

# Case Study Remodeling Building 15 to "Living 360": we learn best in rich & well-designed environments

Mariah Klüsener Pinheiro  
Senior Architect at Infrastructure Management of the Pontifícia Universidade Católica do Rio Grande do Sul – PUCRS  
mariah.pinheiro@pucrs.br

## INTRODUCTION:

### About Campus PUCRS

PUCRS has a campus located in a central region of the city, covering an area of 135 acres. It is open to the entire community. It is divided into two areas by Ipiranga Avenue, which surrounds the Dilúvio stream throughout its route and has a high volume of traffic. Both sides, called Central Campus and Healthcare Campus (where there is also a Hospital), are connected through a pedestrian overcrossing. The campus has 68 buildings, used for teaching, management, logistics, catering, services, sports, healthcare, a Library, an Event Center, the Science and Technology Museum, and the Science and Technology Park (TECNOPIUCRS). The teaching buildings are separated according to the use by the seven Schools in which the undergraduate and graduate courses are organized. This segmentation of the uses of the buildings makes it easier for the students and the necessary infrastructure for each course to be organized, but at the same time keep students and professors distant from different areas of knowledge.

### Presentation of Campus for the Future

After the change of rectorate, whose term began in 2017, the new directors brought a new type of relationship between students and Universities, observed globally, to the agenda for discussion. Thus began a series of questions and discussions on the reactions of PUCRS given this development, the specific way our students behave, the community which we are a part of, and trends of future students. A set of conclusions on the new stance that we would need to adopt was reached. One of the consequences, then linked to the University's Infrastructure Management, would be to start a series of holistic studies and renovations on campus.

The general objective of this movement, called "Campus do Futuro" (Campus for the Future), is to encourage and generate a desire to come to PUCRS, working from the assumption that the spaces of the University must reflect our intentions; the main one is to demonstrate that people are our focus. This proposition of centering around the human being led to the concepts that we should attend to: well-being, convenience, physical and virtual connection, integration, services, and coexistence.

Thus, the concept of the movement was built for six months. From the beginning, we identified that all spaces are learning environments, and therefore the ultimate goal is to promote the modernization of the spaces at PUCRS focusing on the human being, allowing greater integration and coexistence and better services, enhancing learning processes.

### Challenge of the Pedagogical Innovation

The pedagogical innovation process that has been developed at PUCRS as of 2017 has created a demand for learning environments that enable professors and students to explore, interact, and engage with the didactic-pedagogical model of educating through research. Currently, the design of most spaces dedicated to learning is the same as classrooms from the 18th century, even at our University, making interactions between students and between students and professors scarce. The desirable teaching model, based on research, requires all actors involved in learning situations to be close and to interact, with the necessary dilution of the hierarchy and the establishment of horizontal, collaborative relationships. In times of ubiquitous information, the mere transfer of information from professor to student gives rise to the valuation of collective experiences, with knowledge being constructed and applied.

Based on this context, the challenge imposed by the pedagogical innovation process extends to learning spaces, raising a question about the current situation: "How does the student learn and how does the professor teach, when the space is also a teacher?" And another question on the projection of the reconfiguration of learning spaces at PUCRS: "What will the identity of the learning spaces at PUCRS be, which will be in accordance with our didactic-pedagogical model?" - Teaching and learning through collaborative research, which promotes innovation, focusing on social, environmental, scientific, cultural, and economic issues.

The conceptions that guided the reconfiguration of learning spaces at PUCRS are based on the assumption that "every space is a learning environment" provided by the Campus for the Future team. Therefore, we believe that all spaces at the University should provide learning experiences and that the changes initially thought for the classrooms should migrate to the rest of the campus, extending to shared and living spaces. The main pedagogical concept is the Active Learning Ecosystem, which takes place at the intersection of the results of space, technology, and pedagogy: change is guided by pedagogy, while technology must be carefully integrated, knowing that space has an impact on learning.

## OBJECTIVE

Located in the central area of the campus, building 15 became outdated in the 1970s. It was chosen to become the main coexistence, integration, and student service environment, besides housing some of the University's innovative classrooms. The renovation of this building aimed to express all the concepts of the University's Campus for the Future and Pedagogical Innovation projects, combined. Learning and the establishment of connections are the essences of the space. Other dimensions are also considered.

Therefore, based on neuroscientific premises for architecture focusing on educational environments, we searched for contemporary models and benchmarks of learning spaces to create our ideal model. To complement the design, we held meetings with students through focus groups, through which we identified their main demands, which were also considered when conceiving the solution.

Thereafter, a multidisciplinary team of professors (members of the Pedagogical Innovation movement) and architects (members of Campus for the Future) began to work on the project together, forming the working group called "Learning Environments." The basic principles of the group were the new didactic-pedagogical practices and the logic of environments that influence the quality of learning.

The primary objective was for the creation of this coexistence space for all students to strengthen the sense of academic community and to be recognized as a physical point where interdisciplinarity between courses is implemented, a place for applying new concepts of teaching through non-traditional classrooms. Besides, to materialize the concept of renovation and improvement of the campus, prioritizing collective spaces, and to increase the value of belonging and the desire to be present at the University. The building would become a meeting point for everyone, and the classrooms would be available for all Schools. The distribution of classrooms is based on the premise of serving different areas of knowledge equally, thus generating a flow of people of all courses in a common space.

## METHODOLOGY

### Different levels of interaction we need to achieve in learning environments:

#### ALONE / IN PUBLIC      TOGETHER / IN PUBLIC

Alone in public: individual work in the presence of others, when social connections are important.

Together in public: group work (with different sizes and postures), such as Brainstorm, information sharing, and mentoring.

Alone in private: individual work, with privacy, for minimal distraction.

Together in private: collaborative work in groups, which allow different ways of learning and collective knowledge-building.

#### ALONE / PRIVATE      TOGETHER / PRIVATE

### Basic requirements:

- Connectivity;
- Great visual permeability;
- Unrestricted access and accessibility;
- Thermal, acoustic, and luminotecnical comfort;
- Shared use by the entire academic community;
- Flexibility and mobility;
- Visual identity PUCRS;
- Engagement;

### THE CLASSROOM

#### COMMON ITEMS FOR ALL CLASSROOMS OF THE BUILDING

VISUAL INTERACTION + PROJECTION AND WRITING POINTS - WHITEBOARD DOUBLES AS COMPUTER PROJECTION SCREEN

LARGE SURFACES FOR WRITING - ALL ROOMS HAVE AT LEAST 2 LARGE WHITEBOARDS

CLASSROOM ENTRIES BY TWO POINTS WITH WINDOWS FOR CORRIDORS

LARGE FRAMES FOR EXTERNAL AREA VIEW AND NATURAL VENTILATION

Large Windows for external area

Whiteboard doubles as projection

Projection area (2 points per each classroom)

Whiteboard

Projection area

Classroom entry

Corridor bench

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture

Influenced student's receptivity and / or engagement

Space Influenced class dynamics

Glazed Walls

Large Windows for external area

Whiteboard

Projection area

Classroom

Large Windows to give natural light to the corridor

Different types of furniture, learning materials, and equipment to stimulate the use of the space and activities that favor the development of the quality of furniture