

Future Learning Spaces

table behaviorology

What are Future Learning Spaces?

Since the construction of the original ETH Main Campus by **Gottfried Semper** in 1865, not much of the learning environment has changed, except for the technical tools, which are being used. **Knowledge** is commonly conveyed during **study actions in sedentary position**, whether in a group lecture hall or at individual workspaces. The only physical (standing and moving) activities are connected to excursions, model building or other, non-study related activities and **"informal learning"** on campus, such as drinking coffee with peers or having lunch. Building friendships and social connections along the way is regarded more of a side product, than a deliberate goal of the education itself.

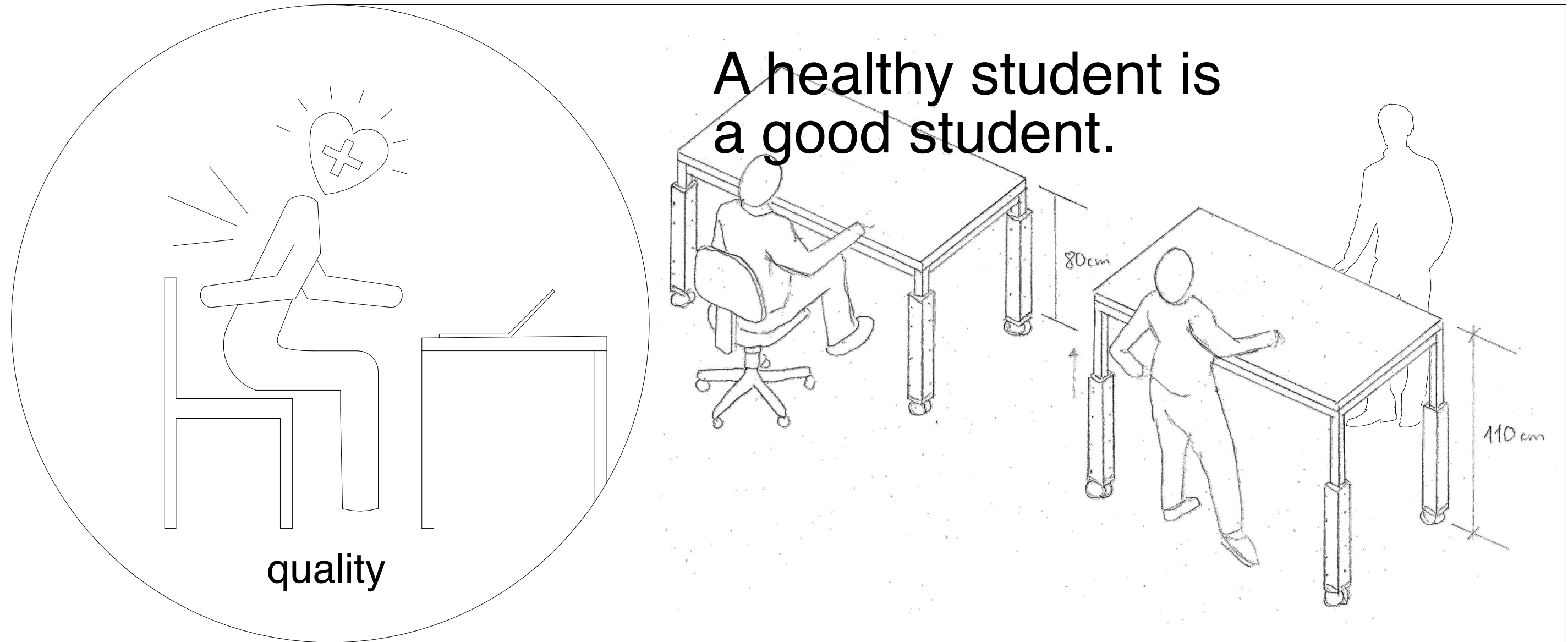
Different **learning methods**, such as real building processes, disassembly, preparation of material, hands-on design and execution of a project are yet to be integrated formally into the curriculum. Rather than to criticise an existing system of teaching, the common sense thing to do, is to propose new models for learning. **Institutional change** is successfully achieved by engaging less in politics but more in practical solutions.

