

Here's the new immersive classroom experience from Tec de Monterrey



Tec de Monterrey has already begun to **give classes** in its first **immersive technology classrooms**, called **Hall Immersive Rooms**, in addition to the **hybrid classrooms** it has already begun to operate on several campuses.

This immersive classroom **-designed for the delivery and transmission of virtual courses-** integrates **video, communications, and artificial intelligence technologies** to break down the barriers of distance and improve the relationship between students and teachers.

The Tec switched over to distance learning completely during the **COVID-19 pandemic** and later designed the **HyFlex+ Tec hybrid model** (part remote and part on-site), which it will continue to use for summer classes and in the new semester.

Patricia Aldape, the Tec's Director of Learning Experience Innovation, told **CONECTA**: *"It's a **new learning space** designed to **optimize remote experiences** and benefit the interaction between students and teachers."*



width="900" loading="lazy"> **Beyond a normal Zoom call: life-size “face-to-face” immersion**

In this room, teachers can give their classes, move around the space while being **followed by one of the cameras**, and see life-size faces of up to **150 students**.

*“When **teachers can see their students at normal scale**, it flips a switch in their brain, creating what scientists call a **‘flow state’** when interacting with students in real-time, which helps them feel immersed in the experience.*

*“Teachers can not only see their students at normal scale, but they also **have a touchscreen that works like an electronic whiteboard, where they can write** down exercises for the students,” adds Aldape.*

Cinthia Smith, who teaches the elite **Citizenship and Technology** course at the [School of Government and Social Sciences](#), was one of the professors who participated in the pilot program for this technology.

*“It’s a way to get back to teaching as it was before the pandemic. (My students) tell me **it’s like watching me on a TV show**,” the teacher says.*

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On May 20, Smith and Professor Karina Onofre were the first to use the **Hall Immersive Room** at the Monterrey campus for a class of **53 students from 11 Tec campuses**.

Since beginning in May 2021, they have trained **17 teachers, who are either using or will be using** this technology to teach more than **6 digital education subjects** and **11 classes** at [EGADE Business School](#).

*“There’s a **production team** when the teacher arrives. During transmission, we use layouts where the teacher’s always on-screen. We can change angles and include videos or whatever it is that they’re explaining,”* says Carla Ramírez, leader of Educational Innovation.



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State-of-the-art technology for generating immersion

These types of rooms are used to **teach virtual courses**, with technology that includes **video walls**, communications, **cameras**, **Hi-Fi sound**, and **artificial intelligence** to create an immersive environment for teachers and students.

*“**Immersion** is achieved thanks to the placement of **a large number of screens in a semicircle**, creating a **high-definition video wall** that offers a panoramic view, as well as integrating cameras, lighting, and a high-fidelity sound system,”* she explains.

In addition, she points out that Tec researchers are in charge of **developing and implementing artificial intelligence** to **recognize students’ expressions and emotions**, so as to offer information to teachers that helps them adjust their teaching style in real-time.

“Immersion is achieved thanks to the placement of a large number of screens in a semicircle, creating a high-definition video wall.”

“(The classroom) is going to have a tool that senses learning-related emotions, which will be ready by December. In general, it will tell teachers if their students are focused, confused, or experiencing negative states.

“We’ll be able to give teachers a barometer for how their students are feeling at any given moment and if they understand the class or not. So, if teachers see that 80% are confused, they can change the exercise or their strategy,” the director explains.

She added that the use of artificial intelligence **-applied for the first time in a project of this type-** will help to further research on how students react when learning remotely.

Ramírez points out that teachers will also have the **assistance of a production team** in a control booth. This team will be able to communicate information to teachers through the main screen.

The first **Hall Immersive Room** is in the **CEDES** building of the **Tec’s Monterrey campus** and there is a plan to open similar rooms on more campuses throughout the country.



