

Case Study

HIL F 15

learning behaviorolgy

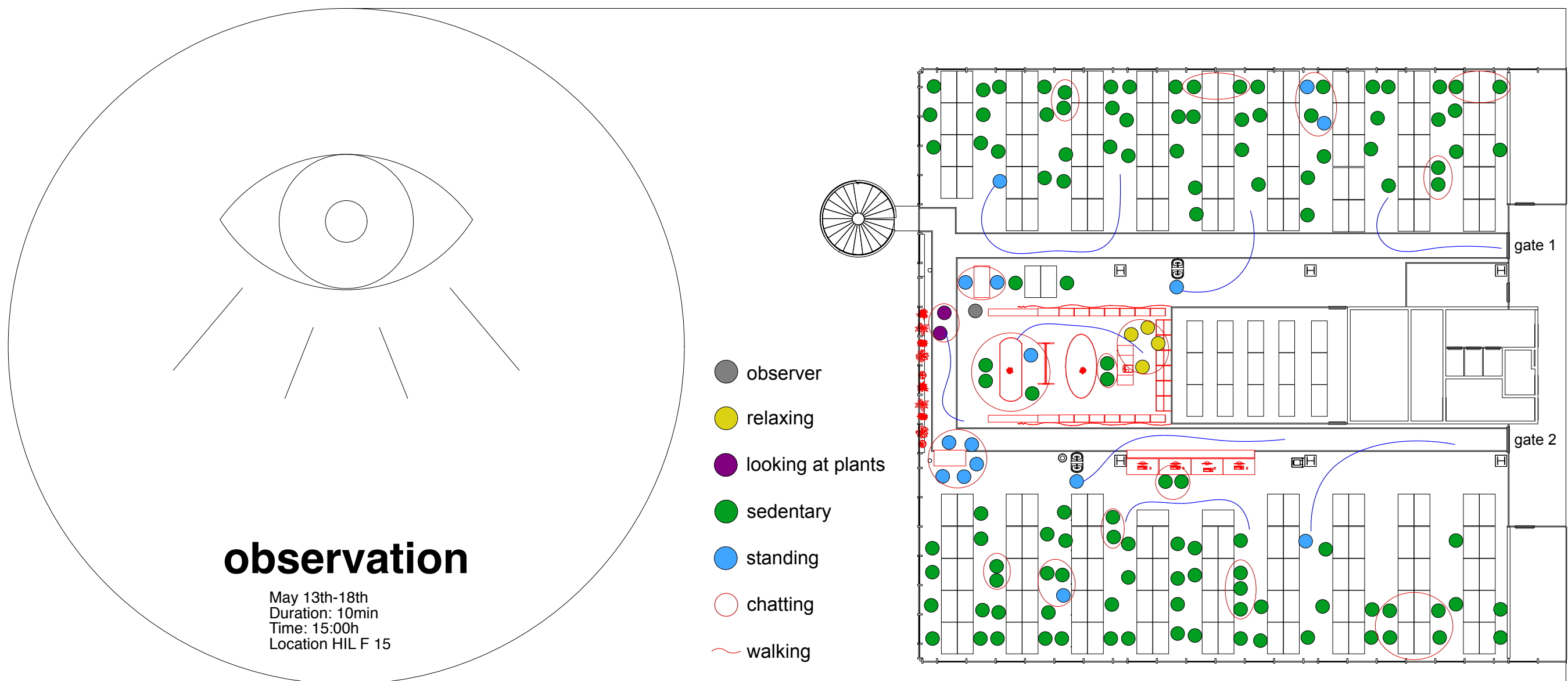
A high occupancy rate within the D-ARCH faculty building HIL has led to an overload of the learning environment. The HIL building was constructed in 1974 for engineering and architecture students at ETH. It is expected to enter into a second life cycle in the coming decade. The number of students has been growing in recently, resulting in a lack of flexible study- and work spaces to occupy. The three Huber pavilions next to HIL were built in 1989 with the purpose of accommodating architectural design studios. The pavilions are conceived as a temporary, light weight wood construction with simple connections. It's primary structure is made of solid wood and boards with the option of deconstruction and re-use in another location. The pavilions were deconstructed in 2022, further contributing to the scarcity of built resources. As a consequence, D-ARCH diploma students are being moved to HIL F 15, which was primarily used by students of D-BAUG. As part of a case study, a forum ad interim has been introduced, which will serve as model for the extension of HIL. In particular, the construction of the case study was executed with re-used materials from ETH.