Study and learning methods are evolving digitally. A majority of learning occurs in places, which are not intended as **learning space**. (Thomas, 2010). We question how, where and when does learning take place in higher education? Knowledge is commonly conveyed in **standardised spaces**, which are characterised by the industrialisation of society. Lecture halls have been conceived as an efficient **production line of knowledge**, thus being designed for one-way and live **delivery of content** from faculty to student (Biggs, J. B., 2003). The spatial articulation of designated learning spaces plays a crucial role in study **behaviours** and the overall **performance** of students.

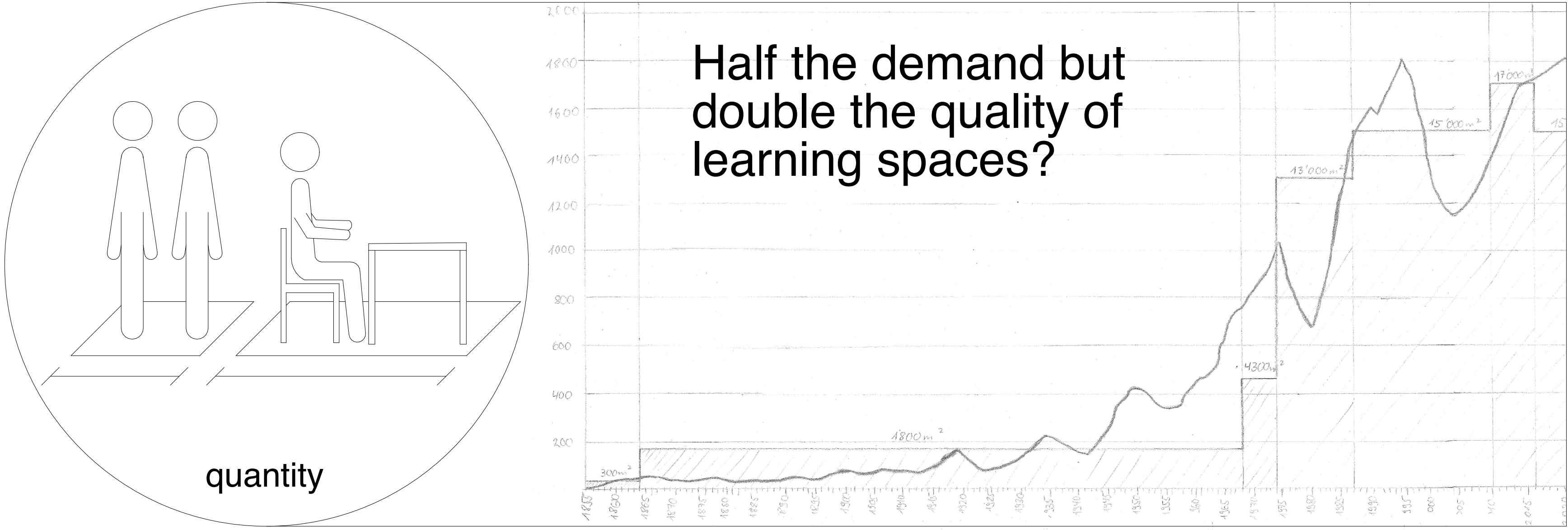
We know, that **mental health** is closely connected **physical well-being**. Physical movement improves the **cognitive capabilities** of students and encourages peak performances (Ratey, 2013). Contemporary study methods, such as sitting in front of computer screens for many consecutive hours, do not support the notion of physical movement. We underline the impact of furniture on **pedagogical** and behavioral patterns in the learning environment and furthermore the importance of physical movement during learning processes (Dr. John Ratey, 2013).

