Chapter VII

Innovations in Collaborative Web Design: Methods to Facilitate Team Learning During Design

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ABSTRACT

In this chapter we analyse the link between multi-disciplinary design and team learning, which, we argue, need to be supported in equal measure during Web design projects. We introduce a new approach to collaborative Web design, called the Design and Learning Methodology, as a way to support these two processes. The approach involves many stakeholders, including future Web site users in design decision making. It structures stakeholder participation through multi-disciplinary design teams (MDTs). It uses professional facilitators to guide design and learning processes. Facilitation tools are drawn from a combination of action learning methods, which help MDTs reflect and act on new knowledge gained from design experiences and human centred design, which is an international protocol for achieving quality in interactive systems design (International Organization for Standardization, 2000). Based on our research, we describe how facilitating the process of learning from design contributes to continuous improvement in collaborative competencies needed for Web design.
INTRODUCTION: THE NEED FOR A NEW APPROACH TO COLLABORATIVE WEB DESIGN

One of the main challenges in Web design projects is to “align” technical, human, and business requirements into one central design. To achieve this, theorists and practitioners alike point to a need for a collaborative approach to Web design. The assumption is that by stimulating collaboration between technical and nontechnical disciplines, companies can improve the quality and usability of designs and achieve early acceptance of technology by customers. Companies increasingly set up multi-disciplinary design teams (MDTs), in order to bring a wide range of expertise to bear on Web design problems. MDTs are seen as a logical and efficient way to achieve design success. However, most Web design projects continue to fail, as is well known from years of reports in business and design research literature. Why is this so?

A number of design research studies show that when nontechnical specialists and other stakeholders participate in an MDT, they expect to be allowed to co-determine the design (Bekker & Long, 1998; Valkenburg, 1996). However, when nontechnical people and other stakeholders participate in multi-disciplinary design, decisions tend to not reflect input from these people; instead, they often end up accepting solutions generated by technical decision makers, who tend to veto or ignore the critical advice team members try to give them (Ball & Ormerod, 2000; Buchanan, 1991; Cooper, 1999). Design becomes a process of “contested collaboration” between MDT members (Sonnenwald, 1993), which is difficult to sustain when intensive differences in opinion must be negotiated (Toerpel, 2001).

Other studies indicate that design projects typically do not generate decisions through participation of all MDT members (Ball, Lambell, Reed, & Reid, 2001; Olson et al., 1996; Turner & Cross, 2000). Walz, Elam, and Curtis (1993), Marchman (1998), and Steiner, Gabriele, Swersey, Messler, and Foley (2001) indicate, MDTs do not engage in knowledge sharing as a team. Rather, individuals carve off a small piece of the work and avoid interacting much with other team members. Shared understanding is defined by Flood (1999) as consisting of three types of understanding. These are:

- **Consensus:** in which there is strong agreement between team members and where the agreement sacrifices individual needs and identities for a meta-definition of what is needed
- **Accommodation:** where finding some common ground between people is achieved while preserving some differences in opinion, so that individuals can change the meaning in repeated cycles of negotiation and learning
- **Tolerance:** which means maintaining diverse identities with no necessary overlap, allowing disagreement to exist within a plethora of viewpoints

Eisenberg (1990) suggests that tolerance is probably the most important form of shared understanding for multi-disciplinary work. Tolerance puts less emphasis on achieving complete consensus and more on making connections and facilitating communication among team members. Tolerance for diversity implies that people from different disciplines feel mutual respect for each other and trust in knowledge from other disciplines, even when they do not feel empathy with people representing that knowledge (Hill, Song, Don, & Agogino,
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