The case study, introduced as a pilot phase, constitutes a proposal for the change of furniture and thus extension of common workspaces of students. The design may serve as future strategy for the expansion of the HIL building. The evaluation of the outcome and satisfaction of stakeholders further reinforces future learning strategies and methods, as higher informal learning.

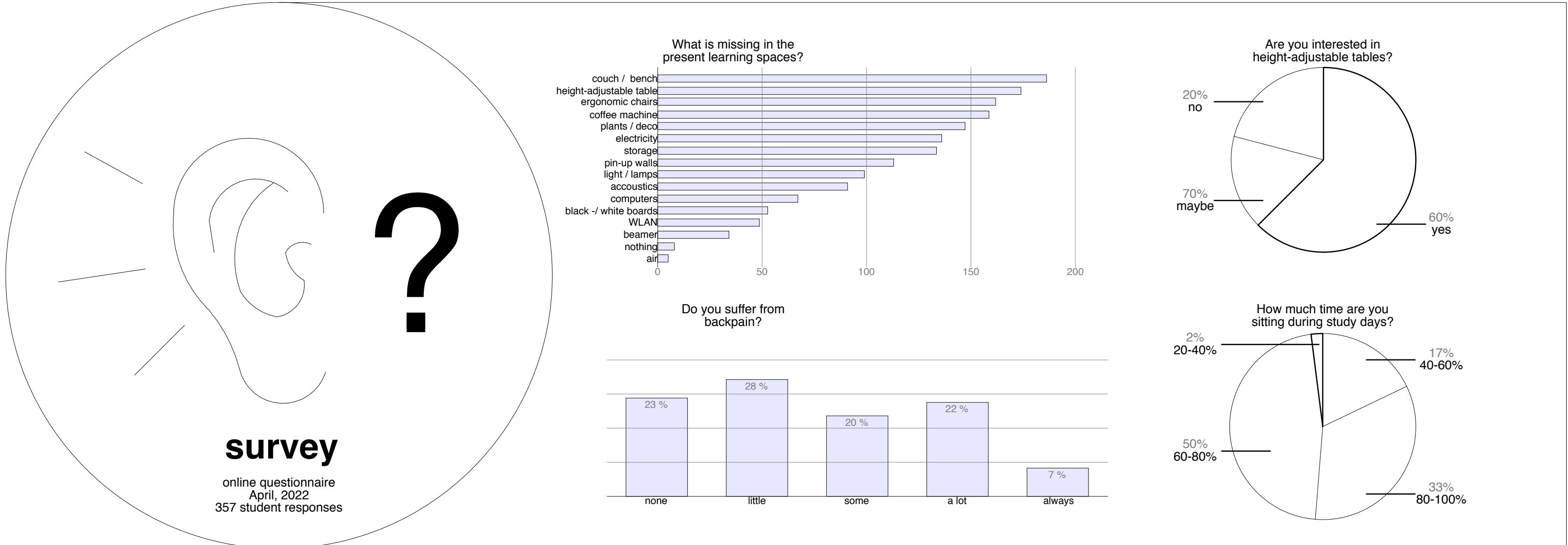
The main goal: to create a healthier space for learning activities succeeded. A proposal for an in-between space was introduced, accepted and refined in meetings with all stakeholders. The case study not only tests new learning spaces, but also safeguards as many working stations as available before the intervention.

