

# Benefits and risks of generative Artificial Intelligence in classrooms



Although the innovative approach of using **generative artificial intelligence** promises to revolutionize higher education, it will bring both benefits and risks, said **Dr. Francisco José García Peñalvo**, a professor at the [University of Salamanca](#).

In his talk, “Generative Artificial Intelligence in Higher Education: A 360° Perspective,” the academic said that this technology **will change** how **students learn**, how **teachers teach**, and how **educational institutions evolve**.

This talk was part of the **IFE Conference Special Event** entitled the **Artificial Intelligence in Education Summit**.



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## Bringing together human and artificial intelligence

García Peñalvo said that a very important challenge is **to add human intelligence to artificial intelligence (AI)** and bring them together in the teaching-learning process.

*“In the end, the difference will be between those who have the skills to work and exploit AI and those who don’t want to, or can’t do so, because they don’t have access. **That’s where the gap will be.**”*

The professor said that we, as humans, have skills that make us unique, and what we need to do is exploit them so we can understand the world of AI that is surrounding us and **disrupting** our present.

*“(We need to establish) a **symbiosis between the human and the technological** in order to be able to get the best out of these machines,” he said.*

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## Using AI as an educational resource

The Salamanca professor said that the debate is now about how we teach and how we learn in the **era of AI**.

*“Currently, artificial intelligence can **generate educational content** in the form of text, audio, video, images, and presentations with enough quality that I, as a teacher, can **use it as an educational resource without it being obvious that AI has been used.**”*

As a consequence, he asked the audience to reflect on how they can educate students using the technology.

*“How will AI influence the **teaching-learning process**? What skills do students need to function in the society we’re building?”* he added.

## **Stakeholders in education**

Throughout the presentation, the professor explored **how generative AI affects different stakeholders in education**: from teachers and students to decision makers and experts in technological development.

The pros and cons of each of the stakeholders were also discussed so as to provide a **comprehensive and holistic vision**.

From the perspective of faculty, he addressed how generative AI can be a tool to enrich course content and provide more interactive and attractive teaching scenarios.

*“(However), it can also lead to technological dependency and depersonalization.”*

García Peñalvo mentioned that some of the benefits for students of using AI include the **development of digital skills, greater productivity, and access to innovative resources**.

However, the risks are that it can increase **cases of plagiarism, superficial learning, and lack of critical thinking and creative skills**.

**The impact this technology can have on institutional decision-making** was also examined.

Special emphasis was placed on **curriculum planning** and **resource management**, such as the training of students and teachers, the review of teaching methods, new forms of evaluation, and the evolution of technological ecosystems focused on learning.

Also discussed were the **ethical and social challenges** of implementing this technology, such as data privacy and equity of access to advanced educational resources.

## **The positive impact of AI and good practice**

- **Teachers**



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#### • **Students**

- *Develops critical thinking and creativity*
- *Helps with generating ideas*
- *Offers personalized learning*
- *Improves productivity*
- *Provides access to more innovative resources*
- *Develops digital skills*
- *Improves linguistic and written skills*
- *Provides summaries*
- *Provides a virtual assistant to students*
- *Offers a Socratic opponent to argue with*
- *Develops ethical awareness*

#### - **Decision makers**

- *Improves administrative efficiency*
- *Improves academic analytics*
- *Enriches the educational process*
- *Reviews teaching methods*
- *Allows for the exploration of new evaluation scenarios*
- *Creates ethical codes and general guidelines*
- *Allows for collaboration and the determining of strategies*

#### - **Software engineers**

- *Provides innovative and creative learning technology*
- *Evolves technological ecosystems focused on learning*
- *Improves the technological experience for users*
- *Defines a new generation of educational applications*
- *Ensures that people engage in interdisciplinary learning*

### **The risks of AI - Teachers**

- *Wary of students using these tools*
- *Overrated generative AI*
- *Misuse*
- *Dependency on technology*
- *Loss of authority*
- *Depersonalization*
- *One risk is managing change that forces you to reinvent yourself every day*

### **- Students**

- *Dishonest use*
- *Superficial learning*
- *Possible lack of knowledge*
- *Lack of critical thinking and creative skills*
- *Depersonalization*
- *No equity of access*

### **- Decision makers**

- *Inequality of access to this technology*
- *Security*

### **- Software engineers**

- *Bias in training sources*
- *Complexity and maintenance*
- *Security and data privacy*
- *Environmental impact*

### **About the speaker**

Francisco José García Peñalvo is a Full Professor in the Department of Computer Science and Automation at the **University of Salamanca (USAL)**.

He received the **Gloria Begué award** for teaching excellence in 2019 and the **María de Maeztu award** for research excellence in 2023.

Furthermore, he was a **Distinguished Professor** at [Tecnológico de Monterrey's](#) School of Humanities and Education between 2016 and 2018. He is an International Impact Researcher at the National University of San Agustín in Arequipa, Peru.

## **About IFE Conference 2024**

More than **3,200 attendees** registered for the 10th conference, whose central theme was: **“Education in the era of artificial intelligence.”**

José Escamilla, associate director of the **Institute for the Future of Education**, pointed out that Artificial Intelligence has been an issue in both the world of work and education.

*“In the world of education, it impacts us in two ways, because the future of work is changing and universities have to change what they teach so that students are prepared,”* said Escamilla.

*“Artificial intelligence can transform education and the way we learn; it offers us very important challenges that we are going to learn about at the conference,”* he added.

During the event, activities will focus on the challenges and opportunities that advances in artificial intelligence will bring to education and the workplace.

The event will take place in a hybrid format in which **169 institutions from 30 countries** will participate.

It takes place from January 23-25, with the **Monterrey campus** as venue for those attending in person.

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