Guideline universal design

Sheet 18: The physical learning environment

What? [1, 3, 9]

> An accessible and inclusive physical learning environment motivates all users, facilitates optimal learning and supports everyone in carrying out activities, taking into account the diversity and presence of certain needs of the student population.

A physical learning environment consists of both hard, more difficult-to-adjust architecture (such as walls or windows) and soft, more easily-adapted architecture (such as chairs and desks). A teacher often has little influence on the hard architecture but can get started with the soft architecture. Services involved in designing, shaping and developing the physical learning environment do have an impact on the hard architecture. In addition to aspects such as the form, layout and flexibility of the classroom, the structural processing and correct use of facilities with regard to ergonomics, acoustics, lighting, ventilation, temperature are also important here (see also sheet 20: sensory accessibility).

Why and for whom? [2, 3, 4]

Research shows that the physical learning environment influences the student's learning outcomes, the quality of education, and the behavior and well-being of both the student and the teacher. The thoughtful design and use of the physical learning environment can support the learning of a diverse student population. For example, students with limited mobility, students who have to carry out medical procedures, students with a developmental disorder or students with a sensory disability.

Tips & Tricks [3, 4, 5, 6, 7, 8]

Design and development

- ☐ **Coherence** | Strive for coherence between the spatial conditions and the expected pedagogical activities. Pedagogy and space are inextricably linked.
- ☐ **Integrated plan** | Draw up an integral plan that, based on a clear and shared strategic vision, provides a pedagogical and spatial framework for the future.
- ☐ **Support base** | Create a support base. Communicate plans to, and motivate all involved. Strive for a participatory approach where everyone has a say and is involved in the development of plans and ideas.
- ☐ **Cycle** | See innovation and transformation as a repetitive cycle, in which spaces are transformed as new needs or changes in the pedagogical vision so require.
- ☐ **Flexibility** | Focus on designing flexible educational learning environments that enable different work forms, layouts and set-ups.
- ☐ **Student needs** | When designing the physical educational environment, take into account the needs of students with a disability, some examples:
    - Provide sufficient space for students with a wheelchair.
    - Choose flexible furniture that can be adjusted in height, is easy to move and can be (re)moved.
    - Provide sufficient sockets.
    - Make sure that the operation of buttons and switches is accessible to everyone.
    - Provide a shielded room (for example for students who have to perform medical procedures or students who are prone to overstimulation).
    - Ensure that all seats are easily accessible.

Location, relocation, movement and ergonomics

- ☐ **Wayfinding** | Always clearly state where the lessons take place (room number and location), and possibly also describe the route to this room at the start of the academic year.

- ☐ **Space for movement** | Provide sufficient room for manoeuvre when setting up the (lesson) room, e.g. for students with a wheelchair, but also to facilitate activating work forms.
- ☐ **Furniture** | Allow students to work on a variety of furniture, if any, in line with their personal needs.
- ☐ **Cables** | Avoid loose cables.
- ☐ **Outside the campus** | Consider the accessibility for a broad student population when choosing activities outside the campus (accessibility, crowds, etc.).
- ☐ **Private place** | Allow a student to isolate himself or find a quiet place; for example in the context of medical prescriptions, specific problems, stress, overstimulation, etc.
- ☐ **Desk setup** | Choose setups that are accessible to everyone if the desk setup is flexible. For example, a U-shaped setup is more interesting than a row setup for the deaf and hard of hearing or students with a wheelchair. A combination of set-ups that meets the needs of the broad student population is optimal.
- ☐ **Communication** | Ensure that students with problems related to navigation (e.g. blind or visually impaired students) are notified of changes to the layout of the classroom.

Ventilation, lighting, acoustics, atmosphere and temperature

- ☐ **Plants** | Plants and greenery create a pleasant atmosphere in a room and promote concentration.
- ☐ **Lighting** | Always illuminate all important work-, task- and instruction surfaces in the appropriate way, for example for noting during presentations etc.
- ☐ **Sun protection** | Make use of the existing sun protection screens when necessary.
- ☐ **Temperature** | Pay sufficient attention to climate regulation in the school buildings and classrooms. The ideal temperature depends on the function of the location. In a classroom, the ideal temperature is 21 degrees, for active tasks in, for example, practical classrooms, the temperature may be slightly lower.
- ☐ **Ventilation** | Ensure adequate ventilation and fresh air: concentration tasks require up to 15% more oxygen. This also prevents odor nuisance.

- ☐ **Sound** | Pay attention to noise, in order to guarantee concentration and intelligibility, the surrounding noise level is best below 35dB(A).
- ☐ **Micro** | Use a micro whenever possible and repeat questions asked by the public.
- ☐ **Sheet 20** | See also file 20: sensory accessibility.

Know more?

- ☐ Read more about the ALINA project of the KU Leuven association about activating learning spaces (Dutch).
- ☐ Consult here the inspirational guideline from AGION (the Agency for Infrastructure in Education) for integral accessibility of school buildings (Dutch).
- ☐ View the KB of workplaces here, stating which requirements must be met with regard to lighting, temperature, humidity, etc. in Flanders (Dutch).

In practice

" "It is important for architects to collaborate in advance with pedagogues when designing new buildings. There are many different disciplines who think about it. They must all be part of the vision. "

" "In a number of courses we have very authentic classrooms, for example a real nursery class."

" " We think about informal learning spaces where students can study or relax. Informal communication and co-working are becoming important for students. "

" " We focus on low-stimulus, quiet areas for which students have a key."

" "Different setups are better for different objectives. For example a circle for communication, but due to the size of the group this is also difficult to achieve. This is possible in small group practicals. We compensate in large groups, for example during tutorials we have help, we work with two teachers. We can then split the students up. Students also sometimes get a buddy."

References

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