Informal learning spaces have been implemented successfully at D-ARCH on several occasions. In the case of HIL F 15, the introduction of a buffer zone between the different student groups has proven worthwhile. It invites students to spend time deliberately exchanging and interacting while in shared space. The empowerment of student to appropriate of space hereby seeds the idea of democratic activism and expands the participative process with individual voices. Height-adjustable tables are limitedly available at ETH. For the execution of the case study, three such tables were made available by "ETH Barntree", serving approximately 300 students. Hence, we develop a DIY solution to retrofit existing furniture (fig. 26) with non-intrusive and reversible table post-forming. The method consists of an encasing for the existing metal table legs, with an additional enclosure. This additional, outer leg is equipped with wheels for increased mobility. The mechanism for adjusting the height of the table relies on a simple bolting system. A metal screw or bar is inserted into cross-sectioning openings of the encasing, thus interlocking the inner table leg on a certain height.

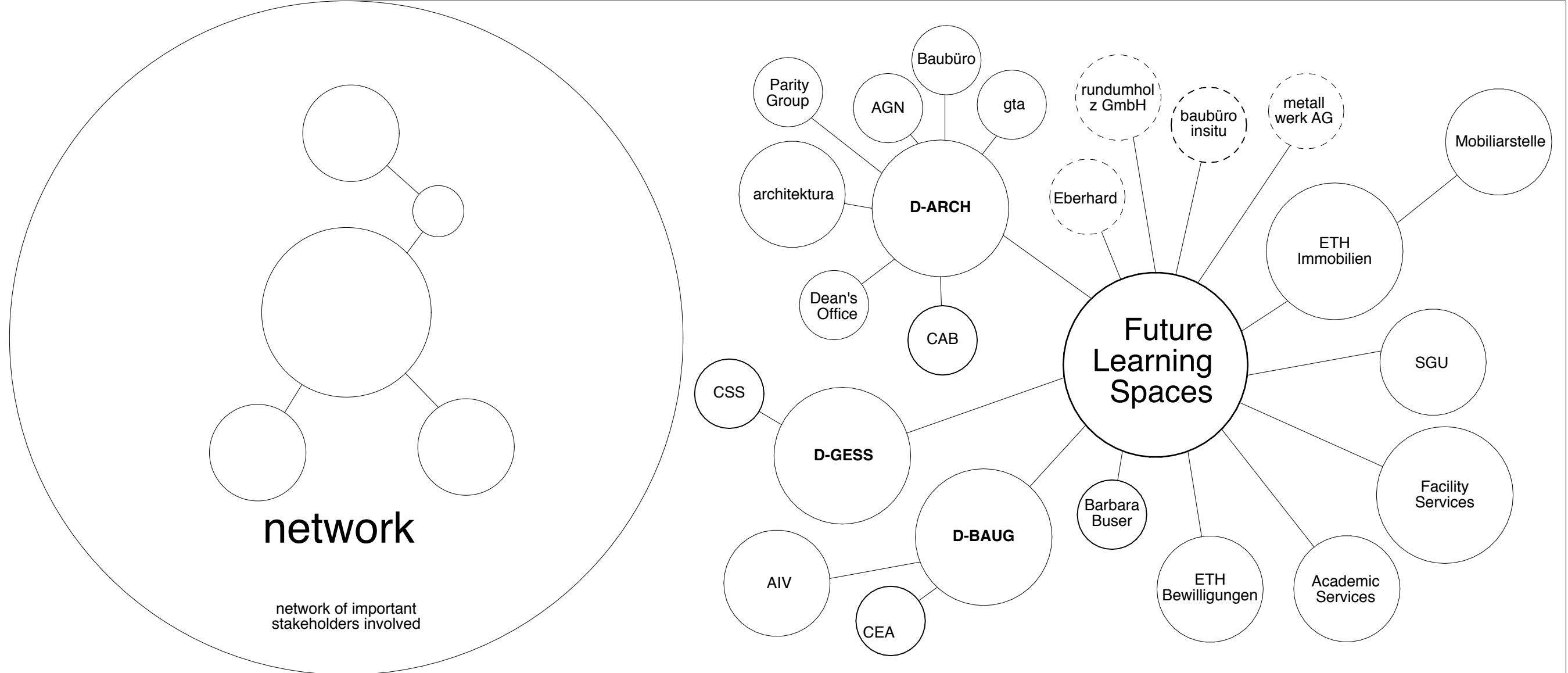
The resulting prototype of DIY testing was later produced professionally both in wood and in metal by a local carpentry (rundumholz GmbH) as well as a metal workshop (metall werk AG) in the neighborhood. Both solutions remain making use of the same bolting system.



