

IE University Madrid

Success factors

- Prepares students for the world of work through engagement with employers, internships case studies and a collaborative studying environment
- Multicultural student population
- Experimenting with novel technology solutions to engage students externally and internally
- Strong focus on the humanities in a technical focused education
- Employs models for around the world to provide the most effective learning experiences

IE University is more than just an education. It's a complete academic and professional experience that broadens horizons, connects the world and provides students with a personalized career path to help them achieve their goalsⁱ.

IE University, which is a private non-profit university owned by the Instituto de Empresa SL and is based at two campus in Segovia and Madrid. IEU has a personalized, student-centric community with a rich diversity of individuals, ideas and approaches. Each year over 130 nationalities are represented on its campuses in Segovia and Madrid, with over 75% of its students coming from outside of Spain. The university has been ranked among the top ten universities worldwide for innovation in technologies and teaching.

The university is relatively new and only opened its doors to undergraduate students in 2006. IEU have combined the best of education models from the UK, US and continental Europe, placing emphasis on technical learning. Teamwork and critical thinking are rewarded; students are expected to play an active role in the classroom, and there is a deep technical training component. The humanities also feature strongly across all coursesⁱⁱ. Students are taught beyond the theoretical, through case studies that the university believes will allow graduates to flourish and thrive in their post-university careers.



IE University is recognized for its quality in teaching and learning which counts it among the world's top universities. In addition, its undergraduate programs are recognized by the most prestigious

associations in their respective fields. IEU has a humanist approach, entrepreneurial spirit, innovative vision, and focuses on academic rigour.

Courses combine theory with practice from the outset. Students are expected to take what they learn in class and apply it to real life cases and when managing their own projects. Each year students can choose a range of internship options, working on campus, in Spain and around the globe

Technology at IE

Faculties like the law faculty are making digital books available so students can have fast and easy access and online learning is used extensively when students are on placements. Architecture and design students have the use of a “FabLab” where students have access to 3D printing and other digital tools. Similarly, communication students have access to a media studio and the Student Hub provides an inviting space to encourage all students to remain on campus.

The WOW Room

The 'WOW - Window on the World - Room' is the first of its kind in Europe is based at IE's Madrid campus. At a cost of around €500,000 the WOW room features a 45 square metre curved wall of screens spanning 45 square metres. The wall displays the images of participating students joining the class from all corners of the globe simultaneously. The WOW Room is modelled on a similar concept at Harvard University. The room comprises 48 screens, each showing a student, and is shaped in the form of a semi-circle (Figure 1). Each screen contains basic information, such as the student's name and country, for example, but can also superimpose other key details depending on the task.



Figure 1: The WOW room

The academic stands at a lectern in the centre and can see all the students as well as other data, such as graphics on students' responses to a classroom poll, for example. In this instance, the academic can instantly pair up students with opposing views, for example, to debate the issue. The virtual classroom can also be divided into teams. Alternatively, academics can create multiple-choice exercises and see in real-time the responses of each student next to their faces in order to gauge understanding and engagement.

The WOW Room allows students from around the world to work on documents and to analyse big data collaboratively, while they will also be able to take part in simulations in real time, with the idea that scenarios such as business situations and diplomatic conflicts could be played out with the live participation of experts in the field or processes including factory production lines.

The academic can choose to operate the video wall technology and guide the class by using a 'wand', verbal commands or a tablet. Cameras allow the recording and editing of sessions in real time with the aid of assistants, although in the future it is forecast that a faculty member will be able to operate the whole system on their own.

Emotion recognition tool

The student emotion recognition tool uses a set of algorithms to detect students' faces on the video screen and then analyses the relationship between points on the face to identify levels of attention, surprise and happiness etc. Information on students' emotions are displayed in aggregate form in real time to gauge levels of student interest. The data can also be analysed over a whole course to ensure that interest is maintained throughout and that the educational experience is most effective.

At the individual level, a student who is apparently losing interest can be immediately identified as their screen is framed in a different colour, allowing the academic to intervene (or not). Initial feedback from students has shown that, partly because the camera is an integral part of the online learning experience, students feel comfortable with this use of the system. Furthermore, the technology can count the number of seconds that a particular student is talking, and a graph generated to indicate who is not participating, for example.

Virtual reality

Additionally, artificial intelligence, augmented reality, simulations in real time, interactive robots, big data analysis and holographic faculty are currently being explored at IE. Martin Boehm, dean of programs at IE said:

"We would like to take the WOW room to a higher immersive level. If a student in the virtual classroom was wearing a VR headset they could turn to the side and see a student sitting next to them and even have a private conversation with them. Alternatively, if the faculty wanted to enact a role-play involving the head of a company firing a member of staff, for example, the student could be placed in one of the roles and face a 'virtual boss', or vice versaⁱⁱⁱ.

Boehm believes that VR role-play is the most effective way of understanding others' points of view and changing behaviour and believes this method could be applied through the video wall to improve learning.

Future plans

The WOW Room was built in 2016 as a pilot for some of the planned technology developments. IE staff emphasise that the starting point is to find the best pedagogical approaches, rather than excitement about the technology, and understand the importance of testing different methods to see which are the most effective. To this end, a second WOW Room is being planned as well as the use of smaller screens that employ the same technology. One significant advantage of the WOW Room's technology is that it can operate on low-bandwidth connections, offering the potential of access from the developing world.

ⁱ <https://static-frm.ie.edu/university/university/about/who-we-are/>

ⁱⁱ Costa, M (2016) Article in Beyond the Deep Blue: IE University. Available at https://issuu.com/ieuniversidad/docs/beyond_the_deep_blue_ie_university

ⁱⁱⁱ Boehm, M (2016) Article in Beyond the Deep Blue: IE University. Available at https://issuu.com/ieuniversidad/docs/beyond_the_deep_blue_ie_university