Student Engagement

Interactive Teaching and Learning at Politecnico di Milano

BACKGROUND

Politecnico di Milano, Italy's largest University for Engineering, Architecture and Industrial Design is known for high quality teaching of students and continuous training of external designers and other professionals.

The objective for the redesign of their training spaces was to allow for more flexibility of different types of teaching and increased use of visual information to stimulate inspiration.

"Teaching design implies an interactive dimension, both during lectures and in design workshops; this teaching method requires a different organization of physical space in comparison with traditional university lecture halls," says Francesco Zurlo, director of the masters in Strategic Design and dean of the Department of Design. "There is a need for dynamic spaces with furniture that can adapt, in a quick, intuitive way, to needs that emerge during the course of the work, to encourage individual concentration or teamwork situations."

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FRANCESCO ZURLO | Director of the masters in Strategic Design and dean of the Department of Design

IMPLEMENTATION

The project was developed by the design studio Il Prisma located in Milano, in collaboration with the faculty of the master program in Strategic Design. They are pioneers of the dynamic teaching model based on a mixture of lectures, seminars and workshops and inspired by the Steelcase research on Active Learning.

The redesign of the classrooms resulted in a smaller space for brainstorming sessions and empowerment lessons, and a larger, more versatile space for a wide range of educational activities, which allows for rapid switching from lecture mode to group work.

Mobile tables and workstations that can be used with stools, as well as chairs on wheels enable easy reconfiguration. Mobile whiteboards and smaller boards on the walls allow for the display of images and ideas. The space also incorporates video systems and columns that function as power hubs to charge electronic devices.

Photos: Diego Alto

The architect Elisabetta Pero of Il Prisma explains: "We are no longer in the age of the pure lecture, because the students have changed. They are digital natives, used to accessing knowledge through devices, without mediation, and they have different attention spans and learning processes. Professors are no longer the ones who transmit knowledge; now they transmit critical awareness.

The contents arrive through technological equipment and sharing between all the students in the classroom. So learning becomes active. Students don't just listen to a teacher lecture all the time. They're more engaged in learning, working in groups and interacting with other students.

When students can move around, relationships are more dynamic, so furniture and space that supports a more active approach can help teachers and students adapt to these new methods. Pedagogy, technology and spaces work in synchrony to construct an ecosystem of learning."

Photos: Diego Alto

RESULT

"The new spaces – Francesco Zurlo continues – eliminate the monotony of our previous classrooms, offering the possibility of 'occupying' space; a very important dimension linked to proxemics, because teamwork calls for a sort of territoriality. The use of Steelcase furniture, which is easy to reconfigure, makes all this possible: The students can independently define recognizable territories in which to develop ideas and to manage creative processes. Also in the course of the workshops, often done with external companies, the space makes it possible to create the right feeling with the students, and to work more productively." says Francesco Zurlo.

An interview with Costanza Annunziata, a student in the master program in Strategic Design, gives us user feedback of the experience of the new classrooms at Consorzio Poli.Design:

What was your experience as a student in classrooms before you tried the new spaces of the Active Learning Center?

"During my high school years I always experienced classrooms in a passive way. When it was necessary to find space for group work or discussion, we had to improvise, moving tables and chairs and losing a lot of time that way. The classes were organized in the most classic way, in an U shaped form with the lectern at the center, or in rows. On the other hand, in the university the rooms are generally of two types: those for the main lectures, organized like "theaters," and those for smaller seminars, with tables and chairs scattered in a more random way, to arrange in keeping with the needs of the moment and the number of participants.

When I arrived in the master program at Poli.Design I noticed that the situation was very similar to my previous experiences, with classrooms organized in a classic way, with a lectern and rows of desks. This organization worked well for theoretical lectures in the first period, but it created problems when we wanted to work in groups or teams. It became necessary to crowd around a single table, or to reorganize the room by moving the furniture."

How have the new classrooms changed your way of learning and interacting during sessions?

"At first I was a bit skeptical about the potential of the new classroom design. But I was wrong. Already in the first days I realized that I could finally show my classmates my ideas on the mobile boards, without having to retrieve the papers; I could quickly join a group discussion without having to move desks, books, papers, pens; it was possible to watch the professor from different angles.

It immediately became clear that it was easier to be flexible, that we were stimulated to move and to learn in a more dynamic way. The design of the Steelcase furniture helps me to pay attention to the debates and discussions between groups, to interact with the other students and to take full advantage of teamwork opportunities at any time."

What type of learning activities work best in the new spaces?

"Everything that has to do with sharing, group work, thinking, interacting. You have the option of quickly changing the configuration of the room, of spreading out in different groups, or working in duos or teams. You can show your ideas to other students quickly, and then discuss them."

Regarding "design thinking" do you believe the furniture elements have been well designed?

"The first thing a designer should do to develop new products is to make sure that those objects are truly useful for the user, and in this case this is just what happened. Until we had tried to use those products, we didn't realize that we needed certain things, such as the space under the chair to put bags, the possibility of being free of a rigid position, or of moving your own desk around the room… all things we actually needed, but we still didn't know it!"

Do you think that you are more creative, engaged and motivated in the new space?

"Yes, I think the possibility of feeling freer, more flexible, of not having to stay in your own fixed zone, has stimulated my engagement with the other students, offering the possibility to decide, in the morning or the afternoon, to work in different zones. Being static limits creativity, so I think these dynamic classrooms have helped me and all my classmates to experience both teamwork and individual work in a more relaxed, serene, dynamic and creative way."

Photos: Diego Alto

The new classroom concept facilitates teaching while encouraging behavioral changes of students and teachers. It allows for rapid reconfiguration of the furniture elements supporting interaction and dynamic content sharing. The availability of various vertical supports and the harmonious integration of technology and furniture into the space make the classroom really innovative.

Credits
Interviews: Soiel International, Milano
Photos: Diego Alto

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