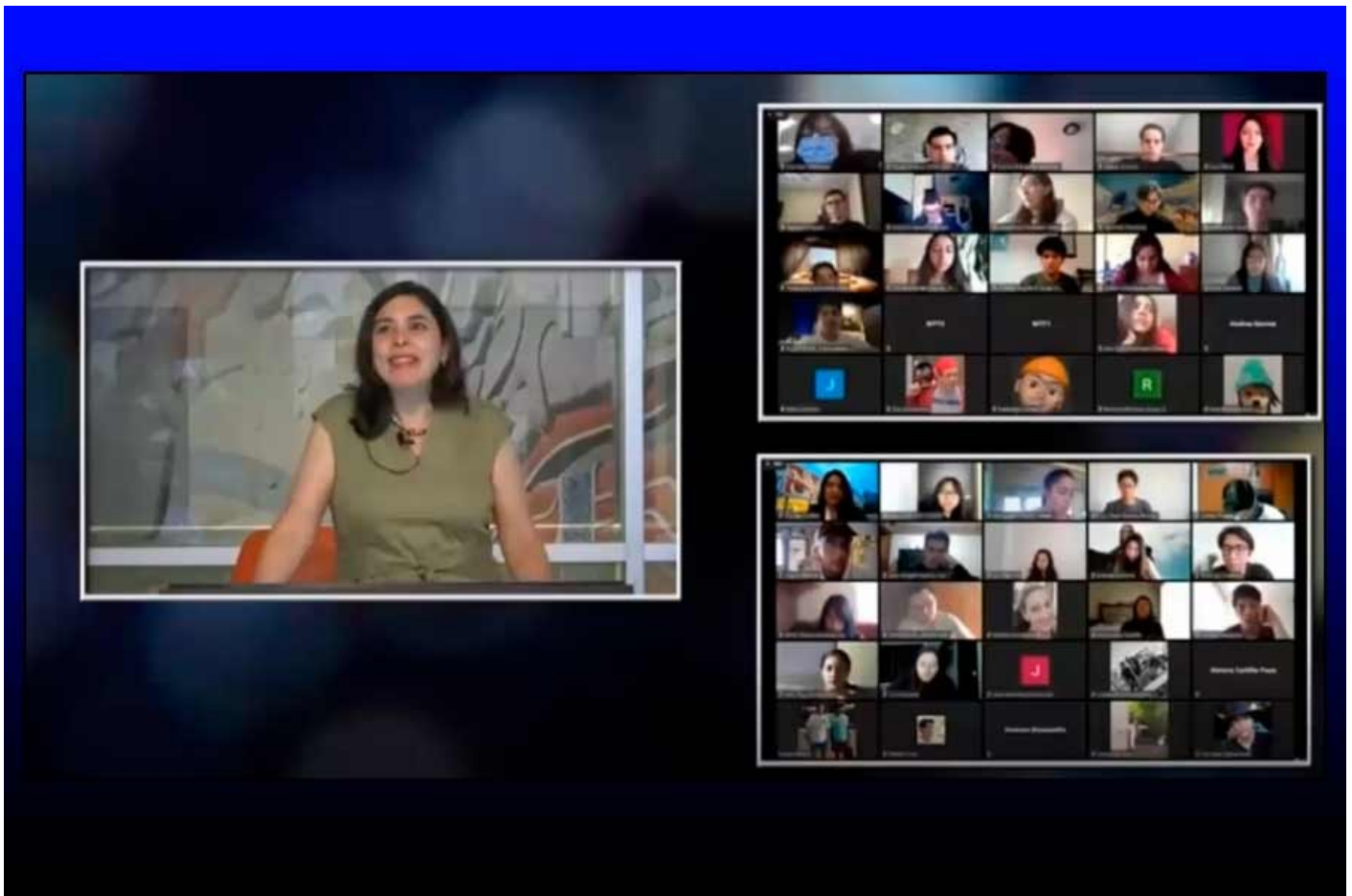
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The Tec’s experience in distance learning

A year and a half ago, the [Tec's Educational Innovation](#) Department was already developing the **Hall Immersive Room**, alongside other institutions such as **Stanford and Harvard**, to create virtual spaces with an immersive experience.

*"I believe that our hallmark is the 'expertise' we have from **more than 30 years' experience in distance learning**. As well as technology, we have very experienced teachers who were already teaching classes via satellite several years ago.*

"We've also been evolving our entire approach to teaching. Long before the pandemic, we were making adjustments in distance learning to establish best practices in teaching techniques," adds Ramírez.



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The leader believes that the immersive classroom ensures an **active learning** process, due to the teamwork of teachers and producers who have created minute-by-minute guidelines on what will happen in class.

*"It's not only the professor who will be talking. Students can also work in groups and complete activities with the use of technological tools such as **Kahoot!, Miro, Padlet, and Menti**, as well as having a producer who's following what's going on in the classroom," adds Carla.*

*"We're looking for ways to evolve and improve (the immersive classroom) to have **better proximity and a closer relationship between students and teachers**. We also want to identify factors that*

have a greater impact on different learning styles in remote formats,” said Aldape.

Hall Immersive Room equipment

- *27 x 55” video screens*
- *The screens form a semicircular video wall measuring 10.8 x 2.21 meters.*
- *6 cameras*
- *Professional Lavalier microphones*
- *Lighting and Hi-Fi audio*
- *A space measuring 4 x 10 meters where teachers can move around*
- *A 32” touch screen for teachers*
- *A production booth with an audiovisual producer, an audio-video operator, and an interaction facilitator*

https://www.youtube.com/watch?v=M-r6zPDG9t4&feature=emb_title

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