AI as a Strategic Partner in Academic Learning Design

Cinzia Ferranti*

Riassunto

L'intelligenza artificiale generativa sta diventando una componente strutturale dell'istruzione superiore, supportando la progettazione didattica, la creazione di contenuti e l'innovazione educativa all'interno degli ecosistemi universitari. A partire dall'esperienza del Digital Education Hub ALM@ dell'Università di Padova, il contributo propone un modello tridimensionale per l'integrazione dell'IA, fondato su progettazione pedagogica, sviluppo dei contenuti e governance etica. Viene analizzato il ruolo dell'IA nella formazione del personale docente attraverso il Master in Educational, Digital and Multimedia Innovation, evidenziandone il contributo ai modelli di lavoro ibridi senza rinunciare alla centralità delle decisioni pedagogiche. Il lavoro affronta inoltre il tema della delega cognitiva e sostiene che AI literacy, pensiero critico e supervisione esperta siano elementi essenziali affinché l'IA rafforzi, anziché sostituire, le competenze umane.
Parole chiave: Intelligenza artificiale; Progettazione didattica; Formazione del personale docente; AI literacy; Istruzione superiore

Abstract

Generative artificial intelligence is becoming a structural component of higher education, supporting learning design, content creation, and educational innovation within institutional ecosystems. Drawing on the experience of the ALM@ Digital Education Hub at the University of Padova, this paper proposes a three-dimensional framework for AI integration centred on pedagogical

* University of Padova.

Excellence and Innovation in Learning and Teaching (ISSNe 2499-507X), 2026, 1 Special Issue

Doi: 10.3280/exioa1-2026oa23993

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design, content development, and ethical governance. It discusses the role of AI in faculty training through the Master's programme in Educational, Digital and Multimedia Innovation, highlighting its contribution to hybrid workflows while preserving human-centred decision-making. The paper also examines the challenges of cognitive delegation and argues that AI literacy, critical thinking, and expert supervision are essential to ensuring that AI strengthens rather than replaces human expertise.
Keywords: Artificial Intelligence; Learning Design; Faculty Development; AI Literacy; Higher Education

Article submitted: 25/06/2026; accepted: 07/09/2026

In the rapidly evolving landscape of higher education and professional training, generative artificial intelligence has officially shifted from a novel, sporadic experimentation phase to an integrated, structural element of institutional ecosystems. Rather than being a mere technical tool, AI is now recognized as a strategic partner across academic and professional communities. This systemic evolution is central to the initiatives driven by the ALM@ Digital Education Hub at the University of Padova, which showcases how AI can amplify human capability when anchored within a conscious pedagogical framework.

A Three-Dimensional Framework for AI Integration

The implementation of AI within university frameworks operates across three essential dimensions: Design and Prompting (Qi et al., 2026; Lentz, 2025), Content Creation (Floridi, 2025), and Safety and Ethics (Molina-Carmona & García-Peñalvo, 2024; Evangelista, 2025). Faculty and technical staff leverage Large Language Models (LLMs) to structure complex educational pathways and design innovative learning environments. AI assists in generating multimodal materials, interactive simulations, and tailored case studies specifically calibrated to diverse disciplinary requirements, particularly in the STEM sector where specialized thematic chatbots and automated evaluation assistants provide immediate problem-solving feedback within platforms like Moodle.

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The Core Training: Empowering Learning Designers through Master IDIM

A leading operational environment for this paradigm shift is the Master's program in Educational, Digital, and Multimedia Innovation (EDMI in english). Within this program, the dedicated AI training module equips learning designers and educational technologists with robust theoretical frameworks and practical, operational tools.

Rather than treating AI as an isolated software solution, the module seamlessly integrates AI into daily workflows and project management processes for university innovation. This training enables professionals to adopt a truly hybrid mode of work, leveraging AI to streamline structural processes while keeping human-centered pedagogical decisions firmly at the core (Randall & Burnes, 2026).

Cognitive Delegation and the Evolution of Expert Skills

As AI becomes a ubiquitous personal assistant for both students and workers, it fundamentally reshapes the acquisition of knowledge and skills. While AI offers personal amplification through adaptive explanations and cognitive load management, it introduces the critical risk of "cognitive delegation", the gradual erosion of analytical and foundational abilities, if the machine replaces active reasoning instead of supporting it (Ateşkan, 2026; Roy & Jony, 2026).

Consequently, the landscape of necessary competencies is shifting. While technical execution can be augmented, advanced expert skills – such as critical revision, strategic decision-making, and validation against AI hallucinations or biases – become the most vital assets for the modern workforce. Workers and students must learn not just to accept outputs, but to act as expert supervisors of AI-generated content (Alvero, 2026; Vendrell & Johnston, 2026; Zahner et al., 2026).

Balancing Innovation with Critical Judgment

Ultimately, generative AI becomes strategic only when it reinforces human thought and preserves critical judgment. The goal is a balanced hybrid model: co-designing rather than delegating, blending analog tasks with AI-powered activities, and fostering true AI literacy across the entire academic and

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professional community to ensure human expertise remains the guiding force of technological innovation.

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