

# Vandhalla – A Sport Centre and a Successful Example of First-Generation Universal Design

Sidse GRANGAARD<sup>1</sup> and Camilla RYHL  
*SBi, Aalborg University, Denmark*

**Abstract.** The research project ‘Evaluation of Vandhalla’ is a study of the perceived quality of the new building as well as the design competition and design process leading to the final design. The evaluation focuses on the mindset of the winning entry, the design process, the design solution and the value of Vandhalla. Vandhalla is a sport centre including an indoor swimming pool at the Danish folk high school, Egmont. Empirically, the evaluation is based on qualitative interviews and walkthroughs on site with the architects, the client, personnel and students. The evaluation shows that Vandhalla is a successful example of an inclusive building in Denmark. The paper points at two factors having an impact on the result: the client as a key driver and the understanding of the users. The general use of knowledge as well as the winning design team’s use of knowledge in the work with the design is problematized. It is suggested that Vandhalla should be regarded as a contribution to the first generation of Universal Design (UD) in Denmark. The Evaluation was conducted by the authors at SBi Aalborg University and financed by Realdania.

**Keywords.** Universal Design, post-occupancy evaluation, architectural practice, equality, knowledge

## 1. Introduction

In a Danish context accessibility becomes synonymous to the accessibility requirements of the Danish Building Regulations [1]. Based on an understanding of the design brief, architects generally search for a central organizing principle that can give order and consistency to their design [2]. In most cases accessibility is built into the design late in the process [3]. Few architects would characterize the Building Regulations as an inspiration when working on a draft or competition with the organizing principle which is emphasized by the lacking focus on Universal Design (UD) as a design parameter or a quality parameter.

The design competition for Vandhalla: a sport centre, including an indoor swimming pool with a water chute for all, at Egmont folk high school was arranged in 2009. The Egmont is open to everyone but a majority of the students have physical disabilities. Vandhalla as a design competition and as a realized building is interesting partly because Vandhalla can be regarded as a forerunner to the Headquarter of the Danish Disabled People’s Organisations Denmark (DH-house) – designed by the same

---

<sup>1</sup> Corresponding Author, SBi, AAU. A.C. Meyers Vænge 15, 2450 København SV; E-mail: [sig@sbi.aau.dk](mailto:sig@sbi.aau.dk).

architects, and partly because it is unusual that a competition with a focus on Universal Design or accessibility for all is arranged in Denmark.

The evaluation was based on fieldwork at Vandhalla where qualitative interviews and walkthroughs were conducted with two architects from the winning team, the client, three instructors, a physiotherapist, a personal assistant, the technical manager and four students in 2014. The keywords mind-set, designs, process and value defined the frame of analysis.

## **2. Keys to a Successful Example**

The evaluation showed that particularly two main factors contributed to the inclusive design of Vandhalla. 1) The client was extremely committed to the project thus he could be characterized as a key driver in good and bad. He was solution-oriented and fought for all the special designs especially the accessible water chute. But not all of his solutions functioned well enough. 2) The understanding of the users by the winning team. They focus attention on knowledge, which inspired them and then was used in the entry. A manifesto from an earlier non-realized project about dwellings for disabled people made the team focus on 'flow' in order to make it easy to drive around in a wheelchair. The metaphor 'a sack of potatoes' used by the users in the brief to describe the undignified situation of using a lift to enter the pool functioned as an eye-opener and became important for their focus on equality and the development of a mind-set.

The team's understanding of the users changed during the process. A visit at Egmont created involvement for the team and opened their eyes to the culture and the inclusive principles at Egmont. In the beginning they purely focused on wheelchair users and people with reduced mobility and had a simplified understanding of them but later they discover the diversity among and within groups of users due to a growing acquaintance with the students and due to the parallel process of designing the DH-house. Equality became the keyword for their mindset and their understanding of equality in design changed from one solution for all to focus on differentiation and therefore offering a palette of various designs addressing all kinds of user needs.

## **3. Perspectives**

The knowledge used in the design process originated in the winning team's own experience and experiences from the users. We find it problematic that the winning team primarily drew on their own knowledge instead of literature and architectural references. Why didn't anybody search for similar projects? Why didn't they focus on knowledge about user preferences in relation to architectural aspects? The answer could be that there was no culture for doing research in this field and furthermore UD wasn't yet defined and acknowledged in the Danish context. Nobody knew how to use UD as an architectural driver in beginning of the design process.

Vandhalla is indeed a first-generation UD example. We suggest the expression first-generation UD to characterize the generation of first mover projects. They can be based on insufficient or random knowledge about the users, the sensory and the social aspects of UD but actually they try to work architecturally with UD from the start of the design process. The next generation will need an interaction of knowledge between practice and the research to develop UD and an architectural research.

## References

- [1] Ryhl, C. *Arkitekturen Universellt Utformet: en ny formidlingsstrategi*, Husbanken, Trondheim, 2013.
- [2] Kreiner, K. Constructing the client in architectural competition. An Ethnographical Study of Revealed Strategies, EGOS Colloquium, Vienna, 2007.
- [3] Frandsen, A.K., Kirkeby, I.M., Ryhl, C. and Pedersen, L.S., *Bygningsreglementets tilgængelighedsbestemmelser set i forhold til byggeprocessen*, SBI 2012:16, Statens Byggeforskningsinstitut, Aalborg Universitet, 2012.