Appropriation process of activity-based work environments. Towards a situated approach

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Abstract. Our research focuses on activity-based workplaces which offer a diversity of workplace configurations which, instead of being attributed to users, are shared according to the needs of their activities. Indeed, we question the way these activity-based workplaces configure the ways in which individuals and collectives carry out their activity. Our proposal consists on a exploratory study carried out within an energetic French organization. We have established a two-phase methodology. Three days of observation amid three different units evolving in activity-based workplaces have helped us to identify the uses that emerged from these spatial typologies. Then, a set of two interviews with 8 participants have been conducted based on the four dimensions of the situated acceptance model (Bobillier Chaumon, 2013) and on picture elicitation. Our results provide an overview of the social and psychological consequences of activity-based workspaces on workers, their work collective, and their activity. Our conclusions can be mobilized in activity-based real estate projects, for example during the design stage. This research conducted with a situated approach based upon the study of the development of the activity proposes a change from the usual managerial approach about these activity-based workplaces, which prescribe an ideal way of working within the workplaces.

Introduction

The development and massive spread in the use of information and communication technologies (ICT) in companies, the phenomenon of despatialisation (Taskin, 2012) and the emergence of telework (Vacherand-Revel, 2016) are driving companies to adopt more flexible organisational forms (Jemine, 2016). Their reorganisation is driven by these demands for flexibility, reactivity and mobility (Ianeva & Adam, 2017).

These flexible models are concretised in their spatial form by the relocation or reorganisation of working spaces into activity-based working environments (Ianeva, M., Ciobanu, R., Lai, C., 2021; Ianeva, Ciobanu, Vacherand-Revel, 2017). This type of environment is based on different open-plan platform designs that offer a diversity of typologies and configurations of workplaces which, instead of being attributed to users, are shared according to the needs of their activities. Several rules determine how these workspaces need to function: the clean-desk rule, which imposes the obligation of freeing up the workspace when one has finished using it to allow others to move in; or the paperless rule, which imposes electronic document management in an environment where it is difficult to store paper documents.

The use of the term "activity" to qualify these spatial devices does not fail to challenge ergonomists and psychologists whose work is anchored in the French tradition of work analysis. Indeed, these projects carry the promise of a work environment which will foster the realization and the development of the professionals' activity.

Indeed, these activity-based work environments convey a normative vision of work and of how it should be done. Through the promotion of "good ways of working", they represent a privileged tool for the implementation of managerial practices (Pillon, 2016) that are marked by a managerial discourse on flexibility and on worker empowerment. Indeed, the designers and decision-makers of these workspaces anticipate their functionalities and prescribe how they should be used, trying to outline the range of their main possible uses. And this without questioning the way in which these forms of design reconfigure the situation with which workers interact to carry out their activities. But these types of environment integrate a certain vision or definition of the activity, which participates in reconfiguring both psychologically and psychosocially work relationships (Ianeva, Ciobanu, Vacherand Revel, 2017).

Challenges of the thesis

The literature in management science has embraced the subject of these emerging workspace typologies in order to question their effects on aspects such as

performance, collaboration and job satisfaction (Maclouf, 2011). Certain managerial approaches praise the positive effects of these flexible work environments, on work efficiency, satisfaction or on the collaboration. Other authors describe these projects as "managerial fables", which are used as an argument to reduce space requirements thus reducing real estate costs and to facilitate the reorganisation and densification of the workspace (Taskin, 2012). In these studies, workspace is disembodied from the situation and is not considered as a tool or an artefact (Rabardel, 1995) which can be shaped and reshaped by the user's actions. We therefore make the hypothesis that the workspace is not only a framework or a neutral container that shelters productive activity, but an essential component of the developmental process of the subjects and of the collectives.

Any situation of change of space is thus presented as a setting in motion of the activity, revealing the arbitrations and choices made by the professionals and as such, generating psychological activity on the part of the subjects and negotiations in the work collectives. This idea is built in the continuity of certain recent works (Vasquez and Cooren, 2013; Yaneva and Guy, 2008; Mengis, Nicolini and Gorli, 2016) but also in coherence with the approaches stemming from the historical-cultural psychology of activity (Engeström, 1987; Lave, 1988). Thus, we are more particularly interested in these movements of reinterpretation of which the functional characteristics of the spaces constitute one of the main resources.

We thus articulate the situated cognition approach (Lave, 1988) with the model of situated acceptance (Bobillier Chaumon, 2013), in order to understand how the functional characteristics of these work environments are mobilised and reinterpreted by their users and how these spatial configurations affect their activity.

Indeed, situated cognition theories introduce the context in our understanding of the lived experience. Action is guided and embedded in its local circumstances, whose are constructed throughout action (Suchman, 1987, Lave, 1988). This distinction and relation between the "given" and the "created" situation is at stake in Lave approach (1988), in her distinction of the *arena* and the *setting*. Situation as a condition and as a constitutive element of the action is relevant in the analysis of the psychological and practical dynamics involved in the use of activity-based workplaces.

Rather than focusing on the intrinsic characteristic of the spatial layout in terms of the physical environment or the comfort of the occupant, the model of situated acceptance highlights how workers deal with these spatial configurations in practice. It makes it possible to question the way users collectively "re-design" the operating rules of these workplaces through their ongoing activity. This comprehensive approach of human activity-in-context makes it possible to concretely evaluate the contributions and limitations of a device around four dimensions :

-    The individual dimension relating to the employee's own activity, in a cognitive and emotional sense
-    The organisational dimension involving the relationship between employees and the way their work is organised, their actions and initiatives
-    The relational dimension involving collective and collaborative activity, the way work collectives function and articulate themselves
-    The dimensions of professionalism and identity, which express the ability for individuals to have their skills recognized, and the ability for them to conduct their activity and maintain their power of action.

The analysis of the spatial appropriation experience throughout the four dimensions of the situated acceptance model allows us to see not only what individuals feel in their use of these artefacts, but also what they actually do with them, what they seek to do, or what they cannot/no longer do with them (Bobillier Chaumon, 2016). Thus, without reducing the action to the situation, this model addresses the subject's psychological and collective activity. The functioning of activity-based workspaces relies on the users' ability to make choices, to arbitrate between different available options and thereby to control his or her activity. These choices are made within the articulation between the spatial configuration and the internal individuals' resources and have consequences upon their activity. This understanding of the dynamics underlying the process of appropriation of these activity-based work environments will be mobilized in order to design workspaces that will offer the most suitable conditions for their final acceptance by their users. Thus, our thesis work aims at understanding how the functional characteristics of these activity-based work environments are appropriated by their users. We focus on the social process of incorporating these workspace typologies into one's activity.

Context of the study

For this proposal, we will introduce an exploratory study which has been conducted in a French industrial energy groupe. Committed to a quality-of-life-at-work process since December 2017, this subsidiary had taken the commitment to evaluate and promote health and safety at work and to improve working conditions to improve the company's performance. At the time of the study, its workspaces had an occupancy rate of 0.8. There were therefore 1,094 employees who shared 728 workspaces spread over two and a half floors.

The building is composed of three floors of activity-based layouts. Each floor has different spaces and workstations with associated rules governing their use (Figure 1 : Presentation of the different types of workspaces).

Figure 1: Presentation of the different types of workspaces and workstations

Methodological approach

For three days, we were able to observe three different teams selected following their responses to a mailing campaign conducted by the officer in charge of quality of life at work. There was a Support Team of four people, a Wi-Fi team of five people, and an Applications Team of eighteen people. An initial telephone interview with each team manager allowed us to define the scope of our observation and design our observation table.

The next stage involved two procedures and five people. The first procedure was aimed at a more in-depth questioning of the participants about their activity and their activity-based work environment experience. For this purpose, we conducted an interview inspired by Vermersch's (2000) method of "explicitation". We wanted to motivate our subjects to consider the impact of their workspace on their activity, their emotions and the different ways in which they functioned. Our interview guide (Table 1 : Synthesis of the main subjects adressed in the semi-directive interviews) was directly inspired by Bobillier Chaumon's four dimensions of situated acceptance and his work on ICTs and their impact on the activity of managers which he carried out for the Association for managers' employment (in French, *Association Pour l'Emploi des Cadres*) (2011).

Table 1: Synthesis of the main subjects adressed in the semi-directive interviews

Status and function	Use of activity-based workspaces	Dimensions of situated acceptance	Conclusion
- Manager/employee - Description of the team - Description of a typical day pf work	- Discovery of activity based workspaces - Choice of work position - Time management	- Individual dimension - Organisational dimension - Relational dimension - Dimension of identity	- Future projection into these workspaces - General challenges and issues of these workspaces

Finally, we proposed a second interview to our respondents the purpose of which was to explain in further detail the dimensions of situated acceptance through personal photos relevant for them. We asked each person to take pictures of their work environment. The aim was to elicit deeper-seated feelings in our subjects and encourage them to provide complementary and more in-depth information than that obtained during the first interview. In order to encourage them to talk about these images, we drafted an interview guide with questions inspired by Vermersch's (2000) "explicitation" interview. The aim of this methodology was to enable the interviewees to be proactive in the process by encouraging them use their own words (Figure 5).

The transcription of the verbal and visual data obtained with our methodology enabled us to constitute a body of data and images that we then analysed thematically (Bardin, 2007), with an analysis grid constructed on the basis of the four dimensions of the situated acceptance approach (Bobillier Chaumon, 2013).

Results

Our objective was to understand how activity-based environments configure the ways in which individuals and groups carry out their activity by using an approach centered on real situations.

We first showed that dynamic environments, with the decompartmentalization of spaces and the proximity of complementary services, favour the emergence of collaborative phenomena. Communication is made more fluid and faster, which allows the emergence of group dynamics fostering mutual assistance and the pooling of knowledge and skills. However, such dynamics are subject to the density of occupancy.

The users of activity-based workspaces appropriate their spaces in a manner which enables them to collectively assign new uses to them. Thanks to the openness of spaces and the visibility of others and of their activities, people can extract from their environment relevant information for their work or for that of their colleagues. In this sense, the dynamics of these spaces foster the emergence of new ways of working and new ways of organising activities collectively. It is this strengthening of the collective dimension that makes it possible to correct the prescribed uses of

spaces when they prevent activities from being carried out. In this sense, activity-based workspaces organised according to the actual activities instead of being organised according to different workspace typologies rely on the fabric of affects and relationships that they help generate.

The space also intervenes at the individual level and on the internal processes of space management. Activity-based workspaces encourage individuals to develop their own rules for managing their activity according to the spatial configurations available to them. They can also, through internal dynamics, divert the prescribed uses of space to address their needs. In this sense, space enables the field of action of individuals to be more easily developed and appropriated. But these new work environments are rarely created by the individuals themselves; they are imposed and embody values set forth by the organisation which may conflict with the users' personal values. Individuals then find it difficult to give meaning to their activity and become resigned to the uses prescribed for the workspaces.

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