

## 'Light up for All': Building Knowledge on Universal Design through Direct User Contact in Design Workshops

**Authors :** E. Ielegems, J. Herssens, J. Vanrie

**Abstract :** Designers require knowledge and data about a diversity of users throughout the design process to create inclusive design solutions which are usable, understandable and desirable by everyone. Besides understanding users' needs and expectations, the ways in which users perceive and experience the built environment contain valuable knowledge for architects. Since users' perceptions and experiences are mainly tacit by nature, they are much more difficult to express in words and therefore more difficult to externalise. Nevertheless, literature confirms the importance of articulating embodied knowledge from users throughout the design process. Hence, more insight is needed into the ways architects can build knowledge on Universal Design through direct user contact. In a project called 'light up for all' architecture students are asked to design a light switch and socket, elegant, usable and understandable to the greatest extent possible by everyone. Two workshops with user/experts are organised in the first stages of the design process in which students could gain insight into users' experiences through direct contact. Three data collection techniques are used to analyse the teams' design processes. First, students were asked to keep a design diary, reporting design activities, personal experiences, and thoughts about users throughout the design process. Second, one of the authors observed workshops taking field notes. Finally, focus groups are conducted with the design teams after the design process was finished. By means of analysing collected qualitative data, we first identify different design aspects that make the teams' proposals more inclusive than standard design solutions. For this paper, we specifically focus on aspects that externalise embodied user knowledge from users' experiences. Subsequently, we look at designers' approaches to learn about these specific aspects throughout the design process. Results show that in some situations, designers perceive contradicting knowledge between observations and verbal conversations, which shows the value of direct user contact. Additionally, findings give indications on values and limitations of working with selected prototypes as 'boundary objects' when externalising users' experiences. These insights may help researchers to better understand designers' process of eliciting embodied user knowledge. This way, research can offer more effective support to architects, which may result in better incorporating users' experiences so that the built environment gradually can become more inclusive for all.

**Keywords :** universal design, architecture, design process, embodied user knowledge

**Conference Title :** ICATH 2020 : International Conference on Accessible Tourism and Hospitality

**Conference Location :** New York, United States

**Conference Dates :** December 10-11, 2020