a conversation between teachers and students

Fabio Gramazio - "HIL is horrible to work in"	"After six years, HIL feels like home." - Student
Annette Gigon - "As a student, I used to work from home, whenever I could"	"We were asked to build big models, but there was literally not enough space" - Student
Roger Boltshauser - "HIL is confusing"	"Students are more kind to each other inside of a nice space" - Student
Annette Spiro - "I still feel like a tenant in HIL."	"If learning spaces are too comfortable, we spend even more time at university." - Student
Barbara Buser - "Most learning occurs during coffee"	"Learning spaces are overloaded" - Student
Annette Spiro - "Students shall have top priority and space made available."	"The school does not like students getting too comfortable" - Student
Barbara Buser - "We need to re-think classroom education"	"Spaces need to be inviting. Food and beverages also help." - Student
"Flexibility always comes at a cost." - Heinz Müller	"Colors and plants are not so important. Students just want to co-decide." - Student
"Some of the furniture is older than HIL itself" - Heinz Müller	"No matter how comfortable your chair, after ten hours of sitting, your back will hurt." - Student
"I perceived HIL as a catastrophe. I kept falling asleep in classes." - Barbara Buser	"Learning spaces must be inviting to meet" - Student
"I require at least one, or two or even three tables to work properly" - Barbara Buser	"Its more difficult to learn, if you lack close friendships" - Student
"A spectacular building is distracting while learning." - Annette Gigon	"Students need to learn, how to learn" - Student
"Desk sharing is for businesses, not schools." - Annette Gigon	"It'd be nice to have some diverse and ergonomic furniture" - Student



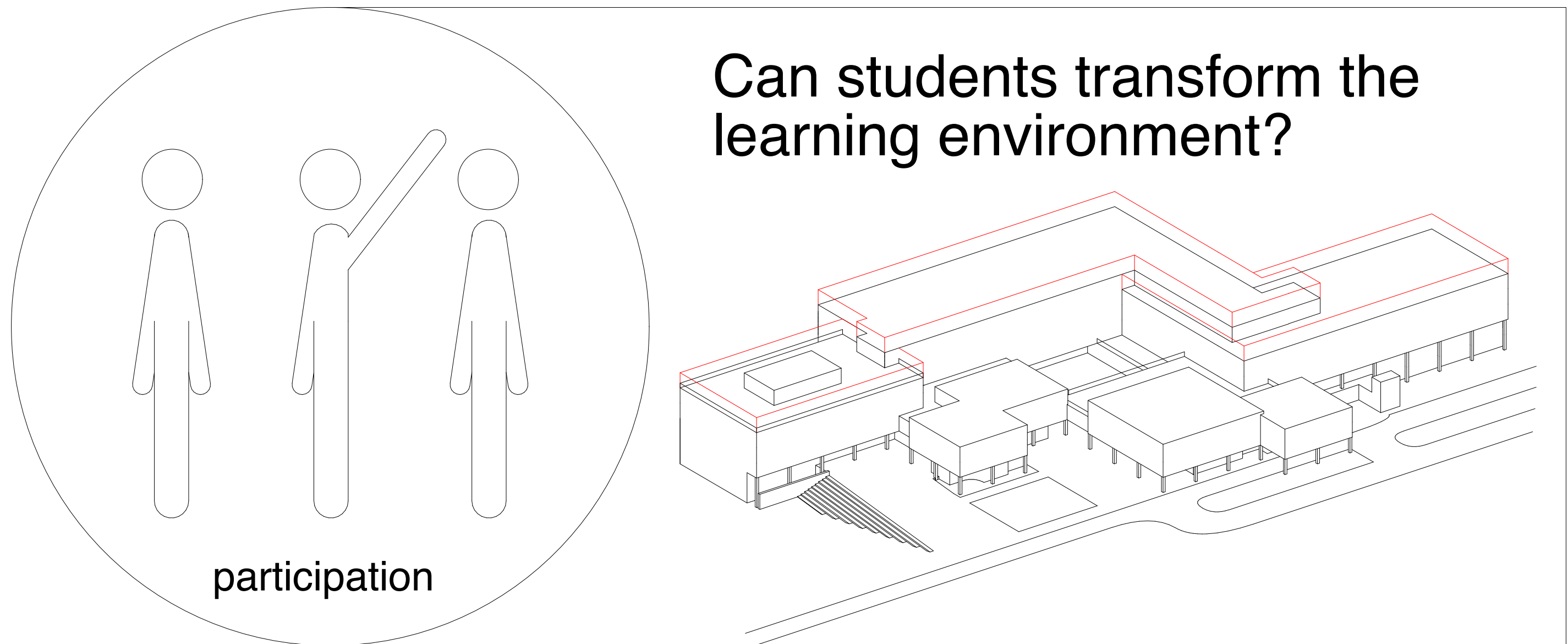
What makes healthy learning spaces?
Physical and mental health impact the success of learning processes. A healthy environment advocates the notion of comfort. Standing tables foster peer exchange and dialogue and thus support the sharing of knowledge during discussion. Height-adjustable tables provide users with the ability to change body position during study.



