

Redesigning learning spaces through students and academics contributions: the role of participatory design

Setting the scene

In the last decade there has been a growing interest about learning spaces in Higher Education (Yang et al. 2013; Neary et al. 2010; Radcliffe et al. 2008; JISC - Joint Information Systems Committee 2006) and the implications they might have in how learners perceive their learning experience (Brooks 2014; Könings, Seidel, Brand-Gruwel, et al. 2013; Fishman 2013; Jessop et al. 2012). There is increasing evidence that the learning space has an impact on students' learning and on their satisfaction (Yang et al. 2013; Jessop et al. 2012). However this interest is not always supported by empirical data which can sustain the (re) design of learning spaces (Yang et al. 2013; Jessop et al. 2012) especially in Higher Education as argued by Jessop et al. (2012). Furthermore learners' voices are usually neglected from this process, as are teachers' which makes both stakeholders detached and resigned from giving their thoughts about how the space where they interact should be. We argue that there is a need of a holistic method that can incorporate in the design of learning spaces both these stakeholders (Yang et al. 2013). We also state that by involving stakeholders as active designers we encourage them to think about a dimension of the learning process that they usually neglect as a variable in the quality of the learning process. There is also a suggestion that there is a power shift from the management to these two stakeholders (Greenbaum 1993).

Learning spaces in Higher Education have been designed based on a traditional row-by-column seating solution which was sustained on principles of passive learning or an instructor stand and deliver situation (Scott-Webber 2013). Nowadays whereas we want learners to become more creative and innovative and to experience an array of learning activities, the existing learning spaces are too traditional and inflexible (Jessop et al. 2012). With the increased use of mobile technologies and context-aware devices, learning spaces have become too unsophisticated, formal and downmarket when compared with professional contexts which learners face right after leaving higher education (Häkkinen & Hämäläinen 2012). Promoting active learning in a traditional learning space is challenging and unnatural (Scott-Webber 2013). Furthermore, they do not foster creativity, innovation and personalisation. The JISC (2006) report on learning spaces suggests that they need to become flexible, future-proofed, bold, creative, supportive and enterprising and with regards to technology integration they need to support mobile learning, connected learning, visual and interactive learning and supported learning.

In this paper we argue that in order to promote more effective and technologically-enabled learning spaces, we need to bring together learners' and teachers' perceptions and ideas and to co-design their learning space with them. In order to accomplish this we follow the method of Participatory Design (PD) (Schuler & Namioka 1993). Although initially used for designing technologies and its integration in the work place in Scandinavian countries, PD has also been used in health services and architecture and more recently in the education sector (Bonsignore et al. 2013; Könings, Seidel & Merriënboer 2013; Cerratto-Pargman et al. 2012). PD is a set of practices and research methods that aim to include end-users as active participants in the design process (Schuler & Namioka 1993). By doing so users become not only participants but also experts with a voice in the final product. Therefore the learning space is seen not merely as a product but as an active process in which the product is put into context. The concept of PD matches new trends in learning and teaching in which learners construct their knowledge by dialogue, discussion and negotiation, thus through participation (Jessop et al. 2012) and engagement. This drives us to our research question which is: how different would a learning space be if we integrated its main stakeholders' perceptions and creative ideas?