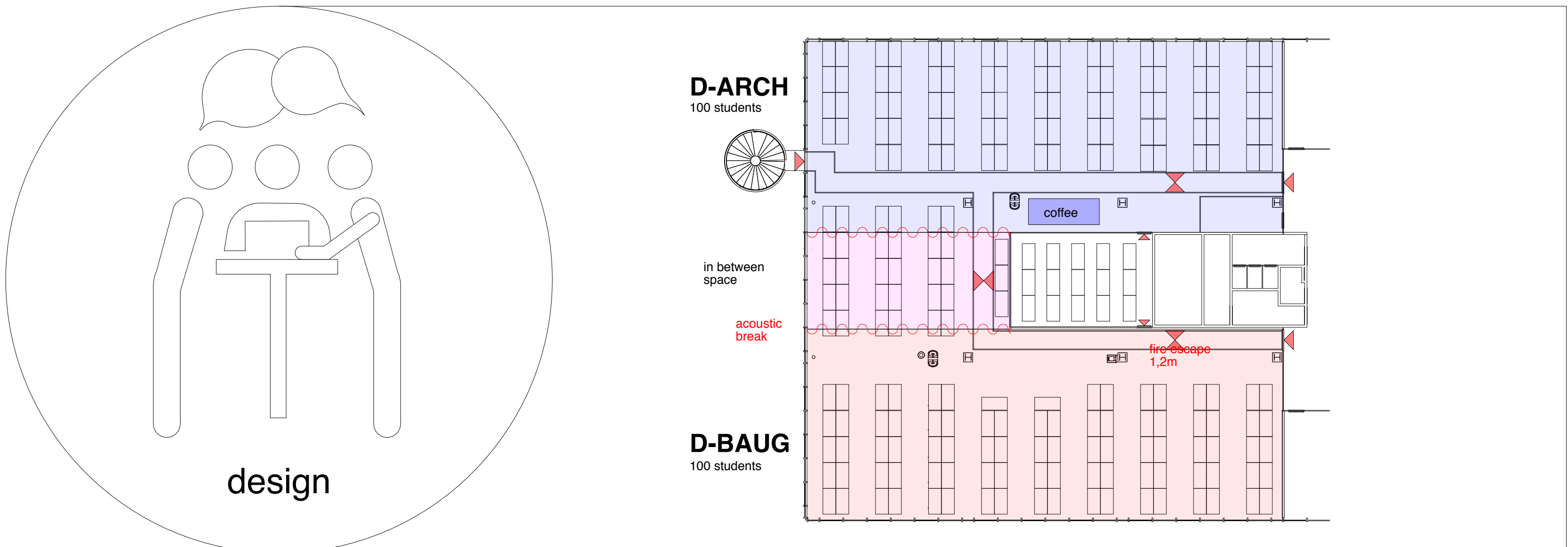
Reality of Learning
In order to build better learning spaces, first, study activities must be identified and quantified. Behavioural observations allow for a deeper understanding of preferred spatial typologies and correlating performance efficiency of students.



Teaching vs Learning
Roughly 90 percents of all partaking students claim to have severe or constant back pain. Likely, as a result from their study activities, which occur mostly in sedentary position. Teachers, on the other hand, often stand during lectures and utilise more comfortable furniture in their office. In particular, we find, that height-adjustable tables are very popular with students, not only for individual work, but mainly for group discussion in a standing position.



Design in Dialogue
In order to realise any proposal for transformation in the learning scape of ETH, many stakeholders are automatically involved in the permission- and decision making process. In order to enjoy their support, it requires a clear understanding of safety and behavioural rules.



Which requirements need to be fulfilled?
Democratic spaces require a multiplicity of voices to be heard and considered. The case study was designed in coordination with the Academic Services of ETH, AIV from D-BAUG and architektura from D-ARCH.