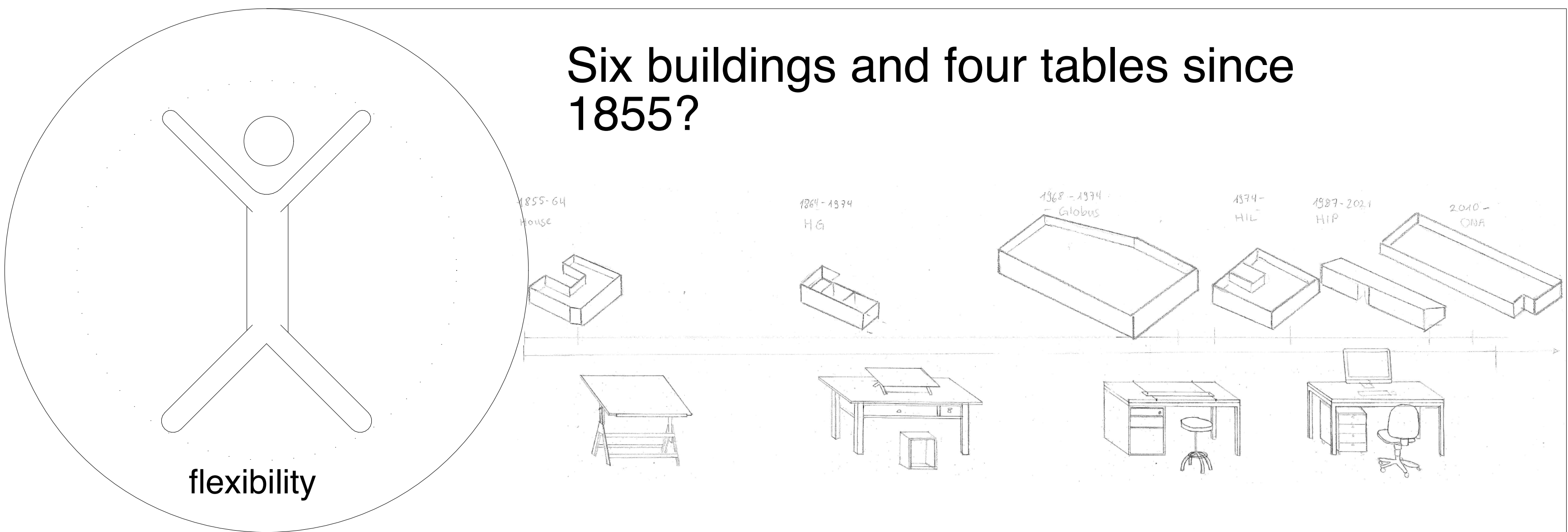
Physical space at the department is limited.
Height-adjustable tables reduce the footprint of individual students by inviting students to share working spaces, thus minimising the need for personal workspace by up to 50%. Standard tables for sedentary work (120cm x 60 cm) provides more individual space but do not facilitate any exchange amongst students.



perspective of HIL and Huber pavilions
data from Immersive Studio



What is the role of students at university?
The more time the students spend working on their projects at university, the more they start to behave, as if they were at home. The more the students feel at home in the learning environment, the larger they become a problem in regards to building maintenance.



What is the role of the university for future architects?
The more time the students spend learning, the more time they spend sitting. The more the students sit, the likelier they are to suffer from back pain and other work-related illnesses.