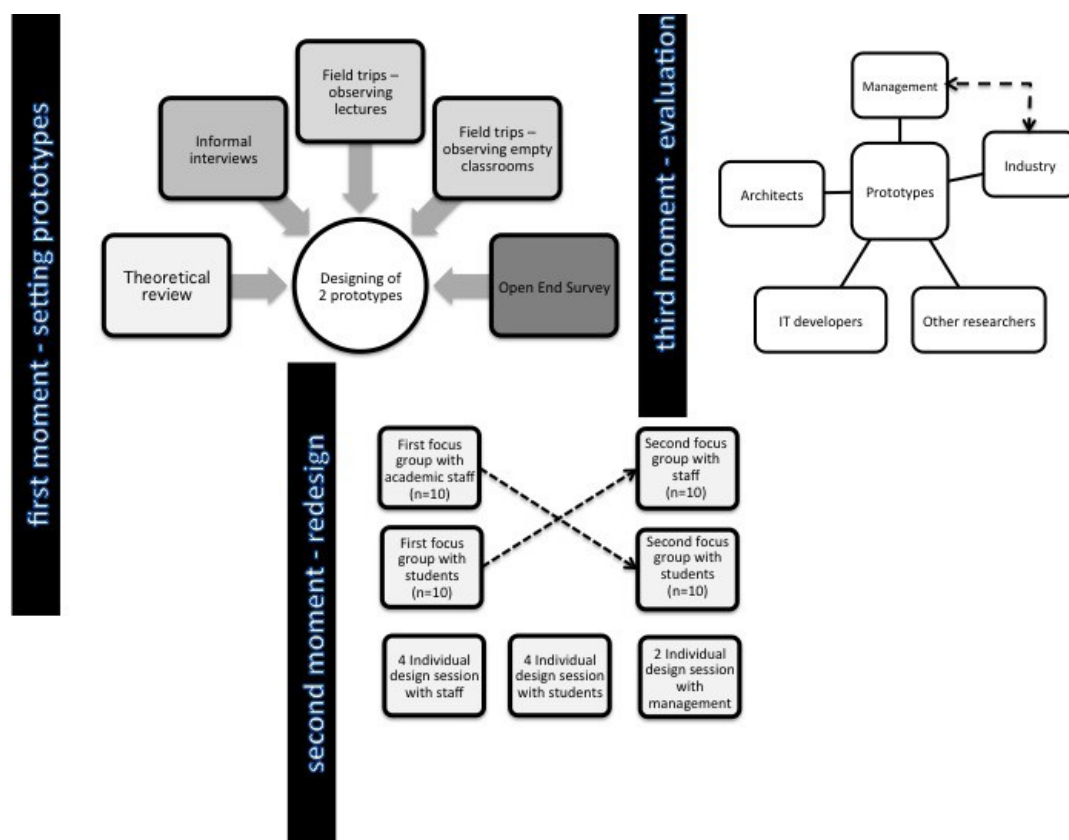
Research Design

We are doing a typical participatory design research which suggests both an action research and an ethnographic method:

- ◆ Action research because there is a cycle of design whereby designers redesign a concept after receiving input from end-users and this cycle can be reviewed at different stages until a final evaluation (Kemmis et al. 2014).
- ◆ Ethnographic study because the researcher becomes immersed in the activities of studying people and their actions (Blomberg et al. 1993).

Typically PD can involve observation, surveys, informal interviewing and participation in focus groups (Blomberg et al. 1993). Ethnographic work requires the personal involvement of the researcher participating actively in the sharing process through their own practices and experiences. To facilitate full user participation there is a need to design a clear scenario, which makes sense to both users and the researcher.

Our research design comprises three core elements: (i) Setting the prototypes and planning the scenario, (II) Redesigning and (III) Evaluation. Figure one presents the different steps to be taken within each element.



We are currently finishing the first element wherein we present two prototypes. The two prototypes were designed through field trips to classrooms, empirical data (open-ended questionnaire with 35 respondents) and informal interviews (with academics, students and management). We came up with two prototypes – one set for a small classroom (up to 30 students) and one set for a large classroom (up to 200 students). These two prototypes will be re-designed in 2plus2 focus groups with students and teachers. The outcome of the first students’ focus group will be presented as a new prototype to the second teachers’ focus group and vice-versa. Simultaneously, we will also be conducting individual design experiences with academics and students experienced in the two settings. All these sessions will have a designer and a researcher present with the participants. The designer’s role is to put on paper a visual representation of what is suggested. The researcher’s role is to actively participate in the discussion, highlighting the challenges and opportunities that arise. The prototypes will be refined and redesigned and presented to the different key players normally involved in this process (management, industry, architects, IT developers and other researchers).

Expected outcomes and final considerations

The main outcome expected is to build the foundations for discussing learning spaces as a dynamic and co-designed concept. It is our initial assumption that one of the ways to bridge the gap between academics and student perceptions of learning spaces is to involve them actively in their design. This gives the student the opportunity of engaging with their learning environment and also gives to academics the opportunity to think about where they teach without boundaries and so to become more creative in their practice and more linked with their students.

We have the aspiration that PD will go beyond the design of learning spaces. We foresee PD being used as a strategy to design the curricula, the universities administrative and supporting services or even procedures and regulations. We argue that PD can be a catalyst for students and academics engagement in the university life by increasing a sense of co-ownership on the different dimensions of the university.

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