wood, R.T., Cleetus, K.J., (1991). The Dapra Initiative: encouraging new industrial practises. *IEEE Spectrum,* July, 26-30.

Steffora, A., Creek., M. (1994). Hacking goes legit. Industry Week, 28 (3), 43-45.

Streative Branding (2007) Available: http://www.streativebranding.com Extracted on: 2007-04-18.

Teasley, S., Covi.L., Krishnan, M.S., Olson, J.S. (2000). How does radical collocation help a team succeed? In procedigns of CSCW'00. Philadelphia, PA